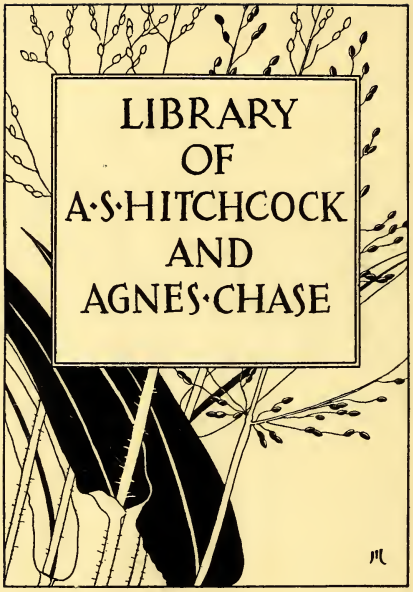
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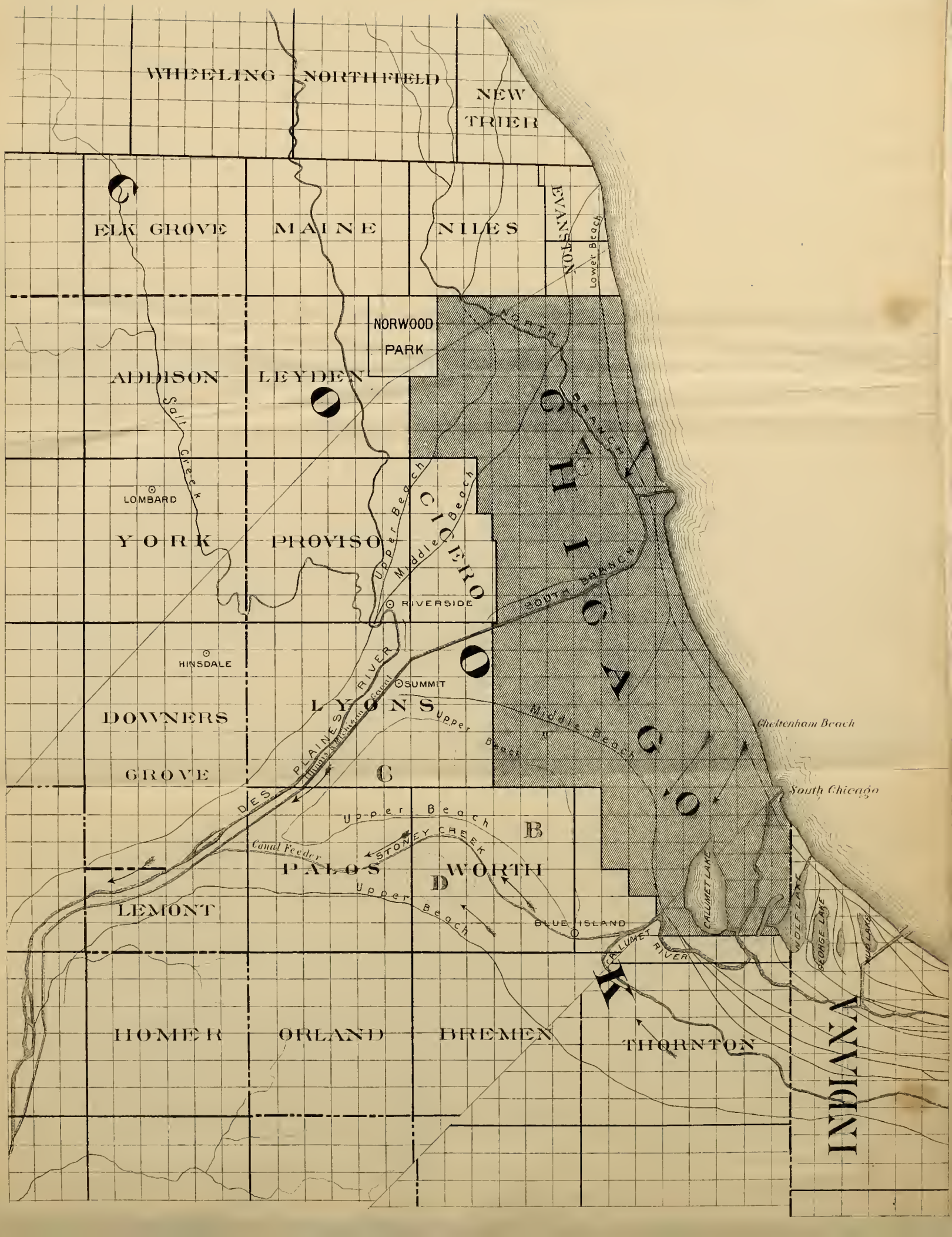
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YORK
PROVISO
CICERO
Upper Beach
Middle Beach
RIVERSIDE
HINSDALE
SUMMIT
DOWNERS GROVE
LYONS
Upper Beach
Middle Beach
Cheltenham Beach
South Chicago
DES PLAINES RIVER
Canal Feeder
Upper Beach
STONEY CREEK
PALOS
WORTH
LEMONT
BLUE ISLAND
CALUMET LAKE
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Vol. II. *No. I.*

BULLETIN

—OF THE—

Chicago Academy of Sciences.

THE FLORA OF COOK COUNTY, ILLINOIS, AND A PART OF LAKE COUNTY, INDIANA.

—BY—

WILLIAM K. HIGLEY

—AND—

CHARLES S. RADDIN.

CHICAGO:
1891.


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PREFACE.

From the earliest period of botanical research, to our own time, treatises and catalogues have been prepared, each adding something to the information contributed by its predecessors, until the plant life of the world is more or less familiar to us.

Modern facilities of transportation, as well as the agencies of birds, winds and water, tend in so great a measure to disseminate seeds, that it is highly important to keep a record both of the new forms introduced and of those that have disappeared, and of the habits and variations of them all.

In publishing the Flora of Cook County, Illinois, and a Part of Lake County, Indiana, we endeavor to meet the requirements of many local botanists, who have long felt the need of such a record, none having been issued, with the exception of Patterson's State Report, since the publication of Prof. Babcock's list, in Vols. I and II of the Lens (1872-'73).

The importance of a new enumeration (which includes the phænogamia and vascular cryptogamia) will be seen, when it is realized that about 540 plants not recorded by Prof. Babcock, and 182 not mentioned by Patterson, are included in the present catalogue. It should be stated, however, that of the plants omitted by Prof. Babcock, many are species formed since his time, species introduced by cultivation or otherwise, and now growing spontaneously, or varieties of recent formation. There are also some species enumerated by Prof. Babcock, but not reported as growing within our limits; the area included by him embracing a territory having a radius of forty miles from Chicago.

Fifteen plants are recorded that are not included in the 5th Ed. of Gray's Manual:

Lepidium sativum, L.
Cleome integrifolia, T. & G.
Lechea minor, L.
Gaura parviflora, Dougl.
Carum carui, L.
Grindelia squarrosa, Dunal.
Tragopogon porrifolius, L.
Tragopogon pratensis, L.
Lactuca lucophæa, var. integrifolia, Gray.
Solanum carolinense, L., var. floridanum, Chap.
Solanum rostratum, Dunal.
Gerardia purpurea, L., var. paupercula, Gray.
Anychia capillacea, D C.
Potamogeton fluitans, Roth.

The following species not being recorded in the 6th Ed. of Gray's Manual, a description of them is given in this catalogue: Lepidium sativum, L., Lechea minor, Lam., var. stricta, Leggett and Solanum carolinense, L., var. floridanum, Chap.

Cornus baleyi, Coult. & Evans, and Cnicus hillii, Wm. Canby, also unrecorded, are recent species.

It has been our plan, with the assistance of co-laborers, by exhaustive field work and examination of private lists and herbaria, not only to catalogue the plants growing in our area, but to give information concerning their natural

habitat, season of flowering, frequency of occurrence, and variations of life and growth, and also to speak of the localities of the rarer forms and of the disappearance of species, and to give such other notes as are of scientific interest. For the purpose of aiding collectors, localities are mentioned, in many cases, for species that are not especially rare.

The exclamation point following an authority for location of species, is employed to show that the writers have also found the plant in the locality indicated. In order to designate plants not heretofore listed by Babcock and Patterson, the initials B. and P. have been appended. Introduced forms are placed in small capitals. It is probable that some of the rarer forms have been introduced, but owing to the absence of any complete catalogue indicating the previous condition of our flora, we have listed them as native, when found growing apparently in a natural state.

The area included in the Flora, is Cook County, Illinois, and that portion of Lake County, Indiana, situated north of the Little Calumet river. All plants recorded, with the exception of a few mentioned by Babcock, which are admitted on his authority, have been examined either by ourselves, or by Prof. E. J. Hill, and are contained in herbaria in Chicago and vicinity.

The causes of extermination within our limits are varied. The phenomenal growth of Chicago and the establishment of manufactories in the suburbs, as well as the cutting of the forest growths, have largely tended to change the complexion of our native flora.

As the catalogue is intended to be used in connection with the 6th edition of Gray's Manual, it has been considered best to follow its general arrangement. While we cannot entirely endorse the nomenclature used in the 6th edition, we have adopted it with the following exceptions:

Hepatica triloba, Chaix., is Anemone hepatica, L.
Hepatica acutiloba, DC., is Anemone acutiloba, Lawson.
Nymphæa, is Castalia, Salisb.
Nuphar, is Nymphæa, L.
Lechea minor, L., var. maritima, Gray, is L. maritima, Leggett.
Viola palmata, L., var. cucullata, Gray, is V. cucullata, Ait.
Carya, is Hicoria, Raf.
Quercus coccinea, Wang., var. tinctoria, Gray, is Q. tinctoria, Bartram.

The Coniferæ have been placed in their more natural position, at the end of the Monocotyledons.

In all cases the nomenclature of the 5th Ed. of Gray's Manual has been shown, when differing from the 6th.

It is fitting that this catalogue, following the list of Prof. Babcock, which was the first and only botanical record of this section, should contain a tribute to his personal worth and his valuable contributions to the science of botany, and it is well that this recognition of his ability should come from his friend, Prof. E. S. Bastin, to whom we are also indebted for many notes and suggestions.

The authors desire to acknowledge the generous assistance of Dr. Oliver Marcy, who during the many years in which he has been an honored professor in Northwestern University, has become thoroughly acquainted with the geology and the natural history of this region.

The editing of the Genera Lechea and Potamogeton, and the revision of the genus Carex, are by Prof. E. J. Hill, who has also contributed valuable notes.

Cnicus hillii, mentioned above, is named in honor of Prof. Hill, in recognition of his study of the genus Cnicus.

We wish to make mention of the valuable assistance rendered by M. S. Bebb, Esq., Dr. Geo. Vasey and Professors H. F. Monroe, G. A. Brennan, Henry L. Boltwood, L. N. Johnson, S. S. Dodge, J. B. Williams, as well as many others among our local botanists and teachers of natural history.

If we would keep pace with the continuous changes in the flora of Chicago and vicinity, it is absolutely necessary that constant investigation be carried on. On account of this, we hope that all local botanists will keep a record of all species they may discover which are not already catalogued, and of the new localities in which rarer forms may be found, as well as of the disappearance of species from localities mentioned in this work. And we make the request that they will send reports of their observations, accompanied by specimens, which will be returned if desired, to the Chicago Academy of Sciences. These notes will be used in the preparation of a more elaborate flora at some future date.

The compilation of the Flora closed with the season of 1890, and additions since that time will be found in Appendix I.

THE EDITORS.

Academy of Sciences, Chicago, June 1st, 1891.

BRIEF SKETCH OF THE LIFE AND WORK OF HENRY HOMES BABCOCK.

No Flora of Chicago and vicinity could now be written that would adequately represent both what this flora once was and what it now is, that did not employ the valuable results of the labors of earlier botanists engaged in this same field. For, owing to the concentration here of a great population, vast changes have been wrought in recent years in the flora of this locality. Many species which were once abundant have become rare or have disappeared altogether, while many new ones have been introduced from adjacent localities or from abroad.

Among the earlier local botanists, there were none whose contributions to the knowledge of our flora were comparable to those of the late Professor H. H. Babcock, whose "Catalogue of the Plants of Chicago" constitutes the basis of this *Flora*. It seems appropriate, therefore, and just to the memory of an able botanist, that this work should include at least a brief sketch of his life and services to botanical science.

Henry Homes Babcock was born of New England parentage, in Thetford, Vermont, December 19, 1832. Both of his parents were educated people, his father being a Congregational clergyman and a graduate of Amherst College, and his mother a graduate of Bradford Academy, when that school was under the directorship of Hon. Benjamin Greenleaf, of mathematical fame. From both, therefore, he inherited scholarly tastes and aptitudes, and from early childhood he breathed an atmosphere of culture and refinement. We need not be surprised that he early manifested a preference for scholarly pursuits or that he was fully prepared for college while yet much too young to enter. His surroundings at this early period of his life seem also to have been particularly fitted to awaken in the mind of so thoughtful a youth a love of natural history pursuits. The parsonage woods at Thetford, abounding as they did with interesting plants and animals, were a constant pleasure to him and as much a source of instruction as his books. It was here that he acquired the mental bias which determined him to the career of a naturalist, a fact which he himself in after life gratefully recognized.

He was the eldest of five children, and when, at the age of sixteen, his father died and his mother was left with but limited means, the burden of the support of the family partly devolved upon him and interfered with his cherished hope of completing a full course at college. Nevertheless, by close economy and by employing his vacations in teaching, he was enabled to spend two profitable years at Dartmouth College. At the end of this time, at the age of nineteen, he was obliged to lay aside his college studies for good, and accepted a teacher's position in the public schools at Dedham, Mass. Here his work was so acceptable that at the end of eighteen months he was invited to become the master of the Grammar School in Newton, a position which he accepted and filled to the utmost satisfaction for a period of six years. The reputation which he there acquired as a kind and judicious disciplinarian and an accurate and thorough teacher procured him an invitation to the principalship of the High School in Somerville, Mass. Here he taught with the highest success for eight years, resigning his position in 1867 to come to Chicago. The fullness of his knowledge, together with his rare ability to impart it, his unostentatious dignity, kindness of heart and graciousness of manner, soon won him the respect and confidence of this community, and made the Chicago Academy, which he founded in 1867 and conducted until the close of

his life, one of the most successful private schools in the city. Moreover, his ripe scholarship and scientific knowledge soon made him a prominent factor in the intellectual activities of the city. He became closely identified with the work of the Chicago Academy of Sciences, being its president during the last four years of his life. He was also a prominent member, and, at one time, President of the Illinois State Microscopical Society, to whose publications he contributed several important scientific papers. It was in The Lens, the organ of this Society, that he published his valuable notes on the "Flora of Chicago and Vicinity."

Professor Babcock's ability as a botanist was thoroughly appreciated by his co-laborers in the same science. His knowledge of the subject was extensive, varied and accurate. He was not only well acquainted with our own flora, but had a wide general knowledge of botany besides. As a collector and observer he was indefatigable, and he corresponded and exchanged extensively both with home and foreign botanists. His herbarium specimens, always prepared with the most scrupulous neatness and care, have enriched many collections both in America and abroad. The letters from famous botanists received in acknowledgment of specimens sent by him, frequently allude in most complimentary terms to the careful preparation of his specimens. He had, moreover, unusual skill in the use of the microscope, and his knowledge of the minute structure of plants was extensive and thorough. To those who were acquainted with his attainments, but not thoroughly so with the modesty of the man, it was a source of wonder that there was such a wide gap between what he knew and what he published. He was at the opposite extreme from that class who, with half knowledge, rush into print. He shrank from publicity and was too conscientious to publish anything except as the result of the most patient and thorough investigation. He was besides a devoted and busy teacher, and was burdened not only with the management of a large school, but much of the time also with other enterprises that made large demands upon his time and attention. In this connection should be mentioned his relations to the unfortunate Chicago Botanical Garden. In 1874 this enterprise was started under the auspices of the South Park Commission, and very naturally Professor Babcock's prominence and recognized ability as a botanist led to his selection for the directorship of the garden. He immediately resigned his lectureship in the College of Pharmacy and entered upon his new work with characteristic energy and zeal. Mr. H. W. S. Cleveland, at that time the landscape gardener of the park, says of him: "Mr. Babcock entered at once upon the active duties of preparation and surprised me by the display of such executive power as I had rarely met with in men not engaged in the active pursuits of life. He was confined to his school so continuously as to leave him but little leisure, yet he found time to inform himself thoroughly of all the latest improvements in the construction and heating of plant houses, and a building was erected under his direction for the purpose, which might serve as a model of economy of form and adaptation to its object." With the advice and consent of the Board of Management he prepared a circular and sent to all the principal botanical gardens of the world and to prominent individual botanists, stating the plans of the management and soliciting contributions of seeds, cuttings, living plants, herbarium specimens, etc., for the gardens, and holding out the inducement that, in return for such contributions, suitable returns of native plants would be made at an early day. Responses to this circular were so cordial and generous and Professor Babcock's industry so indefatigable that in an astonishingly short time there had grown up in South Park a botanic garden which gave promise of rapidly taking

first place among enterprises of the kind in this country. It was creditable alike to the city and to science. Mr. Cleveland further says of Professor Babcock's industry at this time: "Every hour that he could secure from his school duties was devoted to the interests of the garden, and although Saturday was the only day of which he had full control, the amount of labor which he accomplished in collecting and arranging specimens and seeds and in conducting the extended correspondence which of necessity ensued, was such as to astonish all who were in position to observe it." His assistant, Mr. James Bowen, also says of him: "No man accomplished more in so short a time and at so small an expense." According to the records, at the end of the second year, Professor Babcock had sent to different botanic gardens upwards of 5,000 packages of seeds, plants and specimens, had received nearly 15,000, and had upwards of 6,000 species under cultivation in the garden.

But to the shame of the city, be it said, that she permitted a work so auspiciously begun to fail for lack of friendly support. She threw away the opportunity which was within her grasp of securing a distinction worthier than that of a mere center of wealth and business enterprise. In the autumn of 1877 the South Park Commissioners notified the Director and Managers that the garden would be discontinued. Here were the labor and the hope of years brought to naught; scientific treasures of inestimable value were wasted; faith with contributors was violated; the cause of science in Chicago was disgraced. Could anything more crushing than this happen to a sensitive nature like that of Professor Babcock? He was wont to say little about this, the great misfortune of his life, but he felt the disappointment most keenly, and there is little doubt that it had to do with the undermining of a constitution already somewhat impaired by close and long-continued application to study. His death occurred about four years after, on the 7th of November, 1881.

GEOLOGY OF COOK COUNTY, ILLINOIS.

It is proposed to give, in this article, only so much of the geology of the region covered by the Catalogue, as may have some bearing upon its flora. Plants have very definite relations to soils and soils have a geological origin. The introduction and sometimes the extinction of species of plants in any locality may be due to geological causes, such as the presence of salt or fresh water, to currents in the adjacent waters, to climatic and dynamical changes which have taken place in the locality. The flora of every locality has had a history, and it is the duty of the botanist to read that history if possible.

The flora of this region presents some problems which can be satisfactorily solved only by reference to geological history. These problems are presented by the presence of such plants as the Beach Pea, the Beach Plum and the Sea-side Crowfoot.

The presence of pines and several herbaceous plants at the south end of Lake Michigan which do not exist on the middle portions of its shores but only at its northern part, suggests transportation by currents and a deposition of seeds with the great amount of material which has been torn from the sides of the lake, and piled in ridges on the southern shore.

The territory under discussion lies to the south and west of the head of Lake Michigan. The map given covers most of Cook County, Illinois, and some

of Lake County, Indiana. It represents the drainage of the region, and by its division into townships and square miles, will enable the student to locate quite definitely, any phenomenon under consideration. The four townships in the northwest of Cook County, not represented on the map, are drained into Fox river, which runs nearly parallel to the Desplaines, and about twenty-five miles to the west of it.

The location of the beaches as indicated by lines, to be described, is taken from Dr. Edmund Andrews; and the arrows indicating the direction of the striæ on the rocks, are taken from Mr. Ossian Guthrie, a civil engineer of Chicago, who has had much observation in this vicinity.

From north to south between the Desplaines river and the north and south branches of the Chicago river, runs the remarkably low divide between the basin of the Mississippi and that of the Great Lakes, or the St. Lawrence. This divide in its lowest part, is not more than twelve feet above the lake. It is so low that in times of high water, the Desplaines overflows the divide, and its surface waters run into Lake Michigan.

The towns Rich and Bloom in the south part of the county, which do not appear on the map, belong to the lake basin, and are drained northward into the Calumet. The northern portion of Lake County, Indiana, which is considered in the botanical area discussed, is also drained by the Grand Calumet. Near the south end of the lake are five small lakes lying in Cook County, and in Lake County, Indiana. The names of these lakes are, Calumet, Hyde, Wolf, Lake George and Berry Lake. These are connected by sluggish bayous with each other and with the Calumet river and Lake Michigan. The largest of these lakes is the Calumet, which is about three miles long. The greatest diameter of each of these five small lakes, is north and south, parallel to the greatest diameter of Lake Michigan itself. For the most part, the area outside of the lake basin has a black prairie soil with woodlands along the streams. Within the lake basin, there is a clay surface upon which are sand and gravel ridges covered with oaks, and between which are swamps and beds of peat.

The mean altitude of Lake Michigan above mean tide at New York for thirty-five years is 581.28. † It is generally, however, placed at 582 feet. The Chicago datum which was fixed in 1847 is 1.65 feet below the mean altitude of the lake. Altitudes in the vicinity of Chicago are usually reckoned from this datum. The highest point of land within the city limits rises only twenty-five feet. The altitude of the general surface of the northern part of the county, may be inferred from the altitude of the four stations on the Chicago and Northwestern Railroad given below. Glencoe, on the Milwaukee branch, on the lake shore near the northern line of the county, has an altitude of 93.7 feet. Lake Forest, eight miles northward, 122.8 feet. Palatine, on the Janesville branch, 170.6 feet, and Barrington, at the northern limit of the county, 249.9 feet. The whole surface of the county rises northward. And again south of the city, it rises towards the southern margin of the county. The southern margin of the lake basin where the Wabash R. R. crosses it, has an altitude of 130 feet. The M. S. & L. S. R. R. crosses it at 260 feet, and the Illinois Central at 205 feet. But most of the land between the sand ridges lying south and east of Chicago around the small lakes and along the Calumet river, is but very little above the

† See "Professional Papers" Corps of U. S. Engineers, No. 24, Comstock.

level of Lake Michigan. The solid rock beneath this region is shown by artesian-well borings to be about as follows:—

Niagara Limestone	254 feet
Hudson river (Cincinnati)	250 feet
Trenton Limestone	330 feet
St. Peter's Sandstone	155 feet
Lower Magnesian	70 feet
	1059 feet.

The culminating axis of elevation of these lower rocks, which is in Wisconsin in the vicinity of Madison and Devil's Lake, is 700 to 850 feet above the lake. The St. Peter's Sandstone is the source of the waters which come to the surface through artesian wells. The waters of the first well that was bored in Chicago, which was in the vicinity of Western Avenue, rose to about 55 feet above the lake. The pressure which elevates the water, comes from the head in the distant elevations of the rock, in Wisconsin.

The surface rock in the northwestern part of the State of Illinois, is the Trenton (Galena) Limestone, which dips under the more recent rocks to the east and south. Detached particles of the Hudson river shales are found in the "Mounds," and higher points overlying the Galena Limestone, in the northwestern portion of the State, but only the Niagara comes to the surface, in a broad strip along the western shore of the lake, from Milwaukee, southward to the southern part of Cook County. The lower beds of the Niagara are fine grained, buff colored, magnesian limestone, extensively quarried at Lemont, and very extensively used for building purposes in Chicago and vicinity. It is evenly bedded and easily worked.

The upper beds, which alone appear at the surface in the region under consideration, are a gray, siliceous limestone. It is hard and not easily wrought into dimension stones, but it is made into lime and much used for road making. About forty feet of the upper portion within the limits of Chicago, contains large quantities of bitumen. Some of these beds are very rich in fossils. These have interested palæontologists for several years past. Besides the species common to the Niagara in other places, many peculiar species have been described from this locality, showing that in these ancient seas, this area, which is now Chicacago, had a fauna distinctly its own. Speaking in a general way, these rocks have a dip of from five to ten degrees towards the southeast or south; but there have been local disturbances, as at Stony Island, where the dip is as great as thirty-five degrees. Northward the rock does not appear at the surface outside the city limits. West and southwest of the city, it is near the surface over large areas, and is quarried in many places.

It rises about twenty-five feet above the lake within the city at Western Avenue, and in the bluffs on the sides of the Desplaines at Lamont these rocks are found more than sixty feet above the lake. This part of the basin of Lake Michigan is scooped out of the Niagara rock.

Wherever the clay has protected the surface of the rock from action of the atmospheric agencies, glaciated surfaces are nicely preserved. They are now found planed and grooved precisely as the glaciers left them. The direction of these striæ, is west of south, as indicated by the arrows upon the map. The arrows at Cheltenham Beach and those just north of the mouth of the Chicago river indicate the direction of the striæ beneath the clay. Those along the canal feeder, whose direction is almost at right angles to that of the others, are placed there on the authority of Mr. Ossian Guthrie. We have not ourselves seen them, and cannot judge what may be the legitimate inferences from them.

The boulder clay, which lies over the solid rock, has great thickness beneath the waters of the lake, and on the shore of the lake northward at Glencoe, it rises 75 feet above the surface of the water. This clay is irregularly bedded, but in a general way three layers may be distinguished; first and lowest, a quicksand; second, "permeable" boulder clay well stratified; third, "wet" boulder clay obscurely stratified. In this last bed, the tunnels for obtaining water for the city have been excavated.

In the vicinity of Michigan City, Indiana, a boring has shown the bed rock to be about 300 feet below the surface of the lake, covered with 143 feet of quicksand, the boulder clay lying over the quicksand. The clay contains small angular boulders, which are frequently glaciated. The upper part contains pockets of gravel the origin of which has been much discussed. One hypothesis is that the gravel now forming the pocket, was a frozen mass at the time of the deposit, and that it has behaved as a rock would have done under the circumstances, and become imbedded in the clay. The other suggestion is that the gravel was washed from the surface of the glacier into crevasses or wells by the surface waters and formed into a conical pile which became covered with finer sediment. In the section of the bluff at Evanston, represented in figure 2, above the shingle of the lake shore is seen a vertical section of clay. The black point in the diagram of the clay, represents one of these gravel pockets as it was observed. It was fifteen inches in diameter, and extended four feet nearly horizontally in the clay. The laminæ of the clay were contorted, and seemed to have the pocket of gravel for an axis.

It is in the fragments of Devonian shales contained in these upper clays, that occur the macrospores of Protosalvinia chicagoensis discovered and described by B. W. Thomas and Dr. H. A. Johnson.

In the northern part of the country the clay lies very thick over the rock, but in the region immediately about Chicago excepting lakeward, it varies from none at all to a few feet in thickness. The clay at the surface is usually covered with a few inches and sometimes a foot or two of mould and soil, and in level areas and slight valleys, it is covered with swamp and peat.

Blue Island ridge and the "Sag Timber Hills" marked B and C on the map, is a mass of boulder drift lying above the blue clay. It is composed of large boulders, coarse gravel, and sand imperfectly stratified. Blue Island station at the foot of this ridge is 22 feet above Chicago datum, but the highest point in Blue Island Village which is near it and upon the ridge is 62.5 feet above datum. The highest point on the ridge is 89.2 feet. The surface of the "Timber Hills" is very undulating. The highest point is near the western margin, and is 140 feet above datum. There is a detached mass lying south of the canal feeder called Lane's Island with a small lake on its top. Simlar hills of drift exist at Lombard just beyond the margin of the county.

Chicago occupies a part of an ancient bay of Lake Michigan. At the time the bay existed, there was an outlet of the lake in the southwest part of the county through what is now the Des Plaines river. The margin of this ancient bay is now marked by shore lines, or beaches. There are three distinct beaches marking three distinct stages in the waters of the lake. They may be designated as the Upper beach, the Middle beach and the Lower beach. The Upper beach is the older, the Middle beach the next in age and the Lower beach is a recent beach. The altitude of the Upper beach, which is the farthest from the lake, is about 55 feet above the lake, or six hundred thirty-seven feet above the seat The water line of the Middle beach is about thirty feet above the lake. The Re-

cent beach lies upon the shore, and is not usually more than thirty feet high, but at Michigan City, Ind., the hills of blown sand, which form a part of this Recent ridge, are one hundred and sixty feet high. The Upper beach begins on the lake shore at the village of Winnetka, in New Trier, and running southwest it strikes the Desplaines river at Riverside, about eleven miles from the lake. Between this village and the Summit Station on the south side of the river, is an ancient outlet of the lake through which the waters ran by way of the Desplaines and Illinois rivers finally into the Gulf of Mexico. The Upper beach continues down the north side of the river till it passes out of the county. South of the river, the Upper beach surrounds a large area of unmodified drift which was an island when the bay and the outlet existed. South of the island was another ancient outlet which united with the first westward of the island at a place near the river now called "The Sag." The Upper beach, marking the south shore of the bay and outlet, comes into the county on the south side of the Desplaines river, on the west line of the town of Lemont, and continues east and southward and passes out of the county into the State of Indiana near Lansing, on the Chicago and St. Louis R. R. The Middle beach begins on the shore of the lake near the north line of Evanston, and runs southward within the Upper beach and at a distance from it of four miles at the north end, to very near to it at the Village of Riverside, where it disappears. From Summit Station on the south side of the Desplaines river, it runs eastward and southward around the small lakes. South of the small lakes, it becomes divided into many minor ridges, and in this form it passes into Indiana. The Recent beach begins on the University grounds in Evanston and keeps near the lake. From Douglas Park it sends a branch down to Englewood, and at South Chicago it divides into many minor ridges. Some of the minor ridges lie between the smaller lakes. In this divided state, it passes eastward into Indiana along the south shore of the lake. These beaches were extensively discussed by Dr. Edmund Andrews many years ago, but the disastrous fire of 1871 left no copies of his work in the city. Dr. Andrews found that the mass of the Recent (Lower) beach, was almost exactly equal to the sum of the masses of the other two beaches. From this the conclusion was drawn that the time of the formation of the Recent beach has been longer than the time of the formation of either of the other beaches.

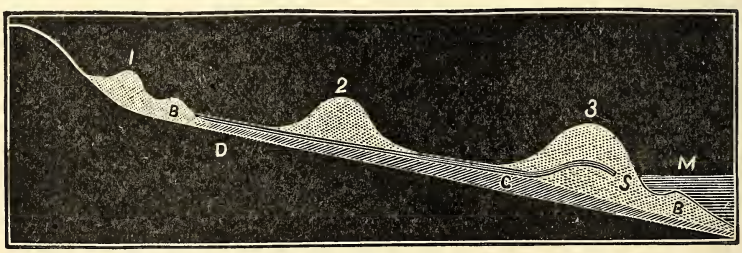

Fig. 1.

Fig. 1 is a diagram of a cross section of these beaches borrowed from Dr. Andrews, in which M, represents Lake Michigan; D, boulder clay; 1, Upper beach, B, sub-aqueous bar of the Upper beach; 2, Middle beach; 3, Recent beach, B, a sub-aqueous bar of the Recent beach; S, old soil found in the Lower beach and running under the Middle beach; C, clayey deposit of the same age as the Upper beach.

It is probable that the species of plants now existing in this area, have become indigenous since about the time of the formation of the Upper beach. We

do not know the history of this period sufficiently in detail to affirm it to be a fact that all species have come to the locality within this time, but there are some facts which suggest the hypothesis. The wood found under the drift in other

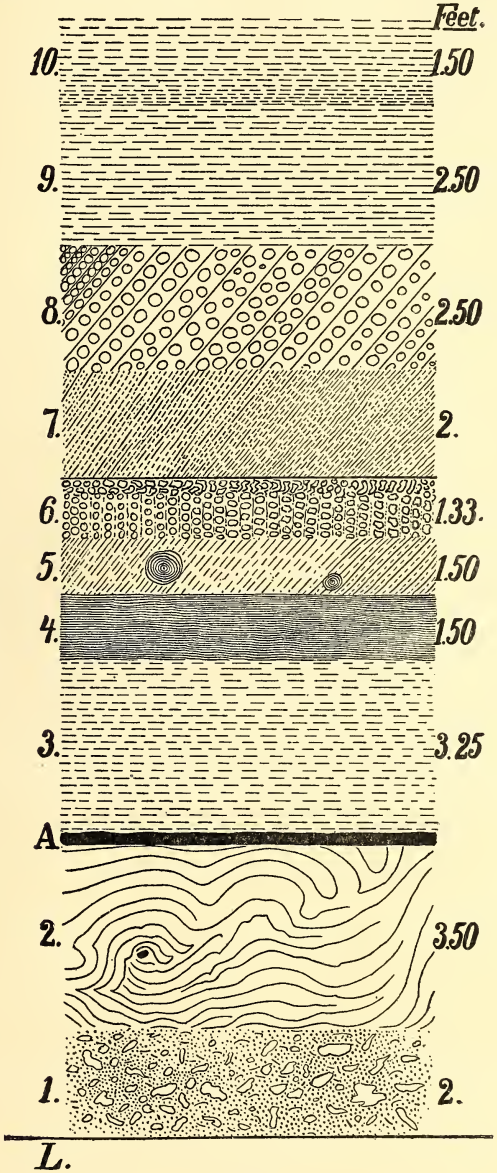

Fig. 2.

parts of the State, does not belong to the species now growing in the localities in which it is found, and so far as determined, the woods found under these beaches differ from the woods growing upon them at the present time.

Figure 2 represents a section of the Lower beach taken at its terminus on the University Campus in Evanston in 1864.

For ten years previous to that time, according to the best information that could be obtained, the shore had washed away about two rods each year. At the time the section was made, a northeast storm had produced a clear vertical section of the bluff. L, indicates the water surface. For two feet at the foot of the bluff, the shingle of the shore covered the clay. Above the shingle was a vertical section of the upper portion of the clay; three and one-half feet as shown in the diagram. At A, on the surface of the clay, five and one-half feet above the water, was an old soil. The layer of organic matter was very thin, but on it, was much coniferous wood, some of which appeared to grow on the place where it was found. No other kind of wood was found at that horizon. Three and a half feet of nearly horizontally stratified sand covered this soil. Then at 4, in the diagram, there was one and a half feet of peat. In the upper surface of the peat, were many fresh water shells. Nine different genera were identified, all of which were existing species. They were Planorbis, Valvata, Physa, Lymnia, etc., with fresh water bivalves, so decomposed that it was impossible to determine the species. Upon this peat and lying more closely upon it than is indicated in the figure at 5, were trunks of oak trees in a layer of fine sand. This layer, 4, with the oak trunks lying on it or in it, extends under all the Village of Evanston east of the railroad. It is the same layer that is seen in Fig. 1 at S, and runs under the Middle beach but not under the Upper beach. At 6, Fig. 2, was a bed of coarser gravel in which were found in 1863, a little distance from the place of this section, pelvic bones which have been referred to the deer.

The parts of the section above this are of beach or bar structure and need no particular description. Specimens of the coniferous wood from the soil A, and of the oak from 5, were sent, in 1890, to Prof. D. P. Penhallow, of Magill University, Montreal, who on examination microscopically replies, "No. 1 is not an Arbor Vitæ, but a Picea. Both this and the oak, cannot be referred to any modern species, though the former approaches P. sitchensis, and the latter Q. falcata and Q. primus. For the present, I would not assign specific names. I will simply designate them as Picea 13 and Quercus 14."

The genus Picea (spruce) does not now grow within several hundred miles from the locality, and the species of oaks which are now found upon the surface of the ridges are neither falcata nor primus. The indication is, that previous to the beginning of the Recent beach, a climate and flora prevailed like that in Alaska. Then when the peat began to form at the time as indicated by the peat layer at 4, the spruces had disappeared and a species of oaks had taken their place, and now these have disappeared and other oaks have replaced them. This lower soil in the section at A, lying upon the clay, indicates a time when the surface of the waters were as low relatively to the land at this place as now. Afterwards the waters rose as high as the Upper beach. After the Upper beach was formed, the waters subsided to the Middle beach, and again to the Recent beach. Spencer has traced the shore line of the old Lake Iroquois beneath Lake Michigan.* The coniferous wood probably grew before Lake Michigan was definitely formed.

The oak is not completely decayed, The outside wood of the trunks is spongy, but the central portions are tough and fibrous. Borers then as now, infested the trees.

*Am. Jour. Sci. Vol. 40, p. 447.

Horizon 5, just above the peat, marks the upper or later limit of the Mastodon. It was on this soil about six years ago that the bones of a Mastodon were found in Chicago, on the south side of Wicker Park near Milwaukee Avenue. They were covered with thirteen feet of silt, or as Dr. Andrews suggests, Loëss. The bones consisting of part of a jaw, teeth, and parts of a few other bones, are now in the collection of the Chicago Academy. There is in the Museum of the College of Liberal Arts of the Northwestern University a fragment of fossil ivory received from the late James L. Milner, afterward connected with the U. S. Fish Commission, taken from a gravel pit excavated in the Middle beach in Evanston when the Milwaukee Branch of the C. & N. W. R. R. was constructed. From what level it was taken, is not now known. The pit appears to have been excavated to the clay, and the fossil was probably on the same stratum as that at Chicago.

There is no positive evidence that the waters of the lake were salt water at the time the Upper beach was deposited. No shells have been found in the beach by which the character of the waters could be determined, but the presence of sea shore plants now upon the lake shore, and the existence of the marine Mysis in the waters of the lake, indicate that at some time, salt water has existed where Lake Michigan now is. The old bay of the lake whose margins are marked by the Upper beach, left some silts on its bottom, and in these silts have been found fresh water unios. We have fragments of such shells taken from the silts at the corner of West Monroe and Morgan Streets in Chicago.

Between the Middle and Upper beaches in Evanston, is what is known as the "Wet" prairie. It lies about fourteen feet above the lake. Its surface is nearly a water level. It is two miles wide and ten miles long. The clay is just beneath the surface under the whole area, and before it was drained, it was covered with water during the wet portion of the year. Southeast of Chicago where the ridges are multiplied, the spaces between these ridges are narrow and covered with marshes and small ponds.

Though Cook County, Illinois, and Lake County, Indiana, have neither mountains nor valleys, no frowning cliffs nor rocky glens, they have an interesting geological history, the outcome of which is a very unique botanical area. The rolling prairies, the river bottoms, the sandy ridges, the lake shore, the drift clay and its ravines, the sloughs among the ridges at the south end of the lake, the peat bogs which are found in many places, the shallow ponds and sluggish streams, give a great variety of soil for native plants.

FOREST TREES.

The forest trees of our district are of great interest in illustrating the ability of prairies to support forest growths, as they contain a large variety of forms, many of which are widely distributed over North America.

The area embraced in this Catalogue is included in the fourth division of the Atlantic Region of forest trees, known as the "Deciduous Forests of the Mississippi Basin and the Atlantic Plain" (Sargent), for with few exceptions our trees are composed of deciduous species.

In the forest area specimens are found of nearly all the trees growing in the State, the wood, according to the Ninth Census Report, averaging from two to

five cords to the acre. Among our seventy-one species and varieties, the oaks, ashes and walnuts form the chief lumber trees, while the soil and climate join in supporting many introduced forms of ornamental trees. The Tulip tree (Leriodendron tulipifera, L.), Kentucky Coffee tree (Gymnocladus canadensis, Lam.), Honey Locust (Gleditschia tricanthus, L.), the catalpas and willows, with elms, maples and poplars are ornaments for streets, residences and parks. The most characteristic and abundant trees are the oaks, of which there are eleven species. The scarlet, white, red, bur and black oaks (tinctoria, Bartram) are the most common forms. The black (nigra, L.), laurel, scarlet, swamp white and swamp Spanish oaks are occasionally reported.

The ash trees, represented by the white, green, red and black, are only met with locally, while the five species of maples, with the exception of the sugar maple, are generally distributed. Hickories are plentiful in the woods, the tall cottonwoods being more closely associated with civilization. One tree not previously reported for this section and about which there has been much discussion, is the Beach Plum (Prunus maritima, Wang.). Its presence here has, however, been settled beyond all question by careful study of the species.

Of our willows, six are trees, which are generally distributed. Of the ten species of trees that cross the continent, five are found within our limits. Seven of the fifteen trees that are found at intervals from the Atlantic to the Pacific are counted among our flora, while the Salix amygdaloides, the only tree found throughout the whole region extending from the Southern Pacific to the Atlantic, is here included. The Hop-tree (Ptelia trifoliata, L.), is the only species of the genus found in the region, while the Negundo aceroides, Moench., is the sole representative of the genus of either the Atlantic or the Pacific regions.

PLANTS OF INTEREST.

Among the various forms recorded in this Catalogue, some merit special mention by reason of peculiarities in form or habit.

Prominent among these plants of interest are the so-called insectivorous plants. Under this enumeration are two species of Drosera, the Sarracenia purpurea, L., and the Utricularias. The latter grow in ditches and capture water insects and small fish in their pouch-like leaves.

Situated along the shore of Lake Michigan is a class of alien plants whose natural habitat is in the vicinity of salt water. Of these saline forms the Beach Plum has already been spoken of under the title of trees. All along the shore of the lake the bright flowers of the Beach Pea (Lathyrus maritimus, Bigelow) can be seen during the summer months lifting their heads above the sand, while among them at Evanston and also at Wolf Lake and Clarke, Ind., the Saltwort (Salsola kali, L.) is sparingly found. Leaving the lake shore for the more marshy districts inland, several parasitic forms are found. Under foot the corpse plant and cancer-root rear their pale forms above decaying vegetable matter on the roots of other plants, while three species of the Dodder twine their waxy stems around the stalks of the Helianthus and other species of Compositæ. Occasionally exceptional forms, such as albinos, flowers differing in color from the characteristic hue and double forms, are recorded. A number of albino forms are included, among which may be mentioned the Cranesbill, Red Clover, Columbine,

Blazing Star, etc. Many double forms, among the species of Helianthus, Coreopsis, etc., have been found in all stages of development.

No distinct paragraph has been given to rare plants, as they could not be enumerated in this connection, but they are designated in the text.

DISAPPEARANCE OF SPECIES.

While catalogues and check lists are necessary to record the constant introduction of new species into our floral community, they are no less useful for writing obituaries of forms that have become extinct.

Included among the species that are seemingly exterminated are: Viola canadensis, L.; Desmodium marilandicum, F. Boott.; Pirus americana, D C.; Triosteum angustifolium, L.; Eclipta alba, Hassk.; Rhododendron nudiflorum, Torr.; Datura tatula, L.; Myrica cerifera, L.; Triglochin palustris, L.; Carex vulgaris, Fries.; Juniperus sabina, L., Var. procumbens, Ph.; Azolla caroliniana, Willd.

LOCALITIES OF SPECIAL INTEREST.

There are certain areas in Cook County, Illinois, and Lake County, Indiana, which are of special interest to the botanist, because of the plants, which, in some instances, are found in them only. Prominent among the districts selected is the Calumet Region, embracing the territory drained by the series of lakes situated in the southern portion of Hyde Park township and that portion of Indiana adjacent to it. In this locality many rare forms of aquatic and bog plants are found, as well as several other species which are confined to Lake County, Indiana. Of the former class may be mentioned many of the Potamogetons, the Orchids, Utricularias, Junci and Xyris flexuosa, Muhl., while of the latter, numbering over ninety species, are the Pyrola rotundifolia, L., P. rotundifolia, L., Var. asarifolia, Hook, and P. secunda, L.; Triglochin palustris, L.; Cypripedium acaule, Ait., and Carex richardsoni, R. Br.

From this district some of the rare forms not recorded in the fifth edition of Gray's Manual, were obtained, such as Gaura parviflora, Dougl., and Potamogeton fluitans, Roth.

The only specimen of the Typha angustifolia, L., reported in the northern part of Cook County was found in a swamp called the "Skokie," situated west of Glencoe. Unfortunately for collectors, this interesting spot has been drained and the wild forms so numerous in years past have given place to fields of wheat and corn.

Another locality which merits notice is the strip of heavily timbered country extending through the central and northern portions of Cook County, and locally known as the "Big Woods." Here many of our representative trees are found as well as less frequent forms, while around their trunks twine the wild grape, woodbine, bitter-sweet and poison ivy. In the spring parts of this area are submerged and marshy, and abound with species of the Trillium, Arabis and Cardamine. Species of the Habenaria, Cypripedium and Orchis are here met with, as well as the Sanguinaria canadensis, L., and Oxalis violacea, L. During the summer and autumn the undergrowth is marked by species of Solidago, Aster, Helianthus, Eupatorium, Urtica, Pilæa and many others, while the fallen logs present a great variety of mosses and fungi.

On the edge of the prairie, in South Evanston, is a small field made prominent by reason of the fact that it is the only spot in Illinois from which the Lycopodium inundatum, L., has been reported. The plants grow in moist prairie soil and occupy an area of several square yards. Associated with the Lycopodium is the Drosera rotundifolia, L., Pogonia ophioglossoides, Nutt., Calopogon pulchellus, R. Br., and several rare species of Polygonum.

The lake shore at Evanston has been previously noticed in connection with the Salsola kali, L.; Polenasia and Arctostaphylos also grow there. This area is too extensive to treat exhaustively, but is interesting because of the wide range of species found growing in the sand and on the bluffs.

Probably the most unique feature of our district is the chain of ravines, in the bluffs, from Lakeside northward. In these ravines the plants characteristic of prairie soil, dry and moist woods, swamps and sandy areas, are found grouped together. The beautiful Cypripedium spectabile, Swartz., the Hepatica, the Sanguinaria and many Compositæ find here conditions favorable to their development.

Stony Island and Hog Island are also localities of great botanical interest, furnishing many species seldom met with elsewhere. Recent improvements have, however, changed the floral aspect of the area. Hog Island is situated about one mile southeast of Grand Crossing and is intersected by Stony Island avenue, about two blocks south of the C., Ft. W. & P. R. R. It is from three to five feet higher than the surrounding low prairie, and consists of about twenty acres. Stony Island is situated about one mile to the south. The flora of both localities has been exceedingly varied. The platting of the former into building lots and the improvements incident thereto, have caused a material change in the flora and the extermination of some of the rarer forms, such as Hydrastis canadensis, L.; Trillium cernuum, L.; Cypripedium spectabile, Swartz., pubescens, Willd., and parviflorum, Salisb.

STATISTICS OF THE CATALOGUE.

In order to simplify and to more clearly set forth the facts in the composition of our Flora, the following tables are presented. By means of these tables we shall attempt to give an analysis of the larger groups and orders and to compare them with the statistics of other floras. The enumeration is made to include the species and varieties, both being numbered in the catalogue, with the exception of those in the appendix, 14 in number. The total number of plants recorded and numbered is 1322, distributed among 113 families and 488 genera, and may be grouped as follows:

1. Native species	1033	
2. Introduced species	177	
Total number of species		1210
3. Native varieties	107	
4. Introduced varieties	5	
Total varieties		112
Total species and varieties		1322
5. Additions from appendix 1, genera 2— Species and varieties		14
Final total		1336

SYSTEMATIC DISTRIBUTION.*

The systematic distribution of these forms is set forth in the following table:

	Families.	Genera.	Species.	Varieties
Polypetalæ	43	162	371	27
Gamopetalæ	26	158	393	38
Total Dichlamydeæ	69	320	764	65
Monochlamydeæ (Apetalæ)	19	46	114	8
Total Dicotyledons	88	366	878	73
Monocotyledons	1	103	299	34
Gymnosperms	1	4	6	1
Total Phænogamia	107	473	1183	108
Vascular Cryptogamia	6	15	28	3
Totals of the Flora	113	488	1211	111

LARGE FAMILIES.

In the table given below, the 19 largest families are arranged according to the number of species and varieties, no family having less than 15 species being included:

	Genera.	Species.	Varieties
Compositæ	51	170	19
Cyperaceæ	11	97	19
Gramineæ	37	85	5
Leguminoseæ	22	53	2
Rosaceæ	12	44	5
Ranunculaceæ	14	33	5
Scrophulariaceæ	16	33	3
Labiatæ	20	33	1
Cruciferæ	12	32	2
Liliaceæ	14	29	
Orchidaceæ	11	28	1
Umbelliferæ	21	24	3
Polygonaceæ	4	24	2
Caryophyllaceæ	7	23	
Salicaceæ	2	19	5
Cupuliferæ	7	19	
Ericaceæ	9	17	4
Naiadaceæ	5	17	2
Onagraceæ	5	15	2
Caprifoliaceæ	6	15	
Totals	286	810	80

The total number of orders being 113, it will be seen that the 19 enumerated, or 17 per cent., represent 59 per cent. of the genera and 68 per cent. of the species and varieties.

*Species and varieties of the appendix are not included in any of the following tables.

LARGE GENERA.

The 18 largest genera selected are those having 8 or more species, and are arranged according to the number of species and varieties.

	Species.	Varieties
Carex	55	15
Aster	27	4
Solidago	20	4
Polygonum	15	2
Salix	14	5
Helianthus	14	2
Viola	13	2
Potamogeton	12	2
Ranunculus	12	2
Juncus	11	5
Cyperus	11	1
Panicum	11	1
Asclepias	10	1
Habenaria	10	1
Desmodium	10	
Hypericum	9	1
Quercus	9	
Galium	8	2

Less than 4 per cent. of the 488 genera contains 321 species and varieties, or 24 per cent. of the entire number.

COMPARISONS WITH OTHER FLORAS.

For the purpose of showing the numerical relation which exists between the plant life of the territory represented by this Catalogue, and other localities approximating to its area, the total number of species and varieties of their phænogamia are given as follows:

	S. and Var.
Flora of Cook County, Illinois, and Lake County, Indiana	1291
Flora of Essex County	1257
The Cayuga Flora	1278
Plants of Oneida County	1390
Flora of Washington and Vicinity	1211

In order to bring out some interesting facts with regard to the relation of our flora to the vegetable life of different sections of the United States, the plan laid down by Ward, in his Flora of Washington and Vicinity, has been followed to some extent. In the Flora referred to, comparisons are made between its systematic distribution, orders, genera and species, and those of the Eastern United States. As a "final statistical exhibit, more comprehensive in its scope," Mr. Ward gives a table in which the divisions are reduced to a common standard, which is done by taking the percentage which each division bears to the total of the flora specified. By following this method, the rank of each group is obtained relative to those of the several floras compared. (See fifth and sixth tables.)

The areas taken into consideration are:

1. Flora of Cook County, Illinois, and Lake County, Indiana.
2. Illinois State Report (Patterson).
3. Flora of the Northeastern United States.
4. Flora of the Southeastern United States.
5. Flora of the Eastern United States.
6. Plants collected by the 40th parallel survey.
7. Plants collected by Lieutenant Wheeler's survey.

As Mr. Ward states, the last two are introduced rather as a means of contrasting the eastern with the western portions of the continent than as a proper part of the comparative botanical statistics of the vicinity.

The first four of the following tables form a comparison between our flora and that of the Eastern United States, showing the percentage of the former to the latter. Prominence is given to this section of the country, as it includes our district.

COMPARISON OF DIVISIONS.

	Eastern U. S., Species and Varieties		Cook and Lake Co's Species and Varieties		Percentages.
Polypetalæ	1115		398		36
Gamopetalæ	1314		431		33
Total Dichlamydeæ		2429		829	35
Monochlamydeæ (Apetalæ)	349		122		35
Total Dicotyledons		2778		951	34
Monocotyledons	1034		333		32
Gymnosperms	28		7		25
Total Phænogamia		3840		1291	34
Cryptogamia	194		31		16
Totals		4034		1322	33

The total number of species and varieties included in the Eastern United States is 4034, of which the 1322 plants of our flora form 33 per cent.

COMPARISON OF FAMILIES.

In the following table only such families are selected as have 26 or more species:

	Eastern U. S., Species and Varieties	Cook and Lake Co's Species and Varieties	Percentages.
Compositæ	497	189	38
Cyperaceæ	357	116	32
Gramineæ	297	90	30
Leguminoseæ	208	55	26
Rosaceæ	104	49	47
Ranunculaceæ	80	38	48
Scrophulariaceæ	97	36	37
Labiatæ	121	34	28
Cruciferæ	76	34	45
Liliaceæ	82	29	35
Orchidaceæ	71	29	40
Umbelliferæ	63	27	43
Polygonaceæ	56	26	46

COMPARISON OF GENERA.

	Eastern U. S. Genera.		Cook and Lake Co's Genera.		Percentages.
Polypetalæ	340		162		48
Gamopetalæ	379		158		42
Total Dichlamydeæ		719		320	45
Monochlamydeæ (Apetalæ)	97		46		47
Total Dicotyledons		816		366	46
Monocotyledons	198		103		53
Gymnosperms	12		4		33
Total Phænogamia		1026		473	46
Cryptogamia	39		15		38
Totals		1065		488	46

The total number of genera in the first area is 1065; that of the second 488, or 46 per cent.

COMPARISON OF SPECIES.

In the following table the twelve largest genera are compared:

	Eastern U. S. Species.	Cook and Lake Co's. Species.	Percentages.
Carex	180	70	39
Aster	63	31	49
Solidago	61	24	39
Polygonum	27	17	63
Salix	23	19	83
Helianthus	27	16	59
Viola	24	15	63
Ranunculus	27	14	52
Juncus	38	16	42
Cyperus	41	12	29
Panicum	36	12	33
Asclepias	22	11	50

Here the genus Salix is the best represented, Viola ranking second. Seven reach 50 per cent. or more.

PERCENTAGE COMPARISON OF DIVISIONS.

The following table shows the relation of our flora to the floras specified:

	Cook and Lake Counties.	Illinois.	Northeastern United States.	Southeastern United States.	Eastern United States.	Fortieth Parallel Survey.	Wheeler's Survey.
Polypetalæ	30.1	28.5	26.8	28.9	27.6	35.1	31.9
Gamopetalæ	32.6	32.2	31.6	34.7	32.6	36.0	35.8
Total Dichlamydeæ	62.7	60.7	58.4	63.6	60.2	71.1	67.7
Monochlamydeæ (Apetalæ)	9.3	9.8	7.9	8.8	8.7	9.8	10.6
Total Dicotyledons	72.	70.5	66.3	72.4	68.9	80.9	78.3
Monocotyledons	25.2	25.5	29.	24.3	25.6	16.4	15.7
Gymnosperms	0.5	0.7	0.9	0.7	0.7	1.2	1.3
Total Phænogamia	97.7	96.7	96.2	97.4	95.2	98.5	95.3
Cryptogamia	2.3	3.3	3.8	2.6	4.8	1.5	4.7
Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0

PERCENTAGE COMPARISON OF LARGER FAMILIES.

	Cook and Lake Counties.	Illinois.	Northeastern United States.	Southeastern United States.	Eastern United States.	Fortieth Parallel Survey.	Wheeler's Survey.
Compositæ	14.3	13.	12.2	13.7	12.3	16.5	16.6
Cyperaceæ	8.7	8.5	10.5	8.	8.9	4.4	3.8
Gramineæ	6.8	7.8	7.5	7.2	7.4	5.4	7.8
Leguminoseæ	4.2	4.7	4.3	6.1	5.2	7.2	8.2
Rosaceæ	3,7	3.2	3.	2.2	2.6	3.4	2.9
Ranunculaceæ	2.9	2.7	2.3	1.9	2.	3.	2.3
Scrophulariaceæ	2.7	2.7	2.3	2.5	2.4	4.5	4.8
Labiatæ	2.6	2.8	2.2	2.8	3.	0.9	2.2
Cruciferæ	2.6	2.1	2.	1.4	1.9	4.4	2.8
Liliaceæ	2.2	2.1	2.4	2.1	2.	3.	1.5
Orchidaceæ	2.2	1.8	2.4	1.9	1.7	0.6	0.5
Umbelliferæ	2.	1.8	1.7	1.6	1.6	2.4	1.2
Polygonaceæ	2.	1.8	1.1	1.5	1.5	4.	3.2

PART I.

PHÆNOGAMIA.

RANUNCULACEÆ.

CLEMATIS, L.

1. **C. virginiana**, L. Common Virgin's Bower. Virginian Clematis.
97 Banks of streams in rich soil; infrequent. July—September.
Desplaines river, near Maywood. Pine Station, Ind., *Dodge*. Burnside, *Brennan*.

ANEMONE, Tourn.

2. **A. patens**, L., var. **nuttalliana**, Gray. Pasque-flower. Mayflower. Pulsatilla. Prairie Smoke. Prairie Anemone. Easterflower.

A. nuttalliana, D. C.
Pulsatilla patens, Gray.

A few specimens have been found on the banks of ravines, in dry, sandy soil, in the northwestern part of our district, near Palatine. April—May. (B.)
A less hairy form with white petals is occasionally found elsewhere, and may be looked for within the limits of our flora. This species is usually found in patches.

3. A. CAROLINIANA, Walt. Carolina Anemone.
Prairies; rare. May—June. (B.)
Evanston. Near Lake Calumet, on the banks of the C. R. I. & P. R. R.
The sepals vary from white to pale purple. Probably introduced from the West. *Rhizome tuberous.*

+4. **A. cylindrica**, Gray. Long-fruited Anemone.
Sandy soil; not common. June 15th—July.
The sepals of two specimens found near Evanston were pink. A monstrous specimen was collected near South Chicago, with the fruiting receptacle 2½ inches long.

+5. **A. virginiana**, L. Virginian Anemone.
Moist prairies and banks of streams; not rare, sometimes abundant. July—August. R 7

6. **A. pennsylvanica,** L. Round-leaved Anemone. Pennsylvanian Anemone.

Prairies, rich meadows and banks of streams; frequent. July—August.

A more stunted form is found on sandy bluffs and knolls.

7. **A. nemorosa,** L. Wood Anemone. Wood-flower. May-flower.

Woods and meadows, in rich soil; very abundant. April—May.

Often hairy.

8. **A. nemorosa,** L., var. **quinquefolia,** Gray. Five-leaved Wind-flower.

With the last; common, often more common than the type. Usually hairy. (B. P.)

9. **A. hepatica,** L. Hepatica. Liver-leaf. Round-lobed Hepatica. May-flower. Herb Trinity.

Hepatica triloba, Chaix.

Dry banks and ravines; infrequent, except locally (Winnetka, Glencoe). April—May. Near Blue Island, *Brennan.* (B.)

Rare or infrequent throughout the southern part of the district. Specimens were collected near Riverside, with pistils and stamens changed to sepals.

10. **A. acutiloba,** Lawson. Sharp-lobed Hepatica. May-flower.

Hepatica acutiloba, D C.
Hepatica triloba, Chaix, var. *acuta,* Ph.

In similar localities with the last, but more common, especially southward. April—May.

It seems to be a more hardy species than A. hepatica, L., often occupying the whole of the north side of a ridge, while the A. hepatica is found only on the south. The number of sepals varies from 6 to 14. The flowers are seldom entirely white. On a specimen found near Woodlawn the middle lobe of all the leaves was symmetrically tri-lobed and the lateral ones bi-lobed. Specimens with the leaves unequally five-lobed are not infrequent.

A form is occasionally found which " has a three-lobed leaf subtending the involucre, the involucral leaf in its axis completely divided into two, smaller than the remaining two of the whorl," *Hill.*

ANEMONELLA, Spach.

11. **A. thalictroides,** Spach. Rue-Anemone.

Thalictrum anemonoides, Michx.
Anemone thalictroides, L.

Moist woods with Anemone nemorosa, L., which it resembles; common. April—May.

Two specimens found near Niles had the sepals three-lobed; often the flowers are doubled, and there may be two or more rows of sepals. Specimens with all the stamens and pistils undeveloped or changed to sepals are occasionally found. Specimens from Niles are usually pinkish, and those with pink and white flowers are not uncommon elsewhere.

Leaves whorled at base of peduncles, Washington Heights, *Dodge*.

THALICTRUM, Tourn.

12. **T. dioicum**, L. Early Meadow Rue.

Woods, banks, and fence rows; common. May.

13. **T. polygamum**, Muhl. Tall Meadow Rue.

T. cornuti, in Manual, 5th Ed.

Wet prairies and banks of streams; infrequent or rare. June—September.

Specimens found near South Chicago measured 11 feet in height. The average height is about 5 feet.

14. **T. purpurascens**, L. Purplish Meadow Rue.

T. cornuti, *L.*, var. *purpurascens*, Wood.
Including var. *ceriferum*, Austin.

Dry and usually sandy soil; frequent. May—June.

In some seasons the staminate form is far more abundant than the pistillate.

In woods near Whiting, Ind., a form with the following characteristics is found: Polygamous; intermediate between T. purpurascens and T. cornuti; filaments white; stamens at first drooping but little; anthers mucronate; 3 to 5 feet high, *Hill*.

MYOSURUS, Dill.

15. **M. minimus**, L. Mouse-tail.

Prairies; rare.

Evanston, July, 1886. (B.)

RANUNCULUS, Tourn.

16. **R. circinatus**, Sibth. Stiff Water Crowfoot.

R. divaricatus, in Manual, 5th Ed.
R. aquatilis, L., var. *stagnatilis*, DC.

South Chicago; rare. June, 1883, 1884, 1886.

Streams near Lake Calumet; rare, 1885.

Sheffield, Ind.; frequent. (B.)

17. R. **aquatilis**, L., var. **trichophyllus**, Gray. Common Water Crowfoot.

Aquatic; common locally. May 15—July 10.

Hyde Park and south. North branch of the Chicago river. Rogers Park, *Johnson!* Riverside, *Bastin!*

18. R. **cymbalaria**, Ph. Seaside Crowfoot.

Moist, sandy soil. May.

Frequent from Hyde Park, south and west. Ravenswood. Evanston.

Petioles 2 to 5 inches long.

19. R. **multifidus**, Ph. Yellow Water Crowfoot.

Usually aquatic; common. May—June 15.

Sometimes turns white with age.

Creeping in sandy mud, Hammond, Ind., *Hill.*

20. R. **multifidus**, Ph., var. **terrestris**, Gray.

Prairies; rare. June—July.

Rogers Park. South Chicago. Near Woodlawn.

21. R. **abortivus**, L. Small-flowered Crowfoot.

Rich soil, usually in open moist woods; common. April—July 15th.

22. R. **sceleratus**, L. Cursed Crowfoot.

Swamps and ditches; frequent. May 20th—July. (B.)

Evanston. Niles. South Chicago. Englewood and southeast.

The juice of this species is so acrid that it will often cause blisters to form upon the skin of the collector.

23. R. **recurvatus**, Poir. Hooked Crowfoot.

Rich woods; frequent, rather local. May—June. (B.)

In dry places it is usually less hairy.

24. R. **fascicularis**, Muhl. Early Crowfoot. Buttercup. Cowslip.

Sandy soil; abundant. April—May, often as late as August.

A few specimens found at Glencoe bore white flowers. Plants occasionally 1 to 2 feet high. The roots vary from slender to quite fleshy.

25. R. **septentrionalis**, Poir. Crowfoot.

R. repens in Manual, 5th Ed., mainly.

Moist woods and prairies; common. May—June, often as late as September.

A very variable species.

26. R. REPENS, L. Creeping Crowfoot.

A few specimens were collected in a low place near Maywood, July, 1889. (B.)

The leaves were spotted and slightly pubescent; styles stigmatic along inner margins; low, some plants creeping, and rooting at the nodes. We do not believe that the species is indigenous at this point.

27. **R. pennsylvanicus,** L. f. Bristly Crowfoot.
Wet places and open woods; infrequent, but distributed throughout the district. June 15th—July 25th. (B.)

28. R. BULBOSUS, L. Buttercup. Tall Buttercup. Bulbous Crowfoot.
Fields, probably introduced in grass seed; rare. June—July. (B. P.)
Kenwood. Evanston. South Evanston. Niles, *Miss Belle Alling.* Pullman, *Brennan.*

29. R. ACRIS, L. Tall Crowfoot. Buttercup.
Fields; not common. (B.)
Evanston, 1885. Kensington, 1879, *Brennan.* Englewood, 1880, *Hill.*
2 to 5 feet in height.

ISOPYRUM, L.

30. **I. biternatum,** T. & G. False Rue-Anemone.
Moist grounds.
Evanston. Lake View. Jefferson. South Chicago. Hyde Park, *Brennan.* Maywood, *Herman Jaëger.* Banks of north branch Chicago river, from west of Ravenswood to North Evanston, *Mason Bross.*
Easily mistaken for Anemonella thalictroides, Michx.

CALTHA, L.

31. **C. palustris,** L. Marsh Marigold. Cowslip. Gools.
Swamps; common, often abundant. April—May.
In wet but not boggy localities the flowers are often larger than ordinary specimens; the average measurement of several flowers being from $1\frac{1}{4}$ to 2 inches.

COPTIS. Salisb.

32. **C. trifolia,** Salisb. Coptis. Goldthread.
Wet and boggy, shaded places, or rich woods; very rare. May. (B. P.)
Berry Lake, Ind., 1887. Pine Station, Ind., 1887—88.

AQUILEGIA, Tourn.

33. **A. canadensis,** L. Wild Columbine. Honeysuckle.
Woods and roadsides; not common. May—June.
North Evanston and southward. Usually more frequent along the tracks of railroads from the east.
Two specimens nearly white were found near Lakeside.

DELPHINIUM, Tourn.

34. **D. azureum**, Michx. Azure Larkspur.
Fields; rare. June—July. (B.)
Hyde Park. Rogers Park. Englewood, *Dodge.*

CIMICIFUGA, L.

35. **R. racemosa**, Nutt. Black Snakeroot.
Pine Station, Ind., *Brennan.* (B.)

ACTÆA, L.

36. **A. spicata**, L., var. **rubra**, Ait. Red Baneberry. Red Cohosh.
Rich and rather open woods; not rare. May—June 15. (B.)

37. **A. alba**, Bigel. White Baneberry. White Cohosh.
A. spicata, L., var. *alba*, Michx.
Moist woods and shaded banks; not common. May 10th—June.
Occasional specimens with white berries and slender pedicels are found.

HYDRASTIS, Ellis.

38. **H. canadensis**, L. Orange-root. Yellow Puccoon. Tumeric-root. Yellow-root.
Rich and wet soil; very rare.
South Chicago. Hinsdale, *Mason Bross.* Hog Island, 1876 and 1886, *Brennan.* Rose Hill, *Johnson.* (B.)

MAGNOLIACEÆ.

LIRIODENDRON, L.

39. **L. tulipifera**, L. Tulip-Tree. White or yellow poplar.
Rich woods. Whiting, Indiana, May 25th—June 10th, *Hill!* (B.)

MENISPERMACEÆ.

MENISPERMUM, L.

40 **M. canadense**, L. Canadian moonseed.
Ditches and banks; not common. June—July.

BERBERIDACEÆ

CAULOPHYLLUM, Michx.

41. **C. thalictroides**, Michx. Blue Cohosh. Pappoose-root.
Moist woods; not common. April—May.
Niles. Glencoe. Hyde Park and south.

PODOPHYLLUM, L.

42. **P. peltatum**, L. Podophyllum. May-apple. Mandrake. Devil's Apples.
Moist woods; common, or abundant. May—June.

NYMPHÆACEÆ.

BRASENIA, Schreb.

43. **B. peltata**, Ph. Water-shield.
Aquatic; not common. June—July.
Rose Hill. South Chicago. Pine Station, Indiana, *Bastin.*

NELUMBO, Tourn.

44. **N. lutea**, Pers. Yellow Nelumbo. Water Chinquepin.
Nelumbium luteum, Willd.
Aquatic. July.
Foot of Lake Calumet and Calumet river. Wolf Lake, *Babcock!*

CASTALIA, Salisb.

45. **C. odorata**, Greene. Sweet or Sweet-scented Water-lily.
Nymphœa odorata, Ait.
Aquatic; infrequent, or rare. June—September. (P.)
North Branch Near Palatine. Berry Lake, Ind.
Flowers 4 to 7 inches in diameter, and sweet-scented.

46. **C. tuberosa**, Greene. Tuberous Water-lily.
Nymphœa tuberosa, Paine.
N. reniformis, D C.
Aquatic; common or abundant. July—September.
The flowers are very large in many of the unfrequented and grassy sloughs of Northern Indiana. It is more common than the last, with which it is often confounded.
In the examination of over one hundred plants, the flowers of which were over seven inches in diameter, and the petals very obtuse and broad, the rhizomes bore the easily detached simple or compound tubers. Flowers large; 5 to 9 inches in diameter, quite or nearly odorless and white.

NYMPHÆA, L.

47. **N. advena**, Solander. Common Yellow Pond-Lily. Spatter-dock.
Nuphar advena, Ait.
Still water and stagnant pools; very common. July—September.

48. **N. advena**, Solander, var. **variegatum**, Engelm.
A few specimens near South Chicago.
Flowers variegated with purple or pink. The number of rays of the stigma varies from 10 to 24. (B. P.)

SARRACENIACEÆ.

SARRACENIA, Tourn.

49. **S. purpurea,** L. Side-Saddle-flower. Water Pitcher. Huntsman's Cup.
Swamps. May—July.
Rogers Park. Cassella, Indiana, and south to limits; frequent.

PAPAVERACEÆ.

SANGUINARIA, Dill.

50. **S. canadensis,** L. Blood-root. Blood-wort. Red-root.
Moist rich woods; frequent. April—May.
Niles. Glencoe. Evanston. Palatine. Riverside. South Chicago, and southward. Washington Heights, *Williams.* Elsewhere seemingly rare.

STYLOPHORUM, Nutt.

51. **S. diphyllum,** Nutt. Celandine Poppy.
Damp rich woods; infrequent. May. (B.)
Berry Lake and Pine Station, Indiana. Miller's, Indiana, near Calumet River.

NOTE.—Papaver somniferum, L., has been noted at Evanston and Hyde Park, where it had seemingly escaped cultivation. As it is not persistent, however, it cannot be included in our Flora.

Two or three specimens of Eschscholtzia californica have been reported growing on the University Campus at Evanston, where they had evidently escaped from cultivation. The Argemone mexicana, L., is frequently met with but is not sufficiently persistent to rank among the species of our Flora.

FUMARIACEÆ.

ADLUMIA, Raf.

52. A. CIRRHOSA, Raf. Climbing Fumatory.
Egondale. Near Lincoln Park, Chicago, *Babcock.*
Probably introduced.

DICENTRA, Borkh.

53. **D. cucullaria,** D C. Dutchman's Breeches.
Woods; not common. April 20th—May.
Evanston. Rose Hill. North Branch. Riverside, *Bastin.* Englewood and Forest Hill, *Brennan.* Washington Heights, *Williams.*
Flowers tinged with pink, Stony Island, *Hill!* Very rarely, plants are found with pale blue flowers.

54. **D. canadensis,** D C.
Rich moist woods of the Calumet Region and southward; rare. May.
Forest Hill, *Brennan.*

CORYDALIS*, Vent.

55. **C. glauca,** Ph. Pale Corydalis.
Evanston. Stony Island, a single specimen May 25th, 1887. Forest Hill, *Brennan.* (B.)

56. C. **aurea,** Willd. Golden Corydalis.
A single specimen, found near the I. C. R. R. near Calumet, *Babcock.*

FUMARIA, Tourn.

57. F. OFFICINALIS, L. Common Fumitory.
Evanston and South Park, July 15th, 1885. (B. P.)
Probably introduced with other seeds at both these locations.

CRUCIFERÆ.

DENTARIA,† Tourn.

58. **D. laciniata,** Muhl. Toothwort. Pepper-root.
Wet woods and banks of streams; not common. April—June 10th.
A few specimens with alternate, long-petioled leaves were collected, near Woodlawn. Flowers usually purple.

CARDAMINE, Tourn.

59. C. **rhomboidea,** D C. Spring Cress.
Swamps, wet prairies and banks of streams; common. March 25th —August.
Flowers usually white, sometimes purplish.

60. C. **rhomboidea,** D C., var. **purpurea,** Torr.
In richer soil than the type; common. March—May 15th.
Flowers pink or purple. Leaves quite variable.
Occasional specimens are found that are inclined to be weak and decumbent and possessing fibrous roots rather than tuber-bearing rhizomes. This would connect it with C. rotundifolia, Michx.

61. **pratensis,** L. Cuckoo Flower.
Calumet river, near Miller's, Indiana; rare, *Bastin & Hill!* April. (B. P.)

62. C. **hirsuta,** L. Small Bitter Cress.
Swamps and low grounds; frequent. May—June. (B.)
Niles. Calumet Region. Riverside. Evanston. Winnetka, *Johnson.*
A form that is smooth and intermediate between the type and variety sylvatica, was found in dry woods at Highland Park, Lake Co., Illinois, *Hill.*

*The species of Corydalis are, apparently, easily exterminated, but often reappear.

†We believe that Dentaria should be included under Cardamine, but as the marks of alliance are not always apparent to the student, it has been thought wise to retain the genus.

ARABIS, L. Rock Cress.

63. **A. ludoviciana**, Meyer.
Sandy soil; rare. May—June.
Niles. Riverside, *Babcock.*

64. **A. hirsuta**, Scop.
Sandy soil; infrequent. May—June. (B.)
Evanston. Hyde Park. Riverside, *Bastin.* Grand Crossing, *Hill.*

65. **A. lævigata**, Poir. Smooth Rock Cress.
Prairies; not common. May—June.
Evanston, infrequent. Riverside, *Babcock.* Riverdale, *Bastin!* Highland Park, Lake Co., Illinois, *Hill.* Rosedale, *Brennan.*

66. **A. canadensis**, L. Sickle Pod.
South Chicago, July, 1875, *Dodge*; 1870, *Hill.* (B.)

67. **A. perfoliata**, Lam. Tower Mustard.
Turritis glabra, L.
A single specimen was found near L. S. & M. S. R. R. depot, South Chicago, in 1887. (B.)
Chicago, June 20th, 1875, *Babcock, in Herb. of Northwestern University.* Evanston, *Boltwood.* Lakeside, *Johnson.*

68. **A. confinis**, Watson. Drummond's Tower Mustard.
A. drummondii, in Manual, 5th Ed.
Turritis stricta, Graham.
Sandy soil; nowhere common. May—June. (B.)
Evanston. Quarry, near Crawford, 1886, on C. B. & Q. R. R. Northern Illinois, *Vasey,—Gray's Manual, 5th Ed., p. 69.*

69. **A. lyrata**, L.
Sandy soil; frequent. April—May.
Evanston and vicinity. Hyde Park and southward. Riverside. Palatine.

70. **A. dentata**, T. & G.
Riverside, *Babcock.*

DRABA, Dill.

71. **D. caroliniana**, Walt. Whitloe Grass.
Sandy fields; frequent. March—May.
Evanston. Calumet. South of Calumet, *Babcock.* University Campus, Chicago, *Bastin.*
Leaves often toothed. Petals emarginate, Stony Island, *Hill!* Petals wanting in later racemes, Englewood, *Hill.*

72. D. CUNEIFOLIA, Nutt. Whitloe Grass.
Chicago, April, 1875, *Babcock, in Northwestern University Herbarium.*
Probably a waif. (B. P.)

73. D. VERNA, L. Whitloe Grass. Nailwort.
Sandy soil of the lake shore; rare. May-July. (B. P.)
South Evanston. Ten or a dozen specimens were collected in this locality in 1882; few, if any, being found from that time until 1886, when several were exhibited by students of the Northwestern University.

ALYSSUM, Tourn.

74. A. MARITIMUM, L. Sweet Alyssum.
Occasionally found near gardens, from which it has escaped. (B. P.)

75. A. CALYCINUM, L. Alyssum.
Evanston. Near Garfield Park, Chicago, where it had evidently escaped cultivation. At Woodlawn and Morgan Park, it has been reported as growing spontaneously. (B. P.)

CAMELINA, Crantz.

76. C. SATIVA, Crantz. False Flax.
Near Evanston, *Boltwood, Johnson!* (B. P.)

NASTURTIUM, R. Br.

77. N. OFFICINALE, R. Br. True Cress.
Brooks and ditches; not common. June—July.
Local throughout the district.

78. **N. palustre**, D C. Marsh Cress.
Swamp; not common. June—Aug. (B.)
Niles. South Chicago. Calumet Region.
Pods usually ovoid to elliptical, rarely oblong.

79. **N. palustre**, D C., var. **hispidum**, Gray.
Wet places; infrequent. June—July. (B. P.)
Hyde Park and south.

80. **N. lacustre**, Gray. Lake Cress.
Aquatic; rare. July. (B.)
South Chicago. South branch Chicago river, 1875-87, *Bastin.*

81. N. ARMORACIA, Fries. Horseradish.
Moist grounds, an escape from cultivation; infrequent.

SISYMBRIUM, Tourn.

82. S. CANESCENS, Nutt. Tansy Mustard.
Near Miller's, Indiana.
Hegewisch, Indiana, *Hill.* (B.)

83. S. OFFICINALE, Scop. Hedge mustard.
Cultivated fields; infrequent. May—Aug. (B.)

BRASSICA, Tourn.

84. B. SINAPISTRUM, Bois. Charlock. Field Mustard.
Sinapis arvensis, L.
Fields; infrequent. May—August. (B.)

85. B. NIGRA, Koch. Black Mustard. Scurvy.
Sinapis nigra, L.
Roadsides, cultivated grounds and waste places; infrequent. July —Aug. (B.)

CAPSELLA, Medic.

86. C. BURSA-PASTORIS, Moench. Shepherd's Purse. Toy Wort. Pick-purse.
Abundant. April—September.
This is one of the few cosmopolitan plants that flourish alike amid Alpine snows and the high temperature of the equator.

LEPIDIUM, Turn.

87. **L. virginicum**, L. Wild Pepper-grass.
Roadsides and fields, in sandy soil; frequent. June—Aug.
Sometimes continues in flower until the middle of November.

88. **L. intermedium**, Gray. Pepper-grass.
Dry fields, and sandy prairies; common. July—Aug.

89. L. CAMPESTRE, R. Br. Pepper-grass.
Evanston, 1886. Colehour, Ind., 1888. Englewood, near C. P. & Ft. W. R. R., 1880, *Hill*. (B. P.)

90. L. SATIVUM, L. Pepper-grass.
Spontaneous in ditches at Englewood, July, *Hill*. (B. P.)

CAKILE, Tourn.

91. **C. Americana**, Nutt. American Sea Rocket.
Sandy soil; not common. June—Sept.
Lake shore, both north and south of Chicago.

CAPPARIDACEÆ.

POLENASIA, Raf.

92. **P. graveolens**, Raf. Heavy-scented Polenasia.
Near the lake shore; not frequent. July—Aug.
East of Woodlawn, *Bastin*. Normal Park, *Brennan*. Englewood, *Hill*. Evanston.

CLEOME, L.

93. C. INTEGRIFOLIA, T. & G.

Sparingly, escaped from cultivation at Chicago, *Monroe.*

As it is not eaten by domestic animals, this pretty plant will probably become a roadside weed, *Patterson, in Plants of Illinois.* (B.)

CISTACEÆ.

HELIANTHEMUM, Tourn.

94. **H. canadense**, Michx. Frost Weed. Rock Rose.

Dry fields and fence rows; common. June—July.

Ravenswood. Woodlawn. Riverside. Desplaines. Englewood and eastward.

The hoary variety is frequent, and usually found on sunny hill sides.

HUDSONIA, L.

95. **H. tomentosa**, Nutt. Hudsonia.

Pine Station and Miller's, Ind., 1889. Miller's, Ind., July, 1878, *Bastin, Dodge.* Along the ridge of sand bordering the Calumet valley from Tolleston to Miller's, Ind., *Hill!*

LECHEA, L. Pinweed, (arranged by Prof. E. J. Hill.)

96. **L. major**, Michx.

Frequent along the margins of sandy woods, especially dryer margins of woods surrounding sloughs in pine barrens. June—Sept.

Englewood. Hyde Park and southeast in Indiana.

97. **L. thymifolia**, Michx.

L. novæ-cæsareæ, Austin (Fide Herb., W. H. Leggett.)

Not uncommon in open sandy ground at Clarke, Tolleston and Miller's, Ind. August—October. (B. P.)

Usually in damper situations than L. major. An Eastern form, with no other known stations reported west of the Alleghanies. Once seen in flower, Sept. 16th, 1882. Petals 3, elliptic, dark red to purple, paler at base. Stigmas white plumose. A very pretty species when seen in full bloom, covered with numerous flowers. This is rare, as the flowers last but a short time, and apparently open only in the full light of the sun, or about midday.

Rafinesque, *New Flora of North America, Phila., 836*, states that the anthesis of the Lecheas is in the middle of the day; a statement confirmed in the above case.

98. **L. minor**, Lam.

Somewhat rare in sandy copses with about the same range as L. thymifolia. August—October. (B.)

I have always found it growing among low bushes, such as Vaccinia, Gaylussacia, Pirus Arbutifolia, etc., but not in open ground, comparatively free from other growths. The stem is quite smooth below, slender, single, or sometimes with one or two additional ones from the same root, few leaved; branches loose and spreading, radical shoots few, rather long and ascending; flowers few and more scattered than in the following variety, which has a noticeably different appearance. It is pronounced by Mr. Leggett, who has made a special study of the genus Lechea, the typical form described by Lamarch; imperfect specimens of which, indicating the same form, he had seen from the woody regions of Canada.

+ 99. **L. minor,** Lam.,var. **stricta,** (*Leggett in Herb.*)

The most common form. August—October. (B. P.)

Frequently met with in open sandy ground, especially near the border of woods, from Evanston, south and east, through the sandy region. Stems quite stout, often in clusters of 2 to 6 from the same root, densely leaved and branched; branches ascending or appressed, a little heavy, as well as the leaves, with a fine, close pubescence; shoots at the base of the stem, abundant, usually shorter than in the type, and forming a dense rosette, in late autumn. Flowers and fruit very abundant and closely clustered.

100. **L. maritima,** Leggett.

L. thymifolia, Ph., and Manual, 5th Ed. (Fide W. H. Leggett.)

L. minor, L., var. *maritima*, Gray.

Rare, Pine Station, Ind., August 12th, 1887, *W. K. Higley.*

Sandy, open ground, a single specimen without radical shoots, but agreeing in all essential points, as far as present, with specimens from the Coast States.

It may be looked for northward along the shore of the lake, as immature specimens of Lechea from Milwaukee are suspected to be of this species, and also from Buffalo, N. Y. (B. P.)

NOTE.—In gathering Lecheæ, specimens of Numbers 97, 98 and 99 should be obtained late in the season as well as when in flower. In case of L. minor and its variety, they are best just before the cold of winter sets in. The radical shoots, so characteristic of the different species, are then fully developed. These, except in L. major and partially so in L. thymifolia, have disappeared before the flowers of the following year appear, and only occur at the time of fruiting or later.

As two species of Lechea thought to be peculiar to the Atlantic Coast regions have now been found here, others may be sought for, particularly L. racemolosa, Michx., which grows in similar situations, and it would be well for local collectors to carefully note all forms, as the genus is a difficult one, and

unexpected finds may result. One more species occurs in the west, not far from our bounds, L. tenuifolia, Michx., which I gathered in 1871–73, in the sand barrens west of Kankakee, Ills., and of which I have received specimens from Mr. M. S. Bebb, from near Rockford, Ills. The known forms from the west are therefore five, and a variety so well marked as to be of specific rank in this locality.

VIOLACEÆ.

VIOLA, Tourn.

101. **V. pedata**, L. Bird-foot Violet.

Sandy woods and knolls; frequent but local. April—May.

Found in flower September 11th, 1886, near Evanston.

Prof. Hill reports the following forms:

a. Petals large, pale, lilac-purple.

b. Narrow petals, deep lilac-purple, smaller than *a.*

c. Petals pale and whitish, smaller than *a.*

102. **V. pedata**, L., var. **bicolor**, Ph.

Hyde Park, a few rods east of Jackson Park, 1887. Hammond, Ind., 1886–88, *Hill.* (B.)

103. **V. pedatifida**, G. Don. Larkspur Violet

V. delphinifolia, Nutt.

Moist prairies; infrequent. May 15th—June. South Chicago. Englewood and vicinity. Riverside. North Evanston, *Johnson.* Hyde Park, *Brennan.*

"In cultivation, the leaves seem to revert to V. cucullata, Ait., *Babcock.* Apparently an extreme variety of V. palmata, *Bebb*,"—*in Plants of Illinois.*

104. **V. palmata**, L. Blue Violet. Hand-leaf Violet.

V. cucullata, Ait., var. *palmata*, Gray.

Either in dry or rather damp soil; common. May—July, occasionally in August or September. (B.)

The form with five and seven lobed leaves, has been found at Riverside, South Chicago and Desplaines.

Rarely, specimens are found with the flowers spurless and with only slightly irregular and naked petals.

A form at New Lenox, growing in damp, rich woods, is intermediate in character between this and V. sagittata and V. delphinifolia, *Hill.*

105. **V. cucullata**, Ait. Common Blue Violet.

V. palmata, L., var. *cucullata*, Gray.

Abundant everywhere.

Very variable, both in shape and size of the leaves and the size and color of the flowers. In 1883, specimens of the white-flowered

form were gathered from woods near Evanston and transplanted. White flowers have been produced each year since, the plants spreading over a large area. Prof. Bastin has also collected near Grand Crossing, what he considers a white variety.

Specimens with leaves 5 inches broad at Whiting, Indiana, *Dodge*.

106. **V. sagittata,** Ait. Arrow-leaved Violet. Blue Violet.
Moist and rich open woods; infrequent. May—June.
Mainly south. Somewhat variable in size and hairyness of the petals. Rarely apetalous. Rootstock seldom smooth.

107. **V. blanda,** Willd. Sweet White Violet.
Damp woods and ravines; not common, except locally. April—May.
Frequent near Morgan Park and Woodlawn, Calumet Region south to limits. 43
It is more common in certain seasons than in others. In 1882 only a few specimens were found near Evanston, but from 1884 it has been common everywhere in the northern part of the County. Flowers often very large.

108. **V. lanceolata,** L. Lance-leaved Violet.
Wet places; infrequent, common only at one point near the north end of Lake Calumet. Found in considerable quantities on the Campus at Evanston. South Evanston. Grand Crossing. South Chicago, *Bastin*. Hyde Park, *Brennan*. Leaves with serratures tipped with reddish glands; serratures somewhat remote, Miller's, Ind., *Hill*.

+109. **V. pubescens,** Ait. Downy Yellow Violet.
Damp places; common. May—June.
Specimens were collected in Wilmette, growing in moist woods, that measured from 12 to 14 inches in height.

110. **V. hastata,** Michx. Halberd-leaved Violet.
One-half mile southeast of Woodlawn, April 18th, 1878, *Bastin*. (B. P.) 44

111. V. CANADENSIS, L. Canada Violet.
Bank of L. S. & M. S. R. R., one mile south of Pine Station, Ind., June 25th, 1886. 45
This small group, consisting of three or four plants nearly two feet high and with white flowers, slightly tinged with blue, were evidently exterminated by workmen, as they were gone when looked for about the same time in 1887. Probably introduced from the east. (B. P.)

112. **V. striata,** Ait. Pale Violet.
Low grounds and moist woods, mainly southward; infrequent or rare. April 20—May, occasionally as late as August. (B.)
Evanston. Rogers Park. Wilmette. Cassella. Pine Station and Miller's, Indiana.

113. **V. rostrata,** Ph. Long-spurred Violet.
On shaded sand hills near Miller's, Indiana, May 28th, 1886. (B. P.)

114. **V. canina,** L., var. **muhlenbergii,** Gray. Dog Violet.
V. canina, L., var. *sylvestris,* Regel.
Wet shaded banks or fields; frequent and local. May—June.
Pine Station and Miller's, Indiana. Indian Ridge, near Whiting, Ind., *Hill.*
Some of the leaves two-lobed, South Chicago, *Dodge.*

115. V. TRICOLOR, L. Pansy. Heart's Ease. Herb Trinity.
Niles woods; infrequent. May—Oct. (B)

CARYOPHYLLACEÆ.

SAPONARIA, L.

116. S. OFFICINALIS, L. Common Soapwort. Bouncing Bet.
Roadsides and old fields; frequent. June—Aug.
The double form seems to be more common in dryer soil. At Niles, Norwood Park and Desplaines the single-flowered form has been quite common.

117. S. VACCARIA, L. Cow-herb.
Vaccaria vulgaris, Host.
Escaped from gardens, and has become spontaneous in several localities. July.
Whiting, Ind., *Hill.*

SILENE, L.

118. **S. stellata,** Ait. Starry Campion. Catch-fly.
Open woods and shrubby fields; frequent. June—August 15th.
Quite common in the open woods in the southern part of our district.

119. **S. nivea,** Otth. Campion.
Infrequent; latter part of July.
Evanston. Niles. Riverside. Morgan Park. Woods south of Jackson Park.

120. S. CUCUBALUS, Wibel. Bladder Campion.
S. inflata, Smith.
Roadsides near Evanston; infrequent. (B)

121. **S. virginica,** L. Fire-pink. Catchfly.
Damp open woods; frequent. July.
Niles. Frequent in open woods from Whiting, Ind , south. Banks of the Desplaines, abundant, *Babcock.* Riverside, *Bastin.*

122. **S. antirrhina,** L. Sleepy Catchfly. Snapdragon Catchfly.
Sandy soil, and dry waste places, often following lax cultivation. Frequent south. June—August.
Evanston. Niles. Austin. Hyde Park. Calumet Region.

123. S. NOCTIFLORA, L. Night-flowering Catchfly.
Sparingly escaped from cultivated grounds. Occasionally found in the woods at Niles. July—August. (B. P.)
Evanston, *Boltwood.*
An anomalous form with no stamens and with from 3 to 8 styles has been noted in Wisconsin, and may be found here.

LYCHNIS, Tourn.

124. L. VESPERTINA, Sibth. Evening Lychnis.
Occasionally found in cultivated grounds. June—August. Evanston. (B. P.)

125. L. GITHAGO, Lam. Corn-Cockle.
Agrostemma githago, L.
Usually in wheat fields; frequent. June—July.
Frequent along railroad banks where the seed has been dropped from cars of grain. A form with pure white flowers is occasionally found.

ARENARIA, L.

126. A. SERPYLLIFOLIA, L. Thyme-leaved Sandwort.
Occasionally found along the railroads from the east.
Hammond and Clarke, Indiana, July, 1886. South Chicago, 1888. (B. P.)

127. **A. michauxii,** Hook. f. Strict Sandwort.
Alsine stricta, Michx.
Arenaria stricta, Michx.
Infrequent or rare, except in the southern part of our district. July.
Niles. South Evanston, *Boltwood.* Colehour, Miller's and Edgemoor, Indiana. Pine Station, Indiana, abundant, *Babcock!*

128. **A. patula,** Michx. Sandwort.
Stony Island, July 20th, 1885.
Riverside, *Babcock.* Grand Crossing, July, 1878, *Bastin.*
Dry ground by quarry near 75th street, Hyde Park, 1884, *Hill.* **(P.)**

129. **A. lateriflora**, L. Showy Sandwort.
Shaded grounds near lake shore; infrequent, perhaps rare. April—June.
South Chicago. South Evanston. Glencoe and Ainsworth. *Babcock.*

STELLARIA, L.

130. S. MEDIA, Smith. Common Chickweed.
Abundant in moist grounds; common on higher and dryer localities, where it is less luxuriant.

131. **S. pubera**, Michx. Great Chickweed.
River Park, June, 1878, *Bastin.* (B. P.)

132. **S. longifolia**, Muhl. Long-leaved Starwort or Stitchwort.
Fields and roadsides; common. June—August.

133. **S. longipes**, Goldie. Long-stalked Starwort.
Moist prairies. Morgan Park, May, 1878, *Hill.* Near Garfield Park, 1889. (B. P.)

134. **S. crassifolia**, Ehrh. Starwort.
South Chicago, May, 1877, *University of Chicago Herbarium.* (B.)

CERASTIUM, C.

135. C. VISCOSUM, L. Mouse-ear Chickweed.
C. vulgatum, L., in Manual, 5th Ed.
Fields and waste grassy places; frequent. May—June.

136. C. VULGATUM, L. Larger Mouse-ear Chickweed.
C. viscosum, L., in Manual, 5th Ed.
Fields and waste places; more common than the last. May—June, occasionally as late as September.

137. **C. nutans**, Raf. Nodding Mouse-ear Chickweed.
Moist places; infrequent. May—August.

SPERGULA, L.

138. S. ARVENSIS, L. Corn Spurrey.
Grain fields; rare.
Near Palatine and Desplaines. Evidently introduced with other seeds. (B. P.)

PORTULACACEÆ.

PORTULACA, Tourn.

139. P. OLERACEA, L. Common Purslane. Pusley.
Common and often abundant in cultivated and waste grounds. June—August, usually in July. (B.)

TALINUM, Adans.

140. **T. teretifolium**, Ph. Talinum.
June 25th—August.
Sandy hills; Miller's, Tolleston, Pine Station and Gibson's, Indiana.

CLAYTONIA, Gronov.

141. **C. virginica**, L. Narrow-leaved Spring Beauty.
Moist woods and low places; common, often abundant. April—May.
Flowers sometimes entirely white, especially in dry seasons.

142. **C. caroliniana**, Michx. White-leaved Spring Beauty.
With the last, but not nearly as common. April—June.

HYPERICACEÆ.

HYPERICUM, Tourn.

143. **H. ascyron**, L. Great St. John's Wort.
H. pyramidatum, Ait.
Rare. July. (B.)
Lake Calumet. Banks of the Little Calumet, southeast of Blue Island. Banks of the Desplaines River, near Maywood, 1888. Banks of Thorn Creek, near Thornton, *Hill.*
Rarely the lower leaves are slightly petioled.

144. **H. kalmianum**, L. Kalm's St. John's Wort.
Sandy soil, mainly along the lake shore, both north and south; frequent. June—August, occasionally as late as October.
Apparently introduced with Pinus strobus at Normal Park on Halsted, near 69th St., where there is a small patch, *Hill.*

145. **H. prolificum**, L. Shrubby St. John's Wort.
Moist shaded banks; infrequent or rare. July—August. (B.)
Lamont. Willow Springs. Wheeling. Palatine.
Leaves 2 to 4 inches long.

146. H. PERFORATUM, L. Common St. John's Wort.
Fields; frequent or common. June—August.

147. **H. maculatum**, Walt. St. John's Wort.
H. corymbosum, Muhl.
Damp, open woods and prairies; frequent. July—August.
Petals with round or oval black or brownish dots.

148. **H. mutilum**, L. Dwarf St. John's Wort.
Low prairies; common. July—September. (B.)
Specimens found near Whiting, Indiana, had the lower leaves quite connate.

149. **H. gymnanthum,** Engelm and Gray. St. John's Wort.
H. mutilum, L., var. *gymnanthum*, Gray.
Low ground; infrequent. August—September. (B.)
South Chicago, *Hill.* Whiting, Indiana.

150. **H. canadense,** L. Swamp St. John's Wort.
Wet, sandy soil; frequent. July—October.
Near the lake shore at Evanston. South Chicago and Calumet Region. Englewood. Miller's, Indiana.
Quite variable. There are one or two forms intermediate between the type and the following variety. Flowers occasionally orange colored.

151. **H. canadense,** L., var. **majus,** Gray.
Less common than the type.
From South Chicago and Englewood, south to limits. (B.)

152. **H. nudicaule,** Walt. Orange-grass. Pine-weed.
H. sarothra, Michx.
Lake shore, both north and south; infrequent. June—August.
Evanston. South Chicago, south to limits. Englewood, *Dodge.* Hammond, Indiana, *Hill.*

ELODES, Adans.

153. **E. campanulata,** Ph. Marsh St. John's Wort.
E. virginica, Nutt.
Frequent, especially in swamps near Lake Calumet and southeast. June—August.

MALVACEÆ.

MALVA, L.

154. M. ROTUNDIFOLIA, L. Common Mallow. Cheeses. Low Mallow.
Roadsides, gardens, waste places, etc.; common or abundant. May—October, usually in June or July.
Petals whitish, pale blue or pink, the latter color often in lines.

155. M. SYLVESTRIS, L. High Mallow.
Roadsides and gardens; not common. June—August or later. (B.)

156. M. CRISPA, L. Curled or Crisped Mallow.
Occasionally found near old gardens. Spontaneous. (B. P.)

157. M. MOSCHATA, L. Musk Mallow.
Occasionally spontaneous, near old gardens. (B. P.)

CALLIRRHOE, Nutt.

158. **C. triangulata**, Gray. Callirrhoë.
Sandy and prairie soil; infrequent or rare. July.
Niles. South Chicago. Englewood. Hyde Park. Palatine. Graceland, *Babcock!*
Pubescence varies from slightly hairy to almost hirsute.

ABUTILON, Tourn.

159. A. AVICENNÆ, Gaertn. Velvet Leaf. Indian Mallow. Cotton-weed.
Sparingly escaped from gardens into waste places; spontaneous. June—July.

HIBISCUS, L

160. **H. moscheutos**, L. Swamp Rose Mallow.
Shores of ponds.
Whiting, Indiana, 1880, *Hill.* (B.)

161. **H. militaris**, Cav. Halbert-leaved Rose Mallow.
Banks of the Desplaines river, near Maywood, *Munroe!* (B.)

TILIACEÆ.

TILIA, Tourn.

162. **T. americana**, L. Basswood. Whitewood. Lime-tree.
Rich woods and banks of streams; hardly common. May.

LINACEÆ.

LINUM, Tourn.

163. **L. virginianum**, L. Flax.
Dry, sandy woods; frequent. Last of July.
South Chicago, Grand Crossing, and south to limits; rare elsewhere.

164. **L. sulcatum**, Riddell. Flax.
Found with the last; rare. July.
The styles may be free or somewhat united at the base.

165. L. USITATISSIMUM, L. Common Flax.
Sparingly spontaneous in old, dry fields, and along railroads. June—July. (P.)

GERANIACEÆ.

GERANIUM, Tourn.

166. **G. maculatum**, L. Wild Cranesbill.
Woods and fields; abundant. May—June, and occasionally in August.
Flowers sometimes white, but not from age. Variable in color. Easily cultivated when potted.

167. **G. carolinianum,** L. Carolina Cranesbill.
Old fields and waste places; infrequent. May 15th—July.
Lake Forest, Lake Co., Illinois. Winnetka. Evanston. Hyde Park. Lincoln Park, *Babcock.* Clarke and Pine Station, Ind., *Bastin!* Grand Crossing, *Dodge.*
Occasional specimens are found, that closely resemble G. dissectum, L. The seeds are globular, and strongly reticulated, or rarely simply ridged, with but few cross lines; petals slightly emarginate, about the size of G. carolinianum, L., which it closely resembles in other particulars. Seems to blossom later than the type.

FLŒRKEA, Willd.

168. **F. proserpinacoides,** Willd. False Mermaid.
Swamps; rare. April—May.
Niles. North branch of the Chicago river, *Babcock, Munroe.* Riverside, 1878, *Bastin.*
Chesterton, Ind., in damp woods at the base of a hill: procumbent; grows with Ranunculus recurvatus, at a distance from any marsh or stream, *Hill.*

OXALIS, L.

169. **O. violacea,** L. Violet Wood Sorrel.
Moist woods and banks; not common. May—July 15th.
Niles. Calumet Region. Riverside. Desplaines. Barrington. From Englewood, southward.

170. **O. corniculata,** L., var. **stricta,** Sav.
O. stricta, L.
Fields and open woods; common, often abundant. June—September.

IMPATIENS, L.

171. **I. pallida,** Nutt. Pale Touch-me-not.
With the next, but in more shaded places; not frequent. July—Aug.
Riverside. Chiefly south.

172. **I. fulva,** Nutt. Spotted Touch-me-not. Jewel-weed.
Ravines, ditches and moist places; frequent, but not widely distributed. July—September.
A form without spots is occasionally found.

RUTACEÆ.

XANTHOXYLUM, L.

173. **X. americanum,** Mill. Northern Prickly Ash.
Woods; not common. April—June 10th.
Calumet Region; rare. Banks of the Desplaines. Northwestern portion of the district.

PTELEA, L.

174. **P. trifoliata,** L. Hop-tree.
Sandy soil; rare. June.
Lake shore, Lincoln Park to Rogers Park.
West bank of the Desplaines, north of Riverside, *Babcock.* Blue Island, *Dodge.*

ILICINEÆ

ILEX, L.

175. **I. verticillata,** Gray. Black Alder. Winterberry.
Prinos verticillata, L.
Swamps and wet places. May 20th—June.
From Pine Station, Indiana, south; infrequent. Berry Lake, Indiana; rare. Clarke, Indiana, *Hill.* Gibson's, Indiana; rare, *Babcock.*
Often 8 to 10 feet high.

176. I. GLABRA, Gray. Inkberry.
Miller's, Indiana; common, *Babcock.*
Babcock gives it on other authority than his own. We have not seen the plant within our limits, nor a specimen in Babcock's herbarium, and therefore cannot confirm this report. (P.)

NEMOPANTHES, Raf.

177. **N. fascicularis,** Raf. Mountain Holly.
N. canadensis, D C.
Wet grounds, usually in woods; not rare. April 25th—May.
Miller's, Edgemoor, and Pine Station, Indiana.

CELASTRACEÆ.

CELASTRUS, L.

178. **C. scandens,** L. Wax-work. Climbing Bitter-sweet.
Woods and fence rows; not common. May—June.
The pods open and display the seed about the latter part of September. A very ornamental twining shrub, quite easily cultivated.

EUONYMUS, Tourn.

179. **E. atropurpureus,** Jacq. Burning Bush. Waahoo.
Open, rich woods; infrequent, also cultivated. May—June.
Riverside and northward.

180. **E. americanus,** L. Strawberry Bush.
Highland Park, Lake Co., Illinois. Desplaines to Palatine. Calumet Region, *Brennan.* Infrequent or rare.

181. **E. americanus,** L., var. **obovatus,** T. & G. Trailing Strawberry Bush.
Wet, rich, open woods, along streams or low lands; infrequent. June. Chiefly south.

RHAMNACEÆ.

RHAMNUS, Tourn.

182. **R. alnifolius,** L'Her. Alder-leaved Buckthorn.
Swamps near Lake Calumet. Edgemoor, Ind. Pine Station, Ind., *Bastin, Hill.* Infrequent elsewhere. (B.)

183. **R. lanceolata,** Ph. Buckthorn.
Chicago, *Babcock—in Herb. N. W. University.* Kensington, *Brennan.* (B.)

CEANOTHUS, L.

184. **C. americanus,** L. New Jersey Tea. Red-root. Mountain Sweet.
Open woods; frequent. July.

VITACEÆ.

VITIS, Tourn.

185. **V. æstivalis,** Michx. Summer Grape.
Woods and thickets; common. May—July. (B.)

186. **V. cordifolia,** Michx. Winter or Frost Grape.
Along streams; frequent. June.

187. **V. riparia,** Michx. Winter or Frost Grape.
V. cordifolia, Michx., var. *riparia,* Gray.
Woods and shaded banks; frequent. May—June. (B.)

AMPELOPSIS, Michx.

188. **A. quinquefolia,** Michx. Virginia Creeper. Woodbine. Five-leaved Ivy. American Ivy. Ivy.
Woods and old fence-rows; frequent. July.
Easily cultivated as an ornamental vine.

SAPINDACEÆ.

ACER, Tourn.

189. **A. pennsylvanicum,** L. Striped Maple. Striped Dogwood. Moose-wood.
Grows in rich soil. May. (B.)
Woods near north end of Lake Calumet, 1885. Riverside, *Babcock—in Herb. N-W. Univ.*
But two specimens have been reported within our limits.

190. **A. saccharinum,** Wang. Sugar Maple. Hard or Rock Maple.
Rich and open woods; infrequent or rare south, more common north. April—May.

191. **A. dasycarpum,** Ehrh. Soft, River, White or Silver Maple.
Damp woods, and banks of streams and lakes; frequent.
Very commonly cultivated as a shade tree.

192. **A. rubrum,** L. Red, Swamp or Soft Maple.
Swamps or wet woods; frequent north. April—May.
Used extensively as a shade or ornamental tree.

NEGUNDO, Moënch.

193. **N. aceroides,** Moënch. Ash-leaved Maple. Box-elder.
Banks of streams, lakes and moist open woods; not common. April—May. (B.)
Evanston. Hog Island, *Brennan!* Englewood, *Williams.* Whiting, Ind., *Brennan.*
Cultivated, to some extent, for ornamental purposes.

STAPHYLEA, L.

194. **S. trifolia,** L. American Bladder-nut.
Wet and rather dark woods; not rare. May—June 15th.
Hyde Park. Banks of the Desplaines River, *Babcock.* Northwest.

ANACARDIACEÆ.

RHUS, L.

195. **R. typhina,** L. Staghorn Sumach.
Sandy soil; not common. June—July. (B.)
Calumet Region. South Chicago and south, on sand ridges. Infrequent or rare northward.

196. **R. glabra,** L. Smooth Sumach.
Fields, etc.; frequent. May—June.

197. **R. copallina,** L. Dwarf Sumach.
Probably infrequent, except locally.
A single clump has been noted near Summit. The leaflets were entire. Calumet, 1886. Miller's and Gibson's, Ind., *Babcock!* Hog Island, *Brennan.*

198. **R. venenata,** D C. Poison Sumach. Dog-wood. Poison Elder.
Swamps, especially south; not common. June—July.
Calumet, July, 1886. Miller's, Ind., north to South Chicago. Graceland, *Babcock.* Hog Island, *Brennan.*

+ 199. **R. toxicodendron**, L. Poison Ivy. Poison Oak.
Everywhere common or abundant. May—June.
When erect, from 1 to 4 feet high. The climbing form, stems of which are occasionally two inches in diameter, is much less common.

+ 200. **R. canadensis**, Marsh. Fragrant Sumach.
R. aromatica, Ait.
Lake shore; common. May—July.

POLYGALACEÆ.

POLYGALA, Tourn. Polygala. Milkwort. Indian Pink.

201. **P. paucifolia**, Willd. Fringed Polygala.
Homewood and Cook Co., *Hill,—in Plants of Illinois.* (B.)

202. **P. polygama**, Walt. Pink Polygala.
In sandy soil; not common. July—August 15th.
Hyde Park, south and west. Pine Station and Miller's Ind.; frequent.

203. **P. senega**, L. Seneca Snake-root.
Sandy fields and banks; frequent. May—June.
Specimens nearly two feet high have been collected at Stony Island.

204. **P. incarnata**, L.
A few specimens were found near Cheltenham Beach in July, 1886. Eggleston, Ind., 1885, *Hill.* (B.)
Flowers pale rose color.

205. **P. sanguinea**, L. Purple Milkwort.
Wet places, usually in sandy soil; not common. July—August 15th.
Evanston. Glencoe. Chiefly Hyde Park and south. Riverside, *Bastin.*

206. **P. cruciata**, L.
Occasionally found along the lake shore in low sandy soil, especially near the sloughs, south. July.
Asbury avenue, South Evanston, where it is associated with Drosera rotundifolia, L., and Lycopodium inundatum, L.
Found with white flowers, Hammond, Ind., *Hill.*

207. **P. verticillata**, L.
Dry sandy soil, near the lake shore; frequent. Chiefly south. July—August.

LEGUMINOSÆ.

BAPTISIA, Vent.

208. **B. tinctoria,** R.Br. Wild Indigo.
Sandy soil, both north and south, near the lake shore; infrequent. June—July.

209. **B. leucophæa,** Nutt. Yellowish False Indigo.
Prairie soil and open copses; infrequent. West. May. (B.)

210. **B. leucantha,** T & G. White False Indigo.
Prairies; frequent or common. May—June.

LUPINUS, Tourn.

211. **L. perennis,** L. Wild Lupine. Perennial Lupine.
Sandy soil; not common, except locally.
Evanston and vicinity. Throughout the southern part of our district. Occasionally plants are found with flowers entirely white. The edible root is often called "Chinook Liquorice."

TRIFOLIUM, Tourn.

212. T. ARVENSE, L. Rabbit-foot or Stone Clover. Poverty Grass.
Is occasionally found in old fields. (B.)

213. T. PRATENSE, L. Red Clover.
Abundant. June—September. Flowers occasionally white.

214. **T. reflexum,** L. Buffalo Clover.
Prairies; rare. July.
Calumet Region. Riverside, and North Branch of Chicago river, *Babcock.*

215. T. STOLONIFEUM, Muhl. Running Buffalo Clover.
C. P. & Ft. R. R., near Casella, Ind., 1884. South Chicago, near 100th street, 1886, on the banks of the L. S. & M. S. R. R. Introduced from the east. (B.)

216. **T. repens,** L. White Clover.
Fields and Roadsides; abundant. June—September.

+ 217. T. HYBRIDUM, L. Alsike Clover.
A few specimens have been found near lines of railroads from the east. (B. P.) West side Chicago near 40th

MELILOTUS, Tourn.

+ 218. M. OFFICINALIS, Willd. Yellow Melilot.
Waste places, usually in alluvial soil; common. June—July. (B.)
N 40th St

+ 219. M. ALBA, Lam. Sweet Clover. White Melilot.
Roadsides, door-yards and fields, chiefly in alluvial soil; common, often abundant. June—July.

MEDICAGO, Tourn.

220. M. LUPULINA, L. Black Medick. Nonesuch.
Occasionally found in waste places and near gardens. May 20th—June, (B. P.)

PSORALEA, L.

221. **P. tenuiflora,** Ph. Scurvy Pea.
P. floribunda, Nutt.
Calumet Region. Egondale. Palatine, *Babcock.* Chicago, *University of Chicago Herb.*

AMORPHA, L.

222. **A. canescens,** Nutt. Lead Plant. Wild Tea.
Dry prairies and banks; frequent. July—August.

223. **A. fruticosa,** L. False Indigo. River Locust.
Banks; not common. June—July.
Hyde Park and vicinity. Northward.

PETALOSTEMON, Michx.

224. **P. violaceus,** Michx. Purple Prairie Clover.
Dry prairies and railroad banks; common. June—July, often as late as September.
Along the lake shore, south of Whiting, Ind., a low form is frequent, the stem inclining to diffuse; flowers rose-purple or violet, rarely the calyx is softly pubescent and not hoary.

225. **P. candidus,** Michx. White Prairie Clover.
Dry prairies, found with the last; frequent. July.

TEPHROSIA, Pers.

226. **T. virginiana,** Pers. Goat's-Rue. Catgut.
Dry sandy soil; common. June—July.
South Chicago and south.
Odd leaflet sometimes mucronate, usually emarginate; stem branched; standard yellowish to greenish white; keel rose-color to white, blotched with rose-color, Pine Station, Ind., 1889.

ROBINIA, L.

227. R. PSEUDACACIA, L. Common Locust. False Acacia.
Naturalized; frequent. June. (B.)

ASTRAGALUS, Tourn.

228. **A. canadensis,** L. Milk Vetch.
Moist woods along streams and lakes; frequent. July.
Mainly in sandy soil along the lake shore.
Riverside. Maywood. Riverdale. Rogers Park. Thorn Creek and Thornton, *Hill.*
Forms with loose spikes are not infrequent.

DESMODIUM, Desv. Tick-trefoil.

229. **D. nudiflorum,** D C.
Woods; frequent, north and west. June 20th—July.
A white-flowered form was collected at Glencoe and Arlington Heights.

230. **D. acuminatum,** D C.
Rich, moist woods, specially south; frequent or common. July.

231. **D. pauciflorum,** D C.
Near Chicago, *Munroe, in Plants of Illinois.* (B.)

232. **D. rotundifolium,** D C. Round-leaved Tick-trefoil. Trailing Tick-trefoil.
Chicago and Blue Island, 1875, *University of Chicago Herb.* (B.)

233. **D. dillenii,** Darl.
Open woods; frequent. July. (B.)

234. **D. paniculatum,** D C.
In open woods; frequent. July 15th—August. (B.)
South Chicago and south. Elsewhere less common.

235. **D. canadense,** D C.
Rich woods; frequent or common. August—September.

236. **D. sessilifolium,** T. & G.
Dry places and open woods; infrequent. August.
Hyde Park and south.

237. **D. rigidum,** D C.
Near Lake Calumet, August, 1885. Miller's, Pine Station and Clarke, Ind., on sand ridges, August 10th–28th. Hammond, Ind., *Hill.* (B.)

238. **D. marilandicum,** F. Boott.
Near Wolf Lake, Ind., rare, July, 1885. Not observed since. (B.)

LESPEDEZA, Michx. Bush Clover.

239. **L. procumbens,** Michx.
Includes *L. repens,* Barton.
Dry sandy soil; infrequent. August. (B.)

240. **L. violacea,** Pers.
Dry open woods and copses; usually in sandy soil. August.
Variable; the typical form is infrequent.

241. **E. reticulata,** Pers.
L. violacea, Pers., var. *angustifolia,* T. & G.
Sandy soil, chiefly from South Chicago, southeast; not rare. August. (B.)

242. **L. stuvei,** Nutt., var. **intermedia,** Watson.

L. violacea, Pers., var. *sessiliflora*, in Manual, 5th Ed.

Occurs with the last, especially south; infrequent. August—September. (B.)

Flowers rarely apetalous.

243. **L. polystachya,** Michx.

L. hirta, Ell.

Dry soil and ravines, north and west, infrequent; sandy soil, hillsides and knolls, south; frequent. August—September. (B.)

+244. **L. capitata,** Michx.

Sandy bluffs and fields, variable; frequent or common.

Evanston and north. Colehour, Pine Station, Miller's and Clarke, Indiana.

Prof. Hill reports two forms from Hammond, Ind.:

(*a*) Leaves silky, canescent, both sides.

(*b*) An occasional form intermediate between the type and L. angustifolia, Ell.

245. **L. angustifolia,** Ell.

L. capitata, Michx., var. *angustifolia*, Ph.

Possibly more common than the last, especially south. August.

VICIA, Tourn.

246. **V. cracca,** L. Blue Vetch. Tufted Vetch.

Woods; rare. June—July.

Evanston. Niles. South Park. Morgan Park. Riverside. (B. P.)

247. **V. caroliniana,** Walt. Carolina or Pale Vetch.

Banks of streams and shaded places; common. May 20th—June.

Stems occasionally five, and in extreme cases seven feet long.

+248. **V. americana,** Muhl. American or Purple Vetch.

Moist banks, woods and copses; frequent. May—June.

LATHYRUS, Tourn.

+249. **L. maritimus,** Bigel. Beach Pea.

Near the lake shore, north and south; frequent. May 20th—July 15th.

250. **L. ochroleucus,** Hook. Pale Vetchling.

Railroad banks and shaded bluffs; frequent. June—July 10th

251. **L. venosus,** Muhl. Vetchling.

Open woods, copses and shaded banks; not common, but widely distributed. June—July.

Leaves variable in size.

252. **L. palustris,** L. Marsh Vetchling.
Moist places; frequent or common. June—July 15th.

253. **L. palustris,** L., var. **myrtifolius,** Gray.
Moist places; infrequent. May 20th—July.
South Chicago. Hyde Park. Sheffield, Pine Station and Hammond, Ind. Englewood, *Hill.*

APIOS, Boerhaave.

254. **A. tuberosa,** Moënch. Ground Nut. Dakota Potato.
North and west, infrequent or rare: wet grounds of Calumet Region, and banks of streams, south; infrequent. August.

PHASEOLUS, Tourn.

255. **P. perennis,** Walt. Wild Bean. Kidney Bean.
Near the lake shore in copses; rare or infrequent. August.
Colehour, Ind., 1885. Sheffield, Ind., 1886. Pine Station, Ind., 1887.
Near Chicago, *University of Chicago Herb.* (B.)

STROPHOSTYLES, Ell.

256. **S. angulosa,** Ell. Wild Bean.
Phaseolus diversifolius, Pers., and *helvolus,* L.
Lake shore, both north and south; frequent. August.

257. **S. peduncularis,** Ell.
Phaseolus helvolus, of Manual, 5th Ed., not of L.
Lake shore. South Chicago and south, *Babcock.*

258. **S. pauciflorus,** Watson.
Phaseolus pauciflorus, Benth.
Calumet river, near Miller's, Ind.; rare, August, 1885–87. (B.)

AMPHICARPÆA, Ell.

259. **A. monoica,** Nutt. Hog Pea-nut.
Rich and open woods; frequent. August.
Flowers occasionally white.

CASSIA, Tourn.

260. **C. chamæcrista,** L. Partridge Pea.
Sandy soil; frequent. August.
Chiefly in the southern portions of our district.

GYMNOCLADUS, Lam.

261. **G. canadensis,** Lam. Kentucky Coffee-tree.
June.
Two specimens have been noted in the woods at Niles. Desplaines river, north of Riverside, *Babcock.* South Park, July, 1886.

A very pretty ornamental tree. The wood is hard, and the grain is very regular. Seldom attains a diameter of more than 4 to 5 inches. The compound leaves are often 3 feet or more in length.

GLEDITSCHIA, L.

262. G. TRIACANTHOS, L. Honey Locust. Three-thorned Acacia.
Cultivated for ornament, and sparingly escaped in places. West. (B.)

ROSACEÆ.

PRUNUS, Tourn.

263. **P. americana,** Marsh. Wild Plum. Red Plum.
Moist open woods and banks of streams; frequent. May or first of June. (B.)
One tree observed, measured 30 feet in height. There are two distinct forms, one with slender branches and large flowers with glandular calyx, found in swamps, and another with stout branches and much smaller flowers, with the calyx less glandular, grows in dry soil.
Prof. Dewey has observed a similar condition in Cayuga Co., N. Y.

264. P. MARITIMA, Wang. Beach Plum.
Sandy soil.
One or two specimens were observed at Winnetka in 1882. Rogers Park, frequent. South Evanston, *Johnson!* Lake shore, south, *Marcy, Boltwood, Brennan!* (B. P.)
This is an Atlantic Coast plant, whose presence here can only be explained for the present, at least, by introduction. In its growth, however, it is seemingly indigenous. It is found in the sandy soil of the lake shore.

265. **P. pumila,** L. Dwarf or Sand Cherry.
Sandy soil and bluffs; infrequent. May.
Mainly along the lake shore, both north and south.
Often 6 feet high, *Bastin.*

266. **P. pennsylvanica,** L.f. Wild Red Cherry. Bird Cherry.
Woods; rare. May. (B.)
Chiefly in the northern part of our district. Lake shore, near Chicago, *H. A. Warne, in Plants of Illinois.*

267. **P. virginiana,** L. Choke Cherry.
Woods and banks of streams; frequent. May 5th—June 10th.

268. **P. serotina,** Ehrh. Wild Black Cherry.
Woods; infrequent. May 15th—June 20th. (B.)

SPIRÆA, L.

269. **S. salicifolia**, L. Common Meadow-sweet. Spiræa. Willow-leaved Spiræa. Queen-of-the-Meadow.
Damp prairies; common. June 25th—August.

270. **S. tomentosa**, L. Hardhack. Steeple-bush
Damp prairies; infrequent. July.
Colehour, Ind., and southward.
The flowers are occasionally white.

PHYSOCARPUS, Maxim.

271. **P. opulifolius**, Maxim. Nine-Bark.
Spiræa opulifolia, L.
Banks of streams and swamps; frequent. June—July.
Desplaines River. Stony Island. Hog Island. Riverdale. Calumet Region. Pine Station, Ind. Graceland, *Babcock*.

RUBUS, Tourn.

272. **R. triflorus**, Rich. Dwarf Raspberry.
Dry woods and sandy knolls; infrequent. June.
Evanston. Calumet Region. Grand Crossing. Miller's and Pine Station, Ind.
The number of sepals and petals varies. A form with six sepals and petals is very often found.

273. **R. strigosus**, Michx. Wild Red Raspberry.
Dry open woods and shrubby fields; infrequent, especially northward. June—July.
A most acceptable fruit.

274. **R. occidentalis**, L. Black Cap. Black Raspberry. Thimbleberry.
Fence rows, fields and open woods; frequent. June—July 10th, sometimes as late as September.

275. **R. villosus**, Ait. Common or High Blackberry.
Open woods, copses and fence-rows; frequent. May—July.

276. **R. villosus**, Ait., var. **frondosus**, Torr.
With the type, and in fields where the timber has been recently removed; not common. (B. P.)

277. **R. villosus**, Ait., var. **humifusus**, T. & G.
Copses and borders of woods; infrequent or rare.
Hyde Park and southward. (B. P.)

278. **R. canadensis**, L. Low Blackberry. Dewberry.
Edges of woods, fields and copses; frequent. June—July.
Frequently follows the removal of timber.

279. **R. hispidus,** L. Running Swamp Blackberry
Damp woods and shaded fields; infrequent. June. (B.)
South Chicago. Calumet Region. Riverside. Miller's, Colehour, Pine Station and Hammond, Ind. Tolleston, Ind., *Hill.*

GEUM, L.

280. **G. album,** Gmelin. White Avens. Geum.
Open woods and roadsides; common. June—July 25th.

281. **G. virginianum,** L. Virginian Avens.
In rather wet and shaded places; infrequent or rare. June 25th—September. (B.)
Chiefly southward.

282. **G. strictum,** Ait. Strict Avens.
Moist fields; infrequent. July 20th—August. (B.)
Chiefly south.

283. **G. rivale,** L. Water Avens. Purple Avens.
Wet bogs and swamps; rare. May. (B.)
Southward.

FRAGARIA, Tourn.

284. **F. virginiana,** Mill. Wild Strawberry.
Open woods and fields; common or abundant. May—September.
Often produces fruit a second time during a season.

285. **F. virginiana,** Mill., var. **illinoensis,** Gray.
Woods; not common. June. (B.)
With the type.

286. **F. vesca,** L. Wild Strawberry. Wood Strawberry.
Dry open woods and fields; infrequent. June.

POTENTILLA, L.

287. **P. arguta,** Ph. Cinque-foil. Potentilla.
Dry banks and fields; frequent. June—July 15th.

288. **P. norvegica,** L. Cinque-foil.
Fields and roadsides; frequent or common. June 25th—July, often as late as September.

289. **P. argentea,** L. Silvery Cinque-foil or Five-finger.
Dry fields, prairies and roadsides; infrequent. June—August. (B. P.)
Throughout our district.

290. **P. palustris,** Scop. Marsh Five-finger.
Swamps; local. June—July 20th.
South Chicago. Lake Calumet. Grand Crossing. Miller's and Edgemoor, Ind. Rogers Park, *Boltwood.* Normal Park, *Williams.* Pine Station, Ind., *Bastin.*

291. **P. fruticosa,** L. Shrubby Cinque-foil.
Wet fields and edges of swamps: not common, usually local. June 20th—July.
Eastern part of our district. Rogers Park. Rose Hill. Niles. South Chicago. Calumet Region. Grand Crossing. Pine Station, Miller's and Clarke, Ind.

292. **P. anserina,** L. Silver Weed.
Damp sandy soil and low sandy marshes; frequent. June—August, occasionally as late as October.
Mainly in the eastern portion of our district.

293. **P. canadensis,** L. Common Cinque-foil. Five-finger.
Including var. *Simplex,* T. & G.
Everywhere in dry soil. May—August.

AGRIMONIA, Tourn.

294. **A. eupatoria,** L. Common Agrimony.
Open woods and fence-rows; common. July—September.

295. **A. parviflora,** Ait. Small-flowered Agrimony.
Open woods; rare. July. (B.)
Rogers Park. Riverside, *Miss Fannie Seward.*

ROSA, Tourn.

296. **R. setigera,** Michx. Climbing or Prairie Rose.
July.
But two specimens have been found. One at Morgan Park; the other at Desplaines. Both plants were dwarfed and stunted. (B.)
It is cultivated in a number of places.
A specimen in the herbarium of the University of Chicago is labeled, "growing wild at Woodlawn." An ornamental, climbing shrub.

297. **R. engelmanni,** Watson. Engelmann's Rose.
Frequent on the borders of sloughs in the southeastern part of our district, near the lake shore; fruit rather oblong, *Hill!* (B. P.)

298. **R. blanda,** Ait. Early Wild Rose. Pale Rose.
Sandy soil; frequent. June—July 15th.
Varies greatly in size, 1 to 4 feet. Generally blossoms about three weeks earlier than R. humilis.

+ 299. **R. carolina,** L. Swamp Rose.
Low places; rare. June—August.
From Colehour, Ind., southeast; frequent. June.

+ 300. **R. humilis,** Marsh. Dwarf Wild Rose.
R. lucida, in Manual, 5th Ed.
Dry soil, occasionally in open woods and in moist soil at the border of swamps; common south, frequent elsewhere. June—July.

301. R. RUBIGINOSA, L. Sweet Brier.
Established in old gardens. (B. P.)

PIRUS (Pyrus), L.

302. **P. coronaria,** L. American Crab-apple.
Open woods and fields; common locally. June—July 5th.
It is not generally distributed, but is usually found in groups of several trees. The flowers are smaller when in the shade of other trees. A beautiful tree when in blossom.

303. **P. arbutifolia,** L.f. Choke Berry.
Low and damp thickets, south; frequent. May—June.
It is less common in the northern part of the county.

304. **P. americana,** D C. American Mountain Ash.
The only specimen known to be wild in our district was found in the open woods not far north of Windsor Park. This tree was removed in 1888 and transplanted to private grounds on the West side, Chicago. (B. P.)

CRATÆGUS, L.

305. **C. coccinia,** L. Scarlet-fruited Thorn.
Dry banks and woods; frequent. May—June.

306. **C. tomentosa,** L. Black or Pear Thorn.
Woods and banks of streams; infrequent. May 25th—June.
A very variable species, occasionally thornless.

307. **C. punctata,** Jacq. Hawthorn.
C. tomentosa, L., var. *punctata*, Gray.
Glencoe. Miller's, Ind., in woods; rare. (B.)

308. **C. crus-galli,** L. Cockspur Thorn.
Thickets; frequent. June. (B.)
Whiting, Ind., and south. Niles. West of Blue Island. Riverside. Palatine.

AMELANCHIER, Medic.

309. **A. canadensis**, T. & G. Shad-bush. Service-berry.
Including var. *botryapium*, T. & G.
Moist woods and fields; frequent. March 20th—May 10th, occasionally as late as September.
Petals often much longer than the calyx (4 to 6 times).

310. **A. candensis**, T. & G., var. **rotundifolia**, T. & G.
With the type; infrequent. (B.)

311. **A. canadensis**, T. & G., var. **oblongifolia**, T. & G.
With the preceding, but less common. April 15th—May. (B.)

SAXIFRAGACEÆ.

SAXIFRAGA, L.

312. **S. pennsylvanica**, L. Swamp Saxifrage.
Swamps and wet banks; frequent. May—July.

MITELLA, Tourn. Bishop's-Cap.

313. **M. diphylla**, L. Two-leaved Miter-wort.
Rich woods and shaded knolls; common or abundant north, frequent elsewhere. May—June.
Racemes often 6 to 12 inches in length. Flowers occasionally pinkish.

314. **M. nuda**, L. Naked Miter-wort.
A few specimens were observed in the moist rich woods east of Berry Lake, Ind., in 1884, and at Miller's, Ind., in 1886. (B. P.)

HEUCHERA, L.

315. **H. americana**, L. Common Alum-root.
Damp woods and shaded banks; rare. June. (B.)
Glencoe. Riverside, 1878, *Bastin*. Englewood, *Brennan*.

316. **H. hispida**, Ph. Alum-root.
Woods, and in moist soil; frequent. May—July.
Eastern part of our district. Hyde Park and south.

PARNASSIA, Tourn.

317. **P. caroliniana**, Michx. Grass of Parnassus.
Moist fields and banks; common, often abundant south. July—September.
The colored veins on the petals are occasionally pink. Flowers sometimes nearly 2 inches in diameter.

RIBES, L.

318. **R. cynósbati**, L. Prickly Wild Gooseberry.
Open woods and shaded banks; infrequent. April 25th—May 20th. (B.)
Chiefly north and west.

319. **R. rotundifolium**, Michx. Wild Gooseberry.
Riverside and along the Desplaines river, infrequent; rare elsewhere.
Riverdale. Casella, Ind.

320. **R. oxyacanthoides**, L. Smooth Wild Gooseberry.
R. hirtellum, Michx.
Wet open woods and swampy places; frequent. May—June.

321. **R. floridum**, L'Her. Wild Black Currant.
Rich woods; common. May—June.

322. R. AUREUM, Ph. Buffalo or Missouri Currant.
Escaped from cultivation in many places. May—June. (B. P.)

CRASSULACEÆ.

PENTHORUM, Gronov.

323. **P. sedoides**, L. Ditch Stone Crop.
Wet prairies, fields and ditches; common. July 20th—September.

SEDUM, Tourn.

324. S. ACRE, L. Mossy Stone Crop.
Escaped from cultivation at Evanston and Rogers Park, June, 1886. (B. P.)

325. S. TELEPHIUM, L. Garden Orpine. Live-for-ever.
Apparently naturalized in old gardens; occasionally along roadsides. (B. P.)

DROSERACEÆ.

DROSERA, L.

326. **D. rotundifolia**, L. Round-leaved Sundew.
Damp prairies and peat bogs; not common. June—August.
South Evanston, near Asbury Avenue. Near South Chicago.
At South Evanston it is associated with Lycopodium inundatum, L.
From Cassella, Ind., south to limits, it is frequent.
Petals sometimes tinged with pink, which is rarely in narrow, faint lines. Styles usually five.

327. **D. intermedia**, Hayne, var. **americana**, D C. Long-leaved Sundew.
D. longifolia, in Manual, 5th Ed.
Swamps; rare. July—August.
South Chicago. Milller's, Ind., *Bastin.*

HAMAMELIDEÆ.

HAMAMELIS, L.

328. **H. virginiana**, L. Witch-hazel.
Rich open woods and copses; infrequent. September—November.
More common in the southern portion of our district; September.
Less frequent, north and west.

HALORAGEÆ.

MYRIOPHYLLUM, Vaill. Water Milfoil.

329. **M. spicatum**, L
Aquatic; frequent. July—August. (B.)
More frequent south.

330. **M. verticillatum**, L.
In more stagnant water; frequent. July—August. (B.)

331. **M. heterophyllum**, Michx.
Slow streams, lakes and ponds; infrequent. June—July. (B.)

PROSERPINACA, L.

332. **P. palustris**, L. Mermaid-weed.
Swamps and ditches, chiefly in the southern part of our district; frequent. July.

HIPPURUS, L.

333. **H. vulgaris**, L. Mare's Tail.
Near the northern end of Lake Calumet. Chicago river, west of Brighton; rare, July, 1886. Miller's and Pine Station, Ind., 1888. Clarke, Ind., 1886. (B.)

CALLITRICHE, L.

334. **C. verna**, L. Water Starwort.
Several specimens were found near the Calumet river, within a few rods of the C. P. & Ft. Wayne R.R. The form was the terrestrial, (C. brevifolia, Ph.).
Possibly a waif, introduced from the east, but may be found in other localities. It blooms from spring to fall. (B.)

MELASTOMACEÆ.

RHEXIA, L.

335. **R. virginica**, L. Deer-Grass.
Pine Station, Ind. Miller's Ind., *Babcock!* Tolleston and Hammond, Ind., *Hill.*

LYTHRACEÆ.

DIDIPLIS, Raf.

336. **D. linearis**, Raf. Didiplis.

Ammannia nuttallii, Gray.

In rather deep water; rare, July, 1887. Lake Calumet. (B.)
The flowers are exceedingly minute, and easily passed unnoticed.

LYTHRUM, L.

337. **L. alatum**, Ph. Loosestrife.

Wet prairies; common. June—July.
Occasionally the white-flowered form is met with.

DECODON, Gmelin.

338. **D. verticillatus**, Ell. Swamp Loosestrife.

Nesæa verticillata, H. B. K.

Swamps; rare. July, 1887.
Near Miller's, Ind. (B.)

ONAGRACEÆ.

LUDWIGIA, L.

339 **L. alternifolia**, L. Seed-box.

Swampy places; infrequent or rare. July—August.
Near Evanston. South Chicago and south.

340. **L. polycarpa**, Short & Peter. False Loosestrife.

Swamps, especially southward. August—September.
Ditches at Glencoe and Riverside; not common, *Babcock*. Evanston, *Boltwood*.

341. **L. palustris**, Ell. Water Purslane.

Ditches, banks of streams and low muddy brooks; infrequent. July—September.
Evanston and vicinity. Riverside. Rice Township. Graceland, *Babcock*. Near Pullman, *Brennan*.

EPILOBIUM, L.

342. **E. angustifolium**, L. Great Willow-herb. Fireweed. Rose-Bay.

Usually in copses and low grounds; occasionally found on higher ground when the flowers are often decidedly purple; frequent. July—August. (B.)
Flowers occasionally white.

343. **E. lineare**, Muhl. Linear-leaved Willow-herb.

E. palustre, L., var. *lineare*, Gray.

Swampy places, in sandy soil; infrequent or rare. August.

Near the lake shore, both north and south.

There are two forms in our district:

(*a*) Pubescent; petals nearly white or tinged with purple (the type).

(*b*) Nearly glabrous; stem simple; 1 to 4 flowered; pods quite smooth; leaves lanceolate; rare, Pine Station, Ind., August, 1879, *University of Chicago Herb.* Possibly this form is E. palustre, L.

344. **E. strictum,** Muhl. Downy Willow-herb.
E. molle, Torr.

Occasionally found near the north end of Lake Calumet, 1885, 1887, and the "low lands adjacent to the river southwest of Crawford," *C. P. Murray.* (B.)

345. **E. coloratum,** Muhl. Willow-herb.

Low places, wet prairies and ravines; not common. July—August.

ŒNOTHERA, L.

346. **Œ. biennis,** L. Common Evening Primrose.

Fields, prairies and waste places; common or abundant locally. June 25th—August.

347. **Œ. biennis,** L., var. **grandiflora,** Lin

In rich soil; frequent. July. (B.)

348. **Œ. biennis,** L., var. **cruciata,** T. & G.

Prairies south of Garfield Park; rare (1888). July.

Riverside, *Babcock.* Eggleston, *Hill.*

349. **Œ. rhombipetala,** Nutt. Evening Primrose.

Sandy soil, near lake shore, both north and south; rare. July 20th—September.

Bluffs near Berry Lake, Pine Station and Miller's, Ind. Evanston, *Johnson.*

350. **Œ. fruticosa,** L. Sundrops.

Shrubby fields, etc.; frequent. June—August.

351. **Œ. pumila,** L. Primrose.

Gibson's, Ind.; rare, *Babcock.* Palatine and Desplaines; rare. June.

GAURA, L. Gaura.

352. **G. biennis,** L.

Infrequent; rare, north and west. August.

Banks of Desplaines and Calumet rivers. Englewood, *Brennan.*

353. G. PARVIFLORA, Dougl.

A single plant near the railroad bridge at Maywood, *Babcock.* A single plant at Pullman on the banks of Lake Calumet.

Probably introduced from the west or south. (P.)

CIRCÆA, Tourn.

354. **C. lutetiana**, L. Tall Enchanter's Nightshade.
Rich and rather open woods, or in underbrush after the removal of timber; common. July—August.

355. **C. alpina**, L. Low Enchanter's Nightshade.
Deep woods, usually in damp places; rather rare. July. (B. P.)
Niles. Berry Lake, Ind. Evanston, *Boltwood*. Arlington Heights, *C. P. Murry*.

CURCUBITACEÆ.

SICYOS, L.

356. **S. angulatus**, L. One-seeded Star Cucumber.
Banks of streams and damp waste places; infrequent. July—August. (B.)

ECHINOCYSTIS, T. & G.

357. **E. lobata**, T. & G. Wild Cucumber. Wild Balsam-apple.
Banks of streams and rich moist soil; common. July—September.

CACTACEÆ.

OPUNTIA, Tourn.

358. **O. rafinesquii**, Engelm. Prickly Pear Cactus.
Sandy soil. June—July.
Common near the lake shore both north and south.
This species is very ornamental when in blossom, and is easily cultivated.

FICOIDEÆ.

MOLLUGO, L.

359. M. VERTICILLATA, L. Carpet-weed. Indian Chick-weed.
Sandy soil; not common. June—August.
Lake shore, chiefly south.

UMBELLIFERÆ.

DAUCUS, Tourn.

360. D. CAROTA, L. Carrot.
Occasionally spontaneous in waste places and old gardens, but usually dies out in three or four years. July—September. (B.)

ANGELICA, L.

361. **A. atropurpurea**, L. Great Angelica.
Archangelica atropurpurea, Hoffm.
Bogs and banks of streams south and southeast; not common. June.
Occasionally found on the banks of the Desplaines river. (B).

TIEDEMANNIA, D C.

362. **T. rigida**, Coult. & Rose. Cowbane.
Archemora rigida, D C.
Sandy swamps southward; infrequent. July.

HERACLEUM, L.

363. **H. lanatum**, Michx. Cow Parsnip.
Moist places; frequent, rather local. June.
Specimens have been found that measured 9 feet in height. A specimen was obtained near Lake Calumet with the umbel $1\frac{1}{2}$ feet broad.

PASTINACA, L.

364. P. SATIVA, L. Common Parsnip.
Escaped from cultivation in various places. (B.)

POLYTÆNIA, D C.

365. **P. nuttallii**, D C.
Prairies and old fields; infrequent or rare. May—June 15th.
Evanston. Ravenswood. Whiting, Ind. Maywood, rare, *Babcock!*

THASPIUM, Nutt.

366. **T. aureum**, Nutt. Meadow Parsnip.
Banks of streams and moist places; common. May—June.

367. **T. aureum**, Nutt., var. **trifoliatum**, Coult. & Rose.
T. trifoliatum, in Manual, 5th Ed., in part.
Rich woods; common. June 15th—July.

368. **T. aureum**, Nutt., var. **atropurpureum**, Coult & Rose.
T. trifoliatum, Nutt., var. *atropurpureum*, Gray.
With the type; rare. June. (B.)

369. **T. barbinode**, Nutt. Meadow Parsnip.
Banks of streams; infrequent. July. (B.)

PIMPINELLA, L.

370. **P. integerrima**, Benth. & Hook. Golden Alexanders.
Zizia integerrima, D C.
Dry banks. May 10th—June.
Frequent north and west; less frequent south.

EULOPHUS, Nutt.

371. **E. americanus**, Nutt.
Woods at Riverside, *Babcock*.

CRYPTOTÆNIA, D C.

372. **C. canadensis**, D C. Honewort.
Moist grounds; infrequent. June—September.
Probably not found in the northwestern portion of our district.

SIUM, Tourn.

373. **S. cicutæfolium**, Gmelin. Water Parsnip.
S. lineare, Michx.

In swampy places, occasionally in water; frequent, especially south. July—August 25th.

Riverside, west of Desplaines river; rare, *Babcock!*

BERULA, Koch.

374. **B. angustifolia**, Koch. Water Parsnip.
Sium angustifolium, L.

Swamps; not common. August. (B.)

CARUM, L.

375. C. CARUI, L. Common Caraway.

Sparingly escaped from cultivated grounds to roadsides. June—July. (B. P.)

A pink flowered form was observed near Halsted and 55th Streets.

CICUTA, L.

376. **C. maculata**, L. Spotted Cowbane. Musquash-root. Beaver Poison.

Swamps and low banks of streams; infrequent. July—August. (B.)

377. **C. bulbifera**, L. Bulb-bearing Water-hemlock.

Swampy places; not common. August—September.

South Chicago and south. Whiting, Colehour and Casella, Ind. Edgemoor, Ind., *Johnson*. Pine Station, Ind., *Babcock*.

CONIUM, L.

378. C. MACULATUM, L. Poison Hemlock.

Waste places; infrequent or rare. July—September. (B.)

Evanston, Palatine and Riverside.

CHÆROPHYLLUM, L.

379. **C. procumbens**, Crantz. Chervil.

Moist open woods and copses; not rare. May—June.

Wood at Riverside; common, *Babcock!*

OSMORRHIZA, Raf.

380. **O. brevistylis**, D C. Hairy Sweet Cicely.

Rich woods; frequent. May 15th—June 10th. (B.)

381. **O. longistylis**, D C. Smooth Sweet Cicely.

Rich moist woods; frequent, especially south. May—June.

Evanston. Bowmansville. Niles. Desplaines. Riverside. Riverpark, *Bastin!* Blue Island, *Dodge*.

ERIGENIA, Nutt.

382. **E. bulbosa,** Nutt. Harbinger-of-Spring. Pepper-and-Salt.
Maywood and Riverside, on the banks of the Desplaines river, 1887. Lamont, rare, March, 1889. Chesterton, Ind., *Hill.* (B.)

HYDROCOTYLE, Tourn.

383. **H. americana,** L. Water Pennywort.
Damp woods and shaded banks; infrequent or rare. July—August. (B. P.)

ERYNGIUM, Tourn.

384. **E. yuccæfolium,** Michx. Rattlesnake Master. Button Snake-root.
Damp prairies, and the pine barrens of the southern portion of our district; infrequent, except from Hyde Park south. Leaves often very long. The aspect of the plant is often endogenous.

SANICULA, Tourn.

385. **S. marilandica,** L. Sanicle. Black Snake-root.
Woods; infrequent. June—July.
Glencoe. Niles. South of Chicago. Near North Branch of Chicago river, *Babcock!*

386. **S. marilandica,** L., var. **canadensis,** Torr. Sanicle. Black Snake-root.
S. canadensis, L.
Open woods and copses; common. June—August.
Leaves very thin, often 4 to 5 inches long.

ARALIACEÆ.

ARALIA, Tourn.

337. **A. racemosa,** L. Spikenard.
Moist, rich woods; infrequent or rare. July—August.
Ravines of the northeast. Riverside. Hog Island. Berry Lake and Pine Station, Ind.

388. **A. nudicaulis,** L. Wild or False Sarsaparilla.
Moist woods; frequent. May—June.
Ravines of the northeast and from Hyde Park southward.

389. **A. quinquefolia,** Decsne. & Planch. Ginsing.
Panax quinquefolia, L.
Rich woods; infrequent or rare. July. (B.)
Highland Park, Lake Co., Ill. Riverside. Calumet Region. Palatine. Forest Hill; rare, *Hill.*

390. **A. trifolia,** Decsne. & Planch. Dwarf Ginsing. Ground-nut.

Panax trifolia, L.

Moist rich woods; rare. April 20th—May 15th.
Southward. Casella and Miller's, Ind. (B.)

CORNACEÆ.

CORNUS, Tourn.

391. **C. canadensis,** L. Dwarf Cornel. Bunch-berry.

Woods. May 20th—June.
From South Chicago southeast; rare. Rogers Park, *Boltwood!* Pine Station, Ind.; rare, *Babcock!*
A specimen collected near Wolf Lake, Ind., has an incomplete, compound umbel.

392. **C. florida,** L. Flowering Dog-wood.

Woods; infrequent in the more elevated portions of the northern part of the county; rare elsewhere. May—June. (B.)
Miller's and Berry Lake, Ind. Chesterton, Ind., *Hill*
A beautiful tree with showy blossoms and fruit.

393. **C. circinata,** L'Her. Round-leaved Dog-wood.

Open, rich woods and copses; infrequent. June—August 10th. (B.)
Southeast. Pine Station, Ind., *Bastin!* Miller's, Ind., *Hill!*
The leaves of this species are occasionally 7 inches broad. A shrub growing near Miller's, Ind., had rather dark blue fruit.

394. **C. sericea,** L. Silky Cornel. Kinnikinnik.

Banks of streams and swamps; more common south, less frequent elsewhere. June 10th—July. (B.)
Lake shore, both north and south.
The inner bark is mixed with tobacco by the Indians forming "Kinnikinnik."

395. **C. stolonifera,** Michx. Red-osier Dog-wood.

Banks of streams and wet places; infrequent. May—July 10th.
Mainly south of Hyde Park.
A second set of blossoms is often produced in August or September.
It occasionally forms large matted clumps several feet in diameter, due to growths of underground and prostrate branches, which root and soon develop into large shrubs.

396. **C. paniculata,** L'Her. Panicled Cornel.

Banks of streams and wet woods; common. May 20th—June.

397. **C. alternifolia,** L.f. Alternate-leaved Cornel.
Woods and copses; frequent. May 15th—June.
More common in the northern part of our district. Glencoe. Riverdale. Maywood. Riverside. Blue Island. Palatine. Lyons. Miller's, Ind.
Flowers are rarely pink.

NYSSA, L.

398. **N. sylvatica,** Marsh. Pepperidge. Black or Sour Gum.
N. multiflora, Wang.
Wet and rich soil. May—July.
Niles woods; rare. Cassella and Pine Station, Ind.; infrequent. Miller's, Ind.: common, *Babcock!*

CAPRIFOLIACEÆ.

SAMBUCUS, Tourn.

399. **S. canadensis,** L. Common Elder.
Banks of streams and rich open woods; infrequent. June.

VIBURNUM, L.

400. **V. opulus,** L. Cranberry-tree. Bush Cranberry.
Low places and rich woods, both north and south; not common. June.
Glencoe. Evanston. Berry Lake, Ind. Graceland, *Babcock!* Whiting, Ind., *Hill!*
The cultivated form is the well-known Snowball-tree, or Guelder Rose. It has sparingly escaped from cultivation in various places, and is occasionally found with only a portion of the cyme, consisting of sterile flowers.

401. **V. acerifolium,** L. Maple-leaved Arrow-wood. Dockmackie.
Woods, both north and south; infrequent, especially northward. May 15th—June.

402. **V. pubescens,** Ph. Downy Arrow-wood.
Wooded banks, bluffs and thickets; frequent in the northern part of the county, less common elsewhere. May—June.
Seldom over four feet in height.

403. **V. dentatum,** L. Arrow-wood.
Damp woods and wet places; infrequent. June.
Near the lake shore. Riverside, *Babcock.*

404. **V. lentago,** L. Sweet Viburnum. Sheep-berry. Black Haw.
Open woods, copses and banks of streams; infrequent. May—June.

Winnetka. Riverside. South Chicago. Palatine. Glencoe, *Babcock.* Rose Hill, *Johnson.* Englewood, *Brennan.* Grand Crossing, *Hill.*

The average height of the species is about 18 feet. It is occasionally shrub-like, attaining a height of not over 10 feet.

405. **V. prunifolium,** L. Black Haw.

Chicago, *Bastin.* Near Oak Park, *S. R. Copeland.* Morgan Park, *University of Chicago Herb.* (B.)

TRIOSTEUM, L.

406. **T. perfoliatum,** L. Fever-wort. Horse-gentian.

Rich, moist woods; generally distributed, but not common. June.

Niles. Lyons. Palatine. Riverside. Calumet Region. Miller's and Whiting, Ind. Lakeside, *Johnson.*

407. **T. angustifolium,** L. Horse-gentian.

Moist woods; very rare. (B.)

Maywood, 1884. Near Lake Calumet, 1886. Lake Calumet, 1874. *University of Chicago Herbarium.*

No specimens have been found at either place since 1886. The species is seemingly exterminated.

LINNÆA, Gronov.

408. **L. borealis,** Gronov. Twin-flower. Linnæa.

Pine and cedar woods of the southern portion of our district; very rare. May 25th—July 15th. (B.)

Miller's, 1886, and Berry Lake, 1888, Ind. Pine Station, Ind., *Bastin, Hill, Brennan!* Edgemoor, Ind., in bloom, September 15th, *Hill.* Winnetka, *Vasey,—in Northwestern University Collection.*

LONICERA, L.

409. **L. ciliata,** Muhl. Fly Honeysuckle.

Rich woods and ravines in the northeastern portion of Cook County; rare. May—June. (B. P.)

Evanston. Niles. Rogers Park. Desplaines. Pine Station, Ind., *Bastin.*

410. L. SEMPERVIRENS, Ait. Trumpet Honeysuckle.

Apparently escaped from cultivation at Evanston. (B. P.)

411. **L. sullivantii,** Gray.

L. flava, in Manual, 5th Ed., mainly.

Woods; infrequent or rare. June.

Evanston. Near Riverside. Riverdale. Lamont. Englewood, *Dodge.*

412. **L. glauca,** Hill. Yellow or Small Honeysuckle.

L. parviflora, Lam.

L. parviflora, Lam., var. *douglasii,* Gray.

Rich woods; frequent north. May 15th—June.

Riverside. Clarke, Miller's, Casella and Pine Station, Ind., infrequent or rare. Banks of Lake Calumet, *Hill.* South Chicago, *Brennan.*

Flowers rarely pure yellow.

DIERVILLA, Tourn.

413. **D. trifida,** Moënch. Bush Honeysuckle.

Open woods; rare. June—July.

Evanston. Riverside. Hog Island, 1886. Hyde Park, *Babcock.*

RUBIACEÆ.

HOUSTONIA, L.

414. **H. cærulea,** L. Bluets. Wild Forget-me-not. Innocence.

Moist places. May—August.

Wilmette to Hyde Park; rare. Englewood, *Dodge.* Calumet Region, south and east, in moist, sandy soil; common.

415. **H. purpurea,** L., var. **ciliolata,** Gray.

Sandy soil, southeast; rare. June. (B.)

Hessville, Ind., *Hill.*

CEPHALANTHUS, L.

416. **C. occidentalis,** L. Button-Bush.

Banks of streams and lakes, wet open woods and swamps; frequent. July—August.

Occasionally attains a height of 8 to 10 feet.

MITCHELLA, L.

417. **M. repens,** L. Partridge-berry. Squaw-plum.

Woods. July. (B.)

Northward, infrequent; from Colehour, Ind., southeast, frequent.

The form, with both the flowers confluent, has been found at Miller's, Ind.

GALIUM, L. Bed-straw.

418. **G. aparine,** L. Cleavers. Goose-grass.

Wet woods and prairies; frequent or common. May—June 15th.

Stems often from 2 to 5 feet long, and when reclining on other plants, will reach a height of 2 feet or more.

419. **G. pilosum,** Ait.

Copses; frequent. July. (B.)

420. **G circæzans,** Michx. Wild Liquorice.
Dry woods and copses; common. July. (B.)

421. **G. boreale,** L. Northern Bed-straw.
Sand ridges, bluffs and ravines of the eastern portion of our district; frequent. July.

422. **G. trifidum,** L. Small Bed-straw. Dyer's Cleavers.
Swamps and low grounds; common, especially south, rarely abundant. June 20th—July.

Prof. Hill reports the following interesting forms from Englewood:

(*a.*) Leaves lance-linear in whorls of 4 to 6; angles of stem smoothish. Has two forms of flowers by intercrossing.

(*b.*) Protandrous and diomorphic, the style being long, rising somewhat to the top of the corolla lobes; the anthers are then withered and black, the stamens barely reaching the clefts of the corolla limb.

(*c.*) Has the stamens long and the style short, the stamens arching inwards and rising about half the length of the corolla lobes; the anthers are flesh and yellowish-green; the stigma is almost sessile. Both forms grow together in damp portions of door-yards.

423. **G. trifidum,** L., var. **latifolium,** Torr.
With the last, near Stony Island, July, 1886. (B. P.)

424. **G. trifidum,** L., var. **pusillum,** Gray.
Swampy grounds, Forsythe, *Hill.* (B. P.)

425. **G. concinnum,** T. & G.
Rather dry, open woods and copses; frequent. July.

426. **G. asprellum,** Michx. Rough Bed-straw. Catch-weed.
Wet woods and swampy fields; infrequent. July—August. (B.)

427. **G. triflorum,** Michx. Sweet-scented Bed-straw.
Moist rich woods and fields; frequent or common. June—July. (B.)
Fruit greenish-white.

VALERIANACEÆ.

VALERIANA, Tourn.

428. **V. edulis,** Nutt. Valerian.
Damp prairies; frequent. May—June.
Chiefly in the eastern portion of our district.

VALERIANELLA, Tourn.

429. V. CHENOPODIFOLIA, D C. Corn Salad.
Fedia fagopyrum, T. & G.
Swamps near Lake Calumet, east of M. C. R. R. June 1885–86. (B. P.)
Evidently introduced from the east. So far as we know, no other specimens have been found.

430. **V. radiata**, Dufr. Corn Salad.
Fedia radiata, Michx.
Lake Calumet, June, 1882, *University of Chicago Herbarium.* (B.)

DIPSACEÆ.

DIPSACUS, Tourn.

431. D. SYLVESTRIS, Mill. Wild Teasel.
Rare.
Near Austin, on C. & N. W. R. R.; evidently introduced. Hyde Park and Washington Heights, *University of Chicago Herb.* (B.)

COMPOSITÆ.

VERNONIA, Schreb. Iron-weed.

432. **V. fasciculata**, Michx.
Prairies, open woods and banks; common. August—September.
Very variable. In two or three localities near Grand Crossing, its similarity to the next species is easily shown. Plants growing near each other and under the same conditions, show a quite perfect gradation between the two types. Several specimens attained a height of 9 feet.

433. **V. noveboracensis**, Willd.
Banks of streams; infrequent. August. (B.)
The later flowers are usually lighter colored than the earlier ones.

EUPATORIUM, Tourn.

434. **E. purpureum**, L. Joe-pye-weed. Trumpet-weed. Purple Boneset. Queen-of-the-Meadow. Gravel-root.
Low places; infrequent. July 25th—September.
Very variable in size.

435. **E. sessilifolium**, L. Upland Boneset.
Banks of ravines; probably rare, except in the northern part of our district, where it is infrequent. August. (B.)

436. **E. perfoliatum**, L. Boneset. Thoroughwort.
Prairies and low places; common, abundant locally. August—September.

437. **E. ageratoides,** L. White Snake-root.
Open woods, old yards and damp places; frequent. August—September.
Abundant in Niles woods.

KUHNIA, L.

438. **K. eupatorioides,** L.
Dry soil, roadsides, etc.; frequent. August 15th—September. (B.)

LIATRIS, Schreb. Button Snake-root. Blazing Star.

439. **L. squarrosa,** Willd.
Dry banks, near the lake shore; not common. August. (B.)

440. **L. cylindracea,** Michx.
Prairies, dry fields, etc.; frequent. July 25th—September.
Common at Ravenswood, Hyde Park and southward.

441. **L. scariosa,** Willd.
Dry fields, prairies, etc.; common south in sandy soil. August—September.
A specimen was collected during the season of 1887, near Waldheim Cemetery, with white flowers.
The heads of a plant found near Evanston were nearly two inches in diameter. A variable species.

442. **L. pycnostachya,** Michx.
Prairies; Ravenswood, frequent, not so common elsewhere. (B.)

443. **L. spicata,** Willd.
Moist places; common. August—September.
Specimens bearing white flowers were found at Ravenswood and Summerdale.

GRINDELIA, Willd.

444. G. SQUARROSA, Dunal. Grindelia. Gum Plant.
Undoubted specimens have been collected in an unimproved field near South Evanston. The specimens were very resinous.
After a thorough investigation, it is evident that the presence of this species—which is a native of the plains west of the Mississippi—within the limits of our Flora, cannot be accounted for in any other way than by introduction, although seemingly indigenous. *Marcy, Boltwood, Johnson, Dunham!* (B. P.)

SOLIDAGO, L. Golden-rod.

445. **S. cæsia,** L.
Rich moist woods and copses; infrequent. September. (B.)

446. **S. latifolia,** L.
Shaded banks and ravines; infrequent. September.

447. S. BICOLOR, L., var. CONCOLOR, T. & G.
Banks of the C. P. & Ft. W. R. R., near Whiting, Ind., 1887. (B.)
Probably a waif introduced from the east.

448. **S. humilis,** Ph.
S. virgaurea, L., var. *humilis*, Gray.
In sandy soil near the lake shore, chiefly southward; infrequent or rare.

449. **S. uliginosa,** Nutt.
S. stricta, Ait.,* in Manual, 5th Ed.
Swamps and low grounds; infrequent or rare. July—August.
Swamps south of South Chicago. Riverdale. Casella and Pine Station, Ind. Swamps near Graceland, *Babcock.* Miller's, Ind., *Bastin.*
Some forms closely resemble S. neglecta.

450. **S. speciosa,** Nutt.
Woods and shaded banks, rarely in open fields; frequent. August 25th—October.
Easily cultivated, becoming very ornamental.

451. **S. speciosa,** Nutt., var. **angustata,** T. & G.
A dwarf form in dryer places than the type; infrequent. Sept. (P.)

452. **S. patula,** Muhl.
Wet banks and swamps; probably frequent. Aug.—Sept. (B.)
South Holland and Berry Lake, Ind. Near Pullman. South Chicago. Banks of the Desplaines river, near Maywood.

453. **S. rugosa,** Mill.
S. alltissima, T. & G.
Roadsides, dry fields and banks; common. August 10th—September 25th. (B.)
Very variable; locality and soil causing peculiarities of growth.

454. **S. ulmifolia,** Muhl.
Damp open woods and low grounds; frequent. September.

455. **S. neglecta,** T. & G.
Swamps of the Calumet Region. Near the junction of the Grand and Little Calumet rivers. Specimens were found in the above localities during the seasons of 1884–'85–'87.
Near Chicago, *Babcock,—in Plants of Illinois.* (B.)

*S. **stricta**, Ait., is the *S. virgata*, Michx., and is an eastern form.

456. **S. arguta,** Ait.
S. muhlenbergii, T. & G.
Pine Station, Ind.; rare, *Babcock.*

457. **S. juncea,** Ait.
S. arguta, T. & G.
Banks of streams, open woods and moist fields; frequent. August—September. (B. P.)

458. **S. missouriensis,** Nutt.
Rather dry fields and prairies; infrequent. August. (B.)
Near Garfield Park. Riverside. Hyde Park, *Bastin.*

459. **S. serotina,** Ait.
S. gigantea, in Manual, 5th Ed.
Woods, fence-rows and dry banks; common. August—October.

460. **S. serotina,** Ait., var. **gigantea,** Gray.
S. serotina, in Manual, 5th Ed.
S. gigantea, Ait.
Woods and damp grounds; frequent. August—September. (B.)

461. **S. canadensis,** L.
Borders of woods, roadsides and fence-rows; common, often abundant. August—September, often as late as November.
Variable in size, often growing 8 feet high.
A few specimens were found near Glencoe with smoothish leaves.

462. **S. canadensis,** L., var. **procera,** T. & G.
On higher grounds than the type. September.
Near Palatine; rare. (B. P.)

463. **S. nemoralis,** Ait.
Dry prairies and barren fields; common or abundant. August—September.

464. **S. rigida,** L.
Prairies, open woods and fence-rows; frequent or common. August—September.
Varies from 2 feet on prairies to 3 to 5 feet in woods.

465. **S. ohioensis,** Riddell.
Moist prairies and banks; infrequent. September.
Chiefly in the eastern part of our district.
Summerdale. Graceland. Hyde Park near 55th St. Egondale. Whiting, Ind., and south. Englewood, *Hill.* Edgemoor, Ind., *Johnson!*

466. **S. riddellii,** Frank. Riddell's Golden-rod.
Prairies; common. September.

467. **S. lanceolata,** L.
Low banks of streams and lakes, moist fields, etc.; frequent or common. August 15th—September. (B.)

468. **S. tenuifolia,** Ph.
Sandy soil, chiefly in the eastern portion of our district; frequent or common. August—September.

BOLTONIA, L'Her.

469. **B. asteroides,** L'Her.
Includes *B. glastifolia,* L'Her.
Moist places, chiefly southward; infrequent. September.
Lake shore, near 33rd St., *Babcock.*
The awned form is seemingly the most common, and occasionally specimens are found with simply an indication of awns.

ASTER, L. Aster.

470. **A. macrophyllus,** L. Large-leaved Aster.
Moist woods and fields; frequent north. August—September.

471. **A. oblongifolius,** Nutt.
Banks of the Desplaines river, near Maywood; rare. September, 1886. (B.)

472. **A. novæ-angliæ,** L. New England Aster.
Moist prairies, banks and hedge-rows; frequent or common. September.
A single white-flowered specimen was found in 1888 at Wilmette by *Miss Belle Alling.*
Rays white, Englewood, *Hill.*

473. **A. novæ-angliæ,** L., var. **roseus,** D C.
With the type; very rare.
Riverside, September, 1888. (B. P.)

474. **A.. sericeus,** Vent. Silky Aster.
Dry soil, banks of lakes and streams, open woods, etc.; frequent or common. July 25th—September.
A beautiful plant, and easily cultivated.
In very dry seasons the leaves are sometimes nearly smooth on the upper surfaces.

475. **A. patens,** Ait.
Dry fields and banks; frequent, or common locally. August—September, occasionally as late as October.
Flowers violet to dark blue-purple.

476 **A. patens,** Ait., var. **phlogifolius,** Nees.
Found on the shaded banks of the Desplaines river, near Maywood; rare. Flowers purple. (B. P.)

477. **A. azureus,** Lindl. Azure Aster.
Prairies, dry banks and copses; frequent, though rare in open woods north of Ravenswood. August—September.
Stem nearly or quite smooth; rays fading to pink or purplish-pink; Pine Station, Ind., in woods, *Hill.*

+478. **A. undulatus,** L. Wavy Aster.
Dry open woods and copses; frequent. September.

479. **A. cordifolius,** L. Heart-leaved Aster.
Dry open woods and fields; common or abundant in the western portion of Cook County. September—October.

480. **A. sagittifolius,** Willd. Arrow-leaved Aster.
Dry places; not common. September—October.
Evanston. Wilmette. Hyde Park and southward. Banks of the Desplaines river.

† 481. **A. drummondii,** Lindl. Drummond's Aster.
Banks of the Desplaines river at Riverside, *Hill!* (B.)

482. **A. turbinellus,** Lindl.
Evanston. Woodlawn, near the Driving Park; rare, 1886. (B.)

483. **A. lævis,** L. Smooth Aster.
Common. Type specimens are rare, and found at Graceland, Oak Park, Hawthorn, and Kensington; Evanston, *Johnson!*
Prairies of the western part of Cook County; rare, *S. P. Copeland.*
Banks of the Desplaines river; common, *Babcock!*
The species is very variable, highly ornamental and easily cultivated.

484. **A. polyphyllus,** Willd.
Swamps and low places; infrequent. September. (B. P.)

485. **A. ericoides,** L. Heath-like Aster.
August 25th—September.
Formerly quite common from 50th St. south, in lake shore woods; now infrequent. Frequent in dry fields in the southwestern part of the county; infrequent north and west. (B.)

486. **A. ericoides,** L., var. **villosus,** T. & G.
Ravenswood; rare, 1884–85 Stony Island; rare. Thorn Creek, Thornton, *Hill.* (B.)

487. **A. multiflorus,** Ait. Many-flowered Aster.

Usually in dry sandy soil; common, abundant in the eastern portion of our district.

Plants with the stems simple or but little branched are not uncommon, especially in barren places.

488. **A. dumosus,** L.

Dry woods and shaded places; frequent. September. (B.)

A variable species, both as to size, color of flowers, and foliage. A much attenuated form is frequently found on barren banks.

489. **A. vimineus,** Lam.

A. tradescanti, in Manual, 5th Ed.

Banks of streams and moist places; common. August 15th—September.

Bush-like, often appearing top heavy, becoming prostrate. Ornamental and easy of cultivation.

490. **A. diffusus,** Ait. Diffuse Aster.

A. miser, in Manual, 5th Ed.

Woods and damp places; common or abundant. Aug.—Oct. 15th.

Very variable.

A form, probably var. thyrsoideus, Gray, closely resembles A. tradescanti, L.

491. **A. tradescanti,** L. Tradescant's Aster.

A. tenuifolius, in Manual, 5th Ed.

Low open woods, fields and fence-rows; frequent. August 20th—October. (B.)

492. **A. paniculatus,** Lam.

A. simplex, Willd.

Moist places; frequent or common. September—October. (B.)

493. **A. salicifolius,** Ait. Willow-like Aster.

A. carneus, in Manual, 5th Ed.

A. greenei, T. & G.

Swamps or moist places; rare. (B.)

Near Lake Calumet, September, 1888.

Prof. Hill reports "a somewhat puzzling form, but with characters more nearly agreeing with A. greenei, T. & G., than any other apparently. The leaves are not scabrous except a little near the top, and the serratures seem rather more prominent; rays white or slightly tinged with purple. Height 3 feet. Prairie, Englewood."

494. **A. novi-belgii,** L.

A. longifolius, in Manual, 5th Ed.

Low ground near the north end of Lake Calumet; rare. September, 1884–85.

Glencoe; common, *Babcock.*

495. **A. prenanthoides,** Muhl.

Near Chicago, *University of Chicago Herbarium.* (B.)

496. **A. puniceus,** L.

Moist woods and swamps; common, especially south. September—October. (B.)

The white-rayed form is quite common near Lake Calumet.

497. **A. punicus,** L., var. **lucidulus,** Gray.

Var. *vimineus,* T. & G.

With the type; rare. September. (B.)

Nearly or quite smooth.

498. **A. umbellatus,** Mill. Double-bristled Aster.

Diplopappus umbellatus, T. & G.

Moist places; infrequent south. August—September.

499. **A. linariifolius,** L. Double-bristled Aster.

Diplopappus linariifolius, Hook.

Dry soil; common. September.

A form with pure white rays is occasionally found.

500. **A. ptarmicoides,** T. & G.

Sandy soil. September.

Rogers Park; rare. Hyde Park, south and southeast; frequent.

A form growing at Englewood, possibly Var. lutescens, Gray, is reported by Prof. Hill as follows: Some plants with yellowish rays and decidedly yellow disk flowers; others nearly white; heads smaller than normal; leaves nearly or quite clasping, long linear-lanceolate and inclined to be smoother than ordinary; something like Solidago Riddellii; heads about ½-inch in diameter; involucre more cylindrical than in A. ptarmicoides, and smaller. A remarkable form appearing as if a hybrid between A. ptarmicoides and Solidago riddellii or tenuifolia, both of which are common in the same locality, and all grow more or less intermingled. If crosses between Asters and Golden-rods be possible, I should take this for one.

ERIGERON, L. Erigeron. Fleabane.

501. **E. canadensis,** L. Horse-weed. Butter-weed.
Dry prairies, waste fields, etc.; everywhere common, often abundant. July—September.

502. **E. divaricatus,** Michx. Dwarf Fleabane.
Dry sandy soil near the state line, north to South Chicago, and west to M. C. R. R. tracks; rare. June. (B.)
Only five specimens have been reported.

503. **E. annuus,** Pers. Daisy Fleabane. Sweet Scabius.
Everywhere in rather dry, waste places; common or abundant. June—September.
A specimen cultivated under the direction of the writers has dark purple rays.

504. **E. strigosus,** Muhl. Daisy Fleabane.
In similar localities with the last; frequent. June 15th—August.

505. **E. bellidifolius,** Muhl. Robin's Plantains.
Moist prairies, banks and copses; common. May—July.
Occasionally the rays are white.

506. **E. philadelphicus,** L. Common Fleabane.
Open woods, prairies and banks; frequent. June—July 25th. (B.)

PLUCHEA, Cass.

507. **P. camphorata,** D C. Marsh Fleabane.
Includes *P. fœtida,* D C.
Rare. July.
Banks of the Desplaines river, near Maywood. Near South Chicago, *Herman Jaeger.* (B.)

ANTENNARIA, Gaertn.

508. **A. plantaginifolia,** Hook. Plantain-leaved Everlasting. Cat's-paw. Mouse-ear.
Everywhere in dry soil; common, often abundant. March—June.
At Palatine a few young specimens were found with the under side of the leaves green, and nearly free from pubescence.

ANAPHALIS, D C.

509. **A. margaritacea,** Benth. & Hook. Pearly Everlasting.
Antennaria margaritacea, R. Br.
Dry open woods and fields; infrequent or rare. July—August. (B.)
A form with broadly ovate, lower leaves is occasionally found in shaded places.

GNAPHALIUM, L. Cud-weed.

510. **G. polycephalum**, Michx. Common Everlasting.
Open woods and fields; frequent. August—September.

511. G. ULIGINOSUM, L. Low Cud-weed.
Low grounds along roadsides; not common. August. (B. P.)

INULA, L.

512. I. HELENIUM, L. Elecampane.
Roadsides and dry banks; infrequent or rare. August. (B.)
The root has a camphoraceous taste and odor. Radical leaves a foot or more long. Stem often very tall, 4 to 7 feet.

POLYMNIA, L.

513. **P. canadensis**, L. Leaf-cup.
Shaded ravines north of Evanston; rare, July. Thatcher, east of river; rare, *Babcock.*

SILPHIUM, L.

514. **S. laciniatum**, L. Rosin-weed. Compass-Plant. Pilot or Polar-weed.
Banks and prairies; common. July—August.
The gum that exudes from an injury to this species is sometimes employed as a substitute for chewing gum.

515. **S. terebinthinaceum**, L. Prairie Dock. Rosin-plant.
Prairies; common, especially south. July—October.
The wings of the achenia are sometimes nearly as broad as in S. laciniata.

516. **S. trifoliatum**, L. Rosin-weed.
Near Thornton, *Hill,—in Plants of Illinois.* (B.)

517. **S. integrifolium**, Michx. Rosin-weed.
Open prairies; frequent. August.

518. **S. perfoliatum**, L. Cup-plant.
Maywood. On the banks of the Desplaines river, north of Riverside; not common, *Babcock!*

PARTHENIUM, L.

519. **P. integrifolium**, L. Parthenium.
Dry sandy soil; common in the eastern portion of our district, elsewhere infrequent. June 25th—August.

AMBROSIA, Tourn.

520. **A. trifida**, L. Great Rag-weed. Horse-weed.
Banks of streams, lakes, swamps, etc.; common. August.
Occasionally 14 feet in height.
A depauperate form occurs with the type, but does not seem to be Var. integrifolia, all the leaves being slightly lobed.

521. **A. artemisiæfolia,** L. Roman Wormwood. Hog-weed. Bitter-weed. Rag-weed.
In waste places; abundant. July 25th—September.
Variable.

522. **A. psilostachya,** D C. Western Rag-weed.
Moist prairies; infrequent. (B.)
Brighton. Hawthorn. Austin. Near Waldheim. Desplaines, *University of Chicago Herb.*

XANTHIUM, Tourn.

523. X. SPINOSUM, L. Spiny Clotbur.
Chicago, *Vasey,—in Plants of Illinois.* (B.)

524. X. STRUMARIUM, L. Cocklebur. Clotbur.
Barn-yards and cultivated grounds; infrequent. August.

525. **X. canadense,** Mill. Cocklebur.
X. strumarium, in part, in Manual, 5th Ed.
Banks of streams and lakes, chiefly in alluveal soil; frequent. August—September 15th.
A form without pubescence between the prickles is occasionally found.

526. **X. canadense,** Mill., var. **echinatum,** Gray.
X. strumarium, L., var. *echinatum*, Gray.
Sandy soil near the lake shore, Evanston; rare. August.
Whiting, Indiana.

ECLIPTA, L.

527. E. ALBA, Hassk.
E. procumbens, Michx.
Banks of the Calumet river, near L. S. & M. S. R. R. bridge; rare. July. Observed during the seasons of 1882–'83–'85–'87.
In 1887, a few specimens were found bearing yellowish anthers. The plants had disappeared from this locality in 1889. (B.)
Seemingly indigenous, but possibly introduced from further east, as this is the only locality in our district from which it has been reported.

HELIOPSIS, Pers. Ox-eye. False Sunflower.

+ 528. **H. lævis,** Pers.
Dry banks, fields and copses; common. July—October.

+ 529. **H. scabra,** Dunal.
H. lævis, Pers., var. *scabra*, T. & G.
With the last; frequent. August—September. (B.)
Achenia slightly pubescent on the angles, the whole plant more or less roughish or hispid.

ECHINACEA, Moench.

530. **E. angustifolia,** D C. Purple Cone-flower.
Borders of woods and fence-rows; rare. June—August. (B.)
Glencoe. Maywood. Lake Calumet, 1886. Hinsdale, Du Page County, *Babcock.*

RUDBECKIA, L. Cone-flower.

531. **R. laciniata,** L.
Damp woods and banks; frequent. July 15th—September.

532. **R. triloba,** L.
Dry open woods; infrequent and scattered.
Ravenswood. Near Arlington Heights. Evanston, *Johnson.* (B.)
The rays of a few specimens collected near Maywood were ovate.

533. **R. subtomentosa,** Ph
Banks of streams and low prairies; frequent. August.

534. **R. hirta,** L. Yellow Daisy. Black-eyed Susan.
Dry soil; abundant. July—September, occasionally as late as November.
A form that is much smoother than the type is occasionally found in moist places.

535. R. FULGIDA, Ait.
South Chicago. I. C. R. R., near Woodlawn, July 4th, 1884. (B. P.)
Evidently introduced from the South.

LEPACHYS, Raf.

536. **L. pinnata,** T & G.
Dry banks, prairies and open woods; infrequent. July.

HELIANTHUS, L. Sunflower.

537. H. ANNUUS, L. Common Sunflower.
This species has escaped from cultivation to some extent, but seemingly does not become established. (B.)

538. **H. rigidus,** Desf.
Dry prairies and fence-rows; infrequent or rare. August. (B.)

539. **H. lætiflorus,** Pers.
Open fields and prairies; not common. August—October.
Usually very rough. A smoother form is occasionally found in the prairies west of Chicago.

540. **H. occidentalis,** Riddell.
Dry prairies and barrens; common southward. July—September.

541. **H. mollis,** Lam.
Sandy soil, mainly in the Calumet Region and southeast; not rare. August—September.
Occasionally found elsewhere.

542. **H. grosse-serratus,** Martens.
Dry prairies and fence-rows; not common. August—September.
Heads often nearly 4 inches in diameter. A form with almost entire leaves has been noted at Riverside.

543. **H. giganteus,** L.
Wet woods and swamps; not rare. August—September. Mainly south.
The number of rays varies from 12 to 22.

544. **H. giganteus,** L., var **ambiguus,** T. & G.
Rare.
Near Stony Island, 1884. (B. P.)

545. **H. divaricatus,** L.
Barren places, chiefly south; frequent. July 20th—September. (B.)

546. **H. hirsutus,** Raf.
Dry soil; infrequent. July—August. (B.)
Evanston. Riverside. Englewood. Desplaines. Along the canal near Summit.
Rays usually 10 to 12. Rarely $1\frac{1}{2}$ inches long.

547. **H. strumosus,** L.
Banks of streams and swamps; common. August—September. (B.)

548. **H. strumosus,** L., var. **mollis,** T. & G.
Riverside, near the Desplaines river. Banks of the Calumet. Near Miller's, Ind.; rare. July 1884–'85–'87. Washington Heights, *Hill.* (B. P.)

549. **H. tracheliifolius,** Willd.
Hyde Park and south; not common, *Babcock!*

550. **H. decapetalus,** L.
Banks of streams and low copses; common. August—September.
Rays 9 to 15.

551. **H. tuberosus,** L. Jerusalem Artichoke.
H. doronicoides, in Manual, 5th Ed.
South Chicago, *University of Chicago Herb.* Bottoms of Thorn Creek, near Glenwood, *Hill.* (B.)

VERBESINA, L.

552. **V. helianthoides**, Michx. Verbesina. Crown-beard.
Actinomeris helianthoides, Nutt.
Near Pullman; rare. Hinsdale, Du Page County; rare, *Babcock*. (B.)

ACTINOMERIS, Nutt.

553. **A. squarrosa**, Nutt. Actinomeris.
Dry, rich soil; generally distributed but infrequent. August—September. (B).
In moist soil, a form with the stem free from wings is occasionally found.

COREOPSIS, L. Tick-seed.

554. **C. lanceolata**, L.
In damp places; frequent, especially southward. June—July.

555. **C. palmata**, Nutt.
Dry soil; frequent southward, less common elsewhere. June—August.

556. **C. tripteris**, L. Tall Coreopsis.
Rich and rather dry soil; common, at least southward. June—September.

557. **C. trichosperma**, Michx. Tick-seed Sunflower.
Swamps and wet grounds; infrequent. September.

558. **C. trichosperma**, Michx., var. **tenuiloba**, Gray.
In similar localities with the species, but less frequent. (B. P.)

559. **C. aristosa**, Michx.
Moist places; frequent. August—October.

560. **C. aristosa**, Michx., var. **mutica**, Gray.
Near Lake Calumet; rare, 1888. (B.)

BIDENS, L.

561. **B. frondosa**, L. Common Beggar-ticks. Stick-tight.
Moist places; common or abundant. July—September.

562. **B. connata**, Muhl. Swamp Beggar-ticks.
Wet places; common. August—September.

563. **B. connata**, Muhl., var. **comosa**, Gray.
September.
A few specimens were found in 1887 near South Chicago. Colehour, Ind., *Hill*. (B.)

564. **B. cernua,** L. Smaller Bur-Marigold.
Swamps and wet places; frequent. August—September. (B)
Within our limits the rays are often more prominent in those forms growing in shaded places, and on the earlier flowers.

565. **B. chrysanthemoides,** Michx. Larger Bur-Marigold.
Swamps and wet places; common, occasionally abundant. August—October,—in 1887 as late as November.
Probably confined to the eastern portion of our district.

566. **B. beckii,** Torr. Water-Marigold.
In shallow water, Lake Calumet, 1884–'86. Desplaines river, *University of Chicago Herb.* Near Miller's, Ind., infrequent, August. Calumet river, near South Chicago, 1887, *Hill!*
The lower leaves may be mistaken for those of Ranunculus aquatilis, L. (B.)

GALINSOGA, Ruiz & Pavon.
567. G. PARVIFLORA, Cav. Galinsoga.
Chicago, August, 1886, *Bastin.* (B. P.)

HELENIUM, L.
568. **H. autumnale,** L. Sneeze-weed.
Banks of streams and wet places; common. August—September.

DYSODIA, Cav.
569. D. CHRYSANTHEMOIDES, Lag. False Dog-Fennel.
Adventive on I. C. R. R.; common near crossing of L. S. & M. S. R. R.; rare near 22nd St. Station, *Babcock!*

ANTHEMIS, L.
570. A. COTULA, D C. May-weed. Dog-Fennel. Mather.
Maruta cotula, D C.
Roadsides and waste grounds; abundant. July 15th—November.

571. A. ARVENSIS, L. Corn or Field Chamomile.
Old and waste fields; rare. July. . (B. P.)
Seemingly established near Evanston, and in a few places in the northwestern part of the county, near Palatine.

ACHILLEA, L.
572. **A. millefolium,** L. Common Yarrow or Milfoil.
Fields, roadsides, etc.; common, occasionally abundant in the northern and western portions of the district. June—October.
The rose colored form is reported from Winnetka; frequent at Riverside, Palatine and Maywood.

CHRYSANTHEMUM, Tourn.

573. C. LEUCANTHEMUM, L. White-weed. Ox-eye or White-Daisy. Marguerite.

Leucanthemum vulgare, Lam.

Railroad banks and dry fields; infrequent. September.

Along the Wisconsin division of the C. & N. W. R. R. to the limits of the county. From South Chicago southeast, along the L. S. & M. S. R. R.; frequent. Becoming more common each season, in spite of those who collect it for its beauty and for sale.

A common and noxious weed in the East.

574. C. PARTHENIUM, Pers. Feverfew.

Leucanthemum parthenium, Godron.
Matricaria parthenium, L.

Sparingly escaped from cultivation at Evanston. (B. P.)

TANACETUM, L.

575. T. VULGARE, L. Common Tansy.

Escaped from cultivation to roadsides; common only locally and in only a few localities. July—August.

Glencoe. Miller's, Ind. Maywood. Banks of Lake Calumet, *Bastin.*

ARTEMESIA, L. Wormwood.

576. **A. caudata,** Michx.

Sandy soil of the lake shore; rare. August. (B.)

Evanston. Lake Calumet. Short distance north of Cheltenham Beach, 1883–'85–'87. Englewood, *Dodge.*

This species may be found more frequently.

577. **A. canadensis,** Michx. Sea Wormwood.

Along the lake shore, both north and south; frequent. August. (P.)

A pubescent form is not infrequent.

+ 578. **A. ludoviciana,** Nutt. Western Mugwort. Brighton Park

The form with undivided leaves—var. gnaphalodes, of Gray's Manual, 5th Ed.—has been found in sandy soil along the lake shore from Jackson Park to the county line, and south in Indiana to Miller's. From this locality but a half-dozen specimens have come to our knowledge, collected during the years 1884–'86. (B.)

579. **A. biennis,** Willd. Biennial Wormwood.

Dry open grounds; common. July—August.

SENECIO, Tourn.

580. **S. aureus,** L. Golden Ragwort. Squaw-weed. Groundsel.

Shaded swamps and wet places; common or abundant. May—July.

581. **S. aureus,** L., var. **obovatus,** T. & G.
Moist prairies and shaded places; not common. June. (B.)

582. **S. aureus,** L., var. **balsamitæ,** T. & G.
Dry banks and occasionally in fields; frequent, more common in the northwestern portion of our district. June. (B.)

CACALIA, L.

583. **C. suaveolens,** L. Indian Plantain.
Moist rich woods; very rare. September, 1885–'87.
Near Casella, Ind. (B.)

584. **C. atriplicifolia,** L. Pale Indian Plantain.
Near Riverside; rare. August. Desplaines river, near Maywood, *Babcock.* Sandy woods, Hammond, Ind., *Hill.*

585. **C. tuberosa,** Nutt. Tuberous Indian Plantain.
Moist prairies; common. June—July.
The leaves are either smooth or slightly pubescent, the latter when in drier soil.

ERECHTHITES, Raf.

586. **E. hieracifolia,** Raf. Fire-weed.
Moist open woods and clearings; frequent. July 20th— September, occasionally as late as November.
It is liable to occur in new localities when the soil is disturbed or timber removed.

ARCTIUM, L.

587. A. LAPPA, L. Common Burdock.
Lappa officinalis, Allioni.
Including var. *majus,* Gray.
In waste places; common, often abundant. July—October.

588. A. LAPPA, L., var. MINUS, Gray.
Lappa officinalis, Allioni, var. *minor,* Gray.
With the type. (B. P.)

CNICUS, Tourn. (Circium, D C.)

589. C. LANCEOLATUM, Hoffm. Common Thistle.
Fields, roadsides and waste places; common or abundant. July—September.

590. **C. pitcheri,** Torr. Pitcher's Thistle.
Sandy soil of the lake shore, both north and south; quite frequent in Lake County, Ind. June—July.

591. **C. undulatus,** Gray. Thistle.
Pine Station, north to Colehour, Ind.; rare.
Plants usually not very canescent, only whitish; 1 to 2 feet high; heads generally single; not very common, Pine Station, Ind., *Hill.* (B. P.)
This form does not have the true characteristics of C. undulatus, and may possibly be a variety of C. pumilus. We place it here provisionally.*

592. **C. altissimus,** Willd. Tall Thistle.
Fields and newly-cleared lands and in open woods; frequent. August.

593. **C. altissimus,** Willd., var. **discolor,** Gray.
C. discolor, Spreng.
With the type, especially southeast; frequent. July—August.

594. **C. muticus,** Ph. Swamp Thistle.
Swamps, wet fields and banks; frequent, especially southward. July 15th—September.
In drier soil it seldom attains a height of more than two feet.

595. C. ARVENSIS, Hoffm. Canada Thistle.
Prairies and waste places; common or abundant. July—September.
Along some of the streets in the outskirts of Chicago, it attains a height of 3 to 4 feet; on the open prairies, it is usually not over 6 inches. Much branched. Flowers often very pale rose-color, and a specimen near Garfield Park bore nearly white heads.

CENTAUREA, L.

596. C. CYANUS, L. Bluebottle. Bachelor's Button.
Escaped from cultivation at Evanston and Barrington, and is seemingly well established. July. (B. P.)

KRIGIA, Schreb.

597. **K. virginica,** Willd. Krigia. Dwarf Dandelion.
Sandy soil; rare. April—July.
Colehour, Ind., 1884–86. Miller's, Ind., July, *Bastin, Hill.* Lake, Ind., *Babcock.*

598. **K. amplexicaulis,** Nutt. Cynthia.
Cynthia virginica, Don.
Rich and moist fields and banks; frequent. June.

*Since the above was written, specimens have been sent to Mr. Canby, who considers it a new species, naming it C. hillii, in honor of Prof. E. J. Hill, who first made a critical study of the form. See Appendix I.

CICHORIUM, Tourn.

599. C. INTYBUS, L. Chicory.
On C. & N. W. R. R., east of Harlem, *Babcock*. (P.)

TRAGOPOGON, L.

600. T. PORRIFOLIUS, L. Oyster-plant. Salsify. Jerusalem Star.
Sparingly escaped cultivation, but apparently not established, at Evanston, 1887. (B. P.)

601. T. PRATENSIS, L. Goat's-beard. Joseph's-flower.
In 1888 a half-dozen specimens were found on Greenwood Boulevard, Evanston, and a few near South Evanston, on the lake shore. (B. P.)

HIERACIUM, Tourn.

602. **H. canadense**, Michx. Canada Hawkweed.
Open woods and dry banks; infrequent. August—September. (B.)

603. **H. paniculatum**, L. Hawkweed.
Dry woods; infrequent. August. (B.)
Specimens not more than 6 inches in height are quite often found in barren places.

604. **H. venosum**, L. Rattlesnake-weed.
Sandy soil; infrequent, chiefly south. July—August.
West of Berry Lake, Ind. Near Miller's, Ind. Normal Park, *Brennan*. (B. P.)

605. **H. scabrum**, Michx. Rough Hawkweed.
Dry open woods and shaded places; frequent. August. (B.)

606. **H. gronovii**, L. Hairy Hawkweed.
Sandy soil; not common. August. (B.)
Hammond, Ind., *Hill!*

607. **H. longipilum**, Torr. Long-bearded Hawkweed.
Open woods, near Stony Island; rare. (B.)
Evanston. Pine Station, Ind. Miller's, Ind., *Bastin*.

PRENANTHES, Vaill. Rattlesnake-root.

608. **P. racemosa**, Michx.
Nabalus racemosus, Hook.
Moist places, south; infrequent. August.
Hyde Park. Banks of the Desplaines river.

609. **P. aspera**, Michx.
Nabalus asper, T. & G.
Prairies and banks in dry soil; infrequent. August. (B.)

+ 610. **P. alba,** L. White Lettuce.

Nabalus albus, Hook.

Rich open woods and fence-rows in sandy soil; common. August—September.

611. **P. altissima,** L. Tall White Lettuce.

Nabalus altissimus, Hook.

Rich woods. September. (B.)

Whiting and Pine Station, Ind. Glencoe, *Johnson.* Stem 2 to 4 feet high, Whiting, Ind., *Hill.*

TARAXACUM, Haller.

612. **T. officinale,** Weber. Common Dandelion. Priest's Crown.

T. dens-leonis, Desf.

Everywhere abundant, less common in moist or prairie lands. March—November.

LACTUCA, Tourn.

613. L. SCARIOLA, L. Prickly Lettuce.

Roadsides and door-yards; infrequent. July—September. (B. P.)

614. **L. canadensis,** L. Wild Lettuce. Trumpet Milk-weed. Fire-weed.

Rich and damp soil in uncultivated portions of fields, fence-rows, borders of woods, etc.; common. July—September.

Flowers purplish.

615. **L. acuminata,** Gray. False Lettuce.

Mulgedium acuminatum, D C.

Borders of woods; infrequent or rare. August. (B.)

Evanston. Near Whiting, Ind., 1884–'85.

616. **L. leucophæa,** Gray. False Lettuce.

Mulgedium leucophæum, D C.

Low grounds, borders of woods, etc.; frequent. July—Sept. (B.)

617. **L. leucophæa,** Gray, var. **integrifolia,** Gray.

Rare. August, 1887–'88. (B. P.)

Near Kensington.

SONCHUS, L.

618. S. OLERACEUS, L. Common Sow-thistle.

Waste places near cultivated or rich soil; infrequent. August—September. (B.)

619. S. ASPER, Vill. Sow-thistle.
With the last, but possibly more common. August—September.

620. S. ARVENSIS, L. Field Sow-thistle.
By P. Ft. W. & C. R. R., Englewood, *Hill.* (B. P.)

LOBELIACEÆ.

LOBELIA, L. Lobelia.

621. **L. cardinalis,** L. Cardinal-flower.
Swampy places and low grounds; common locally. July—September.
A form with white flowers is occasionally found in the Calumet Region.

622. **L. syphilitica,** L. Great Lobelia.
Low grounds; common, locally abundant. August.
A white-flowered form is occasionally found near Niles. Flowers often purple or purplish.

623. **L. puberula,** Michx.
Ravenswood and north in sandy soil; infrequent. South Chicago, *University of Chicago Herb.* (B.)

624. **L. spicata,** Lam.
Sandy soil; frequent. June—August.

625. **L. kalmii,** L. Kalm's Lobelia.
Damp sandy banks; frequent. August—September.
Chiefly near the lake shore. South Chicago; common. Rogers Park; rare.

626. **L. inflata,** L. Indian Tobacco.
Prairies, open woods and dry fields; infrequent. July—September.

CAMPANULACEÆ.

SPECULARIA, Heister.

627. **S. perfoliata,** A. D C. Venus' Looking-glass.
Dry and sterile fields, etc.; infrequent or rare. June—July.
Riverside; rare, *Babcock!*

CAMPANULA, Tourn.

628. **C. rotundifolia,** L., var. **arctica,** Lange. Hairbell. Bluebell. Lady's-thimble.

C. rotundifolia, var. *linifolia*, in Manual, 5th Ed.

Bluffs on lake shore, both north and south; frequent south, rare north. June—August.

629. **C. aparinoides,** Ph. Marsh Bellflower.
Wet prairies and meadows; common. June—August
A large flowered form, with the corolla about 8 lines in length, is occasionally found in the Calumet Region.

630. **C. americana,** L, Tall Bellflower.
Moist open woods and wet shaded banks; frequent south, infrequent or rare elsewhere. July—August.
A branching form, 5 to 7 feet tall, has been occasionally noted in the rich open woods near Riverside.

ERICACEÆ.

GAYLUSSACIA, H. B. K.

631. **G. resinosa,** T. & G. Common Black Huckleberry.
In sandy soil; infrequent, more common south. May—July.
Near the lake shore, both north and south. Evanston. Rose Hill. Vicinity of Glencoe, *Babcock.*
Near Pine Station, Ind., two forms occur:
(*a*) Stem much branched, rigid, glabrous; leaves oval to rather broadly lanceolate, obtuse; racemes with from 4 to 8 flowers; corolla, less than 4 lines long; fruit black, rarely whitish; flowers in May or early June. The typical form.
(*b*) Stem but little branched, 2 feet high, pubescent, somewhat in lines; leaves oval, oblong, slightly resinous, mucronulate; racemes 6 flowered; corolla about 4 to 5 lines long; fruit blue-black; flowers in June; rare.

VACCINIUM, L.

632. **V. pennsylvanicum,** Lam. Dwarf or Low Blueberry. Huckleberry.
Sandy soil in open woods and on hillsides; infrequent from Hyde Park southward. April—June.
A second set of flowers is often produced in September.
The following forms grow at Hammond, Ind., *Hill*:
(*a*) Leaves glaucous; fruit black, without bloom; somewhat depressed globular; usually taller than the type!
(*b*) 8 to 15 inches high; leaves of a larger form, glaucous; flowers tinged with red.
(*c*) 8 to 15 inches high; leaves glaucous, narrow; flowers as in *b.*
(*d*) 8 to 15 inches high; leaves green, generally broader; flowers white!
(*e*) 4 to 8 inches high; leaves green, narrow; flowers white!
(*f*) 4 to 8 inches high; leaves glaucous; flowers nearly white.

633. **V. canadense,** Kalm. Canada Blueberry.
Swamps; apparently rare.
Near borders of Lake Calumet, 1882–'87. Egondale, 1886. Thornton, *Hill.* (B.)
This species is so easily mistaken for V. pennsylvanicum, Lam., collections from low swamp regions, should be examined with care.

634. **V. vacillans,** Solander. Low Blueberry.
Dry sandy woods, south; infrequent. May—June. (B.)
Clarke, Ind. Bluffs east of Cassella, Ind. Thornton, *Hill.* Miller's, Ind., *Bastin.*

635. **V. corymbosum,** L. Swamp or High Blueberry. Huckleberry.
Borders of swamps, especially south; frequent. May. (B.)
Specimens of this species thus far found, show that it is very variable.
The following forms are found at Miller's, Ind., *Hill:*
(*a*) With siliate-serrulate leaves, pubescent, mainly on the veins beneath, pale, especially beneath, and sometimes glomerate-ciliate.
(*b*) With leaves nearly or quite entire, margins ciliate, smooth, or occasionally pubescent on the midrib beneath, longer, green and glossy both sides, when young, pubescent in lines!
(*c*) With leaves serrate-crenate without ciliæ, smooth.

636. **V. corymbosum,** L., var. **glabrum,** Gray.
With leaves entire, except with slight inclination to be serrulate at the tip in some cases; smooth, pale beneath; green and glossy above, Miller's, Ind., *Hill!* (B. P.)

637. **V. corymbosum,** L., var. **amœnum,** Gray.
Miller's, Ind., *Hill!* (B. P.)
With ciliate-serrulate leaves, nearly or quite without pubescence, and often nearly without ciliæ.

638. **V. corymbosum,** L., var. **pallidum,** Gray.
Wet thickets.
Miller's, Ind., *Hill!* (B. P.)

639. **V. macrocarpon,** Ait. Large American Cranberry.
Swamps and open bogs near the lake shore, both north and south; infrequent north, common south. June—August.

ARCTOSTAPHYLOS, Adans.

640. **A. uva-ursi,** Spreng. Bearberry Kinnikinnick.

97 Barrens and sandy places; rare, except locally. May—July.

Formerly found at the foot of Greenwood Boulevard, Evanston. In 1886 a few specimens were collected near Windsor Park, and near Lakeside in 1884 Quite common in the barrens from Miller's, Ind., north to South Chicago. Found sparingly near the Reform School, *Babcock.*

GAULTHERIA, Kalm.

97 641. **G. procumbens,** L. Creeping Wintergreen. Checkerberry. Teaberry.

On the sand bluffs and barrens from Colehour south, under the evergreens, it is quite common. Niles woods; rare, *Miss G. A. Raddin.*

CASSANDRA, Don.

97 642. **C. calyculata,** Don. Leather-leaf.

Borders of sandy sloughs, Lake County, Ind.; common. April 25th—July. (P.)

RHODODENDRON, L.

643. R. NUDIFLORUM, Torr. Purple or Pink Azalea. Pinxter-flower.

Azalea nudiflora, L.

A single specimen was found in May, 1886, in damp woods, not far from the north end of Lake Calumet. The shrub was about 5 feet high; the flowers were mainly pink; stamens 10. This locality was cleared in 1887, and the shrub destroyed. (B.)

☞**Epigæa repens,** L., is found near Michigan City, Ind., on the sand hills, also three miles north of Porter's, Ind., at the mouth of West City Creek; this is twelve miles southeast of our limits, *Hill.*

CHIMAPHILA, Ph.

644. **C. umbellata,** Nutt. Prince's Pine. Wintergreen.

97 Dry woods, both north and south, near the lake shore; infrequent, more common south. June—July 15th.

645. **C. maculata,** Ph. Spotted Wintergreen.

Pine woods, Edgemoor, Ind., *Hill!* (B. P.)

PYROLA, Tourn.

646. **P. secunda,** L. Wintergreen. Shin-leaf.

97 Clarke, Ind., *University of Chicago Herbarium.* Miller's and Pine Station, Ind.; rare, *Babcock, Bastin!* (P.)

647. **P. chlorantha,** Swartz.

Open woods in sandy soil from Whiting, Ind., southeast; infrequent. June. (B.)

648. **P. elliptica,** Nutt.

Rich woods; infrequent, but generally distributed. June 25th—July. Glencoe. South Evanston. Hyde Park. Riverside. Egondale. Desplaines. Calumet Region. Miller's and Pine Station, Ind. Flowers were found as late as September in 1887.

649. **P. rotundifolia,** L. False Wintergreen.

Woods, on sand ridges and borders of sloughs; infrequent, from Pine Station, Ind., south to limits. June 25th—July. (B. P.)

650. **P. rotundifolia,** L., var. **asarifolia,** Hook.

P. asarifolia, Michx.

Woods near Miller's, Ind.; rare. June, 1886. (B. P.)

MONOTROPA, L.

651. **M. uniflora,** L. Indian Pipe. Corpse-Plant.

Rich woods; rare. July.

Wilmette. Lamont. Berry Lake, Ind. Woods of the Calumet Region. Glencoe and Riverside, *Babcock!*

A specimen found near Lamont had 10 perfect stamens, and 2, seemingly rudimentary, without anthers.

PRIMULACEÆ.

DODECATHEON, L.

652. **D. meadia,** L. American Cowslip. Shooting-Star.

Fields, roadsides, etc.; common, often abundant. May—July.

White flowered forms are quite common; four merous forms are very rare.

TRIENTALIS, L.

653. **T. americana,** Ph. Star-flowered Chickweed. Chickweed-Wintergreen.

Damp woods; frequent south, rare south and west. May—June 15th. (P.)

Miller's, Ind., frequent.

STEIRONEMA, Raf. Loosestrife.

654. **S. ciliatum,** Raf.

Lysimachia ciliata, L.

Low prairies and woods, banks of streams, etc.; common. June—July.

655. **S. lanceolatum,** Gray.

Lysimachia lanceolata, Walt.

Swampy places, damp open woods and fields; frequent or common. June—July.

656. **S. lanceolatum,** Gray, var. **hybridum,** Gray.
Lysimachia lanceolata, Walt., var. *hybrida,* Gray.
L. hybrida, Michx.
With the type; rare. July. (B. P.)
Hyde Park. Englewood, *Bastin.*

657. **S. longifolium,** Gray.
Lysimachia longifolia, Ph.
Banks of streams, moist places, fence-rows, etc.; common or abundant. July—September.

LYSIMACHIA, Tourn. Loosestrife.

658. **L. quadrifolia,** L.
Banks of streams and low sandy grounds; apparently infrequent or rare. June. (B. P.)

659. **L. stricta,** Ait.
Swamps and low places; infrequent. June—August, often as late as September.

660. L. NUMMULARIA, L. Moneywort.
Sparingly escaped from cultivation at Evanston. July—August. (B. P.)

661. **L. thyrsiflora,** L. Tufted Loosestrife.
Naumbergia thyrsiflora, Moench.
Swamps and sloughs from Hyde Park, southward; infrequent. May—June.
Style frequently protruding before the flower opens, *Hill*

SAMOLUS, Tourn.

662. **S. valerandi,** L., var. **americanus,** Gray. Brook-weed. Water-Pimpernel.
Wet sandy banks; infrequent. June—August.
Calumet Region. Thatcher; rare, *Babcock.*

OLEACEÆ.

FRAXINUS, Tourn.

663. **F. americana,** L. White Ash.
Rich and usually low woods; frequent. April—May.

664. **F. pubescens,** Lam. Red Ash.
Banks of Lake George, near Whiting, Ind., July, *Hill.* Banks of Berry Lake, Ind., in May, 1886; a single tree. (B.)

665. **F. viridis,** Michx.f. Green Ash.
Banks of the Desplaines river, near Maywood. Banks of streams and lakes southeast; infrequent or rare. May. (B.)

666. **F. sambucifolia,** Lam. Black Ash.
Swamps from Grand Crossing, south and southeast; infrequent. April—May. (B.)

APOCYNACEÆ.

APOCYNUM, Tourn.

667. **A. androsæmifolium,** L. Spreading Dogbane.
Borders of woods, fence-rows and copses; common. June 25th—August 10th.
Two forms occur:
(*a*) Glabrous; common.
(*b*) Tomentose, especially on the under side of the leaves; rare.

668. **A. cannabinum,** L. Indian Hemp.
Banks of streams, borders of woods, moist roadsides, etc.; common. July—August.
Polymorphous. The various forms can hardly be considered varieties. Specimens have been found in the Calumet Region that were 5 feet high. Prostrate forms occur in dry places.

ASCLEPIADACEÆ.

ASCLEPIAS, L. Milkweed.

669. **A. tuberosa,** L. Butterfly-weed. Pleurisy-root. Indian Posy.
Sandy soil; frequent or common in the eastern portion of our district, especially southeast, in Lake County, Ind. August.
Specimens sometimes attain a height of 3 feet, and have deep orange-red flowers.

670. **A. purpurascens,** L. Purple Milkweed.
Dry banks, borders of woods and copses; not common. June 15th—July.
Chiefly from Riverside and Hyde Park southeast.
This species often reaches a height of 4 to 5 feet.

671. **A. incarnata,** L. Swamp Milkweed.
Swamps, wet banks and fields; common, or abundant south. July.

672. **A. incarnata,** L., var. **pulchra,** Pers.
With the type; infrequent. June—July. (B. P.)

673. **A. cornuti,** Decaisne. Common Milkweed. Silkweed.
Fields, bluffs and roadsides; common or abundant. July—August.
It is said that silk fabric is successfully made from the long silky hairs of the seeds.

674. **A. sullivantii,** Engelm. Sullivant's Milkweed.
Moist or swampy places; frequent, especially southward. July.

675. **A. obtusifolia,** Michx.
Sandy soil, east; infrequent or scattered. June—July.

676. **A. phytolaccoides,** Ph. Poke Milkweed.
Moist shaded banks, open woods and copses; infrequent or rare. June 15th—July.
Rogers Park. North of Lincoln Park and west to limits. Riverside. South Chicago. Grand Crossing and south.

677. **A. ovalifolia,** Decaisne.
Near Stony Island; very rare, two specimens were found in 1886. Ravenswood. Glencoe. (B.)

678. **A. quadrifolia,** L. Four-leaved Milkweed.
Borders of woods; rare. June. (B.)
Maywood. East of Woodlawn, 1887.

679. **A. verticillata,** L. Whorled Milkweed.
Dry sandy soil; bluffs and hills of the eastern portions; infrequent, more common on sand hills, southeast.

ACERATES, Ell. Green Milkweed.
680. **A. longifolia,** Ell.
South Evanston; infrequent. Riverside and Hyde Park; common, *Babcock!* Calumet; moist places, *C. P. Murry.* Clarke, Ind., *Bastin!*

681. **A. viridiflora,** Ell.
Dry grounds throughout the eastern portion of our district; infrequent and scattered. July—August.

GENTIANACEÆ.

SABBATIA, Adans.
682. **S. angularis,** Ph. American Century.
Rich and dry sandy soil, near the sloughs, southeast; frequent.
Abundant on shores of sandy sloughs at Miller's, Ind., *Babcock!*

GENTIANA, Tourn.
683. **G. crinita,** Froel. Fringed Gentian.
Low grounds; frequent or common, locally. August—October.

684. **G. serrata,** Gunner. Smaller-fringed Gentian.
G. detonsa, Frees.
North, it is frequently found with G. crinita in moist places; frequent south, less frequent elsewhere. August—October.

685. **G. quinqueflora,** Lam. Five-flowered Gentian.
Rather moist gravelly banks and wooded ravines; infrequent, and mainly from Riverside northward. August 15th—September.

686. **G. puberula,** Michx. Gentian.
Dry prairies; Ravenswood and vicinity; frequent. Grand Crossing and Woodlawn. Norwood Park. Palatine; rare, 1886. Barrens southeast; infrequent or rare. Hyde Park; not common, *Babcock!* August.

687. **G. saponaria,** L. Soapwort Gentian.
Dry banks; Lake Bluff, Lake County, Ills., *Herman Jaeger.* Pine Station, Ind. Miller's, Ind., in damp ground, *Hill.* Thornton, *Hill,—in Plants of Illinois.* (B.)

688. **G. andrewsii,** Griseb. Closed Gentian. Cloistered Heart.
Wet fields, ditches and banks; common. August—October.
The white-flowered form has been found in rich shaded soil at Riverdale and Desplaines.

689. **G. alba,** Muhl. Whitish Gentian.
Low grounds and open woods, glades, etc. August—September 10th, occasionally in July.
Southeast from Grand Crossing and South Chicago. Riverside; rare, *Babcock!*

BARTONIA, Muhl.

690. **B. tenella,** Muhl.
South Evanston, in one locality it is quite common. August. (B.)
Miller's, Ind., *Bastin!* Borders of sloughs near Tolleston, and Miller's, Ind., associated with Nyssa sylvatica, Marsh., *Hill!*

MENYANTHES, Tourn.

691. **M. trifoliata,** L. Buck-bean.
Bogs and wet places; not common, except locally. May—June.
Riverside. Hyde Park, south and southeast.

POLEMONIACEÆ.

PHLOX, L. Phlox.

692. **P. paniculata,** L.
Rich woods and damp shaded banks; not common, except locally. June. (B.)
Glencoe. Niles. Riverside.
An area of several square feet near Berry Lake, Ind., was annually covered with the white-flowered form until the season of 1889, when the locality was cleared and ploughed.

693. **P. maculata,** L. Wild Sweet-William.
Rich woods and banks of streams; not common. June. (B.)
Glencoe. Niles. Maywood. Riverside.

694. **P. glaberrima,** L.
Prairies and open rich woods, south; frequent. July.
Our specimens usually have a rose-red corolla.

695. **P. pilosa,** L. Hairy Phlox.
Prairies and open woods; common or abundant. May—July.
During the season of 1885, nearly all specimens examined were smooth. The white-flowered form is quite frequent.

696. **P. divaricata,** L.
Rich and damp open woods and banks; frequent. May—June.
Common in the Calumet Region and at Riverside.
Two forms occur:
(*a*) Petals slightly obcordate, lilac or bluish; leaves chiefly ovate, or ovate-lanceolate.
(*b*) Petals entire, or only slightly emarginate, lilac, bluish or nearly white; leaves frequently lanceolate.

697. **P. bifida,** Beck.
Sandy soil of the eastern portion of our district; common, especially southward. May—June.
Plant slightly pubescent, rarely nearly or quite smooth.

POLEMONIUM, Tourn.

698. **P. reptans,** L. Greek Valerian.
Rich woods and damp shaded banks; frequent locally. May—June.
In very rich and damp woods the corolla is often a deep blue.

HYDROPHYLLACEÆ.

HYDROPHYLLUM, Tourn. Waterleaf.

699. **H. macrophyllum,** Nutt.
Rich woods; rare. June 25th—July. (B.)
Niles. Bowmansville.

700. **H. virginicum,** L.
Damp woods throughout our district, especially in ravines of the northwest; frequent. May 20th—June.

701. **H. appendiculatum,** Michx.
Rich and damp woods, especially in ravines; infrequent. June—July. (B.)
The reflexed appendages of the calyx vary from $\frac{1}{6}$ to $\frac{1}{2}$ inch in length.

ELLISIA, L.

702. **E. nyctelea**, L. Ellisia.

Includes *E. ambigua*, Nutt.

Banks of the Desplaines river and streams of the Calumet Region; frequent. In damp places elsewhere; infrequent or rare. May—August.

BORRAGINACEÆ.

CYNOGLOSSUM, Tourn.

703. C. OFFICINALE, L. Common Hound's-tongue.

Waste grounds, etc.; common. May—July.

A white form is occasionally found.

The nutlets of the early flowers are often quite or absolutely smooth; usually they are simply rough.

704. **C. virginicum**, L. Wild Comfrey.

Prairies near Hawthorn; rare, 1886. Open woods in the northern part of our district; infrequent. June—July. (B.)

ECHINOSPERMUM, Lehm.

705. **E. virginicum**, Lehm. Beggar's Lice. Stickseed. Stick-tight. Beggar-tick.

Cynoglossum morisoni, D C.

Open woods and copses; common. July—August.

706. E. LAPPULA, Lehm. Stick-seed.

Waste places, and as a weed in gardens; common. July—August.

MERTENSIA, Roth.

707. **M. virginica**, D C. Blue-bells. Smooth Lungwort. Virginian Cowslip.

May be found established along roadsides, having escaped cultivation.

Riverside, *Babcock!* North branch Chicago river, *Bastin.* Blue Island, *Dodge.*

MYOSOTIS*, Dill.

708. **M. verna**, Nutt. Forget-me-not.

South Evanston and northward; rare. May 25th—June.

Riverside; rare, *Babcock.* Normal Park; not common, *Brennan.* Englewood; dry ground, *Hill.*

LITHOSPERMUM, Tourn.

709. L. ARVENSE, L. Corn Gromwell.

Sandy soil; infrequent. April 25th—July. (B.)

*M. PALUSTRIS, With., is frequently cultivated, and may be found in wet places, adjacent to gardens.

710. **L. latifolium,** Michx. Broad-leaved Gromwell.
Rich open woods and shaded banks; infrequent. June. (B.)
North branch Chicago river. Riverside. Maywood. Casella, Ind.

711. **L. hirtum,** Lehm. Hairy Puccoon.
In sandy soil; common, especially on the sand dunes or ridges southeast April—July, occasionally as late as September.
With dimorphous flowers, open sandy woods, Englewood, *Hill.*
Both the forms mentioned by Dr. Gray in his Synoptical Flora of North America, occur here:
(*a*) Form with the stamens inserted in the middle of the corolla, and the style rising to the throat.
(*b*) Form with the style rising to the middle, and the stamens in the throat. Evanston

712. **L. canescens,** Lehm. Hoary Puccoon. Alkanet.
Prairies and open woods, in sandy soil; abundant, especially eastward. April—June.

713. **L. angustifolium,** Michx. Narrow-leaved Gromwell.
Includes *L. longiflorum*, Spreng.
Sandy soil on hillsides, banks of streams, prairies, and dry open woods.
A rather local species producing cleistogamous blossoms all summer.

ONOSMODIUM, Michx.

714. **O. carolinianum,** D C. False Gromwell.
Calumet river; rare, 1887, a single specimen. Banks of the Desplaines river; infrequent. July. (B.)

715. **O. carolinianum,** D C., var. **molle,** Gray. False Gromwell.
O. molle, Michx.
Dry ground; Evanston, *Boltwood.* (B.)

CONVOLVULACEÆ.

IPOMŒA, L.

716. I. COCCINEA, L. Cypress-vine.
Quamoclit coccinea, Moench.
Wild on sand banks; Englewood, *Hill.* (B.)

717. I. PANDURATA, Meyer. Wild Potato-vine.
Riverside; rare, *Babcock!*

CONVOLVULUS, Tourn.

718. **C. spithamæus,** L. Bracted Bindweed.
Calystegia spithamæa, Ph.
Dry sandy soil, mostly in the eastern portion of our district; not common. June. (B.)

719. **C. sepium,** L. Hedge Bindweed.

Calystegia sepium, R.Br.

Moist banks, woods, prairies, etc., mostly in alluvial soil; common. June—August.

720. **C. sepium,** L., var. **americanus,** Sims.

With the type. (B. P.)

721. **C. sepium,** L., var. **repens,** Gray.

Calystegia sepium, R.Br., var. *pubescens,* Gray.

With the type; frequent. July—August. (B. P.)

722. C. ARVENSIS, L. Bindweed.

Near South Evanston; rare, July, 1887. Pine Station, Ind., *Bastin, Hill.* (B. P.)

CUSCUTA, Tourn. Dodder.

723. **C. chlorocarpa,** Engelm.

On Polygonum lapathifolium, L., var. incarnatum, Watson., near the outlet of Lake Calumet; rare, June, 1885. (B.)

On Euphorbia, Aster and Fragaria, at Miller's, Ind., *Hill!* On Solidago, Colehour, Ind.

724. **C. gronovii,** Willd.

Banks of streams, rich open woods, etc.; frequent. August—September.

Mostly on Compositæ and Polygonum.

Two forms occur:

(*a*) Flower 5-merous; common.

(*b*) Flower 4-merous; rare.

725. **C. glomerata,** Choisy.

In rich and damp soil; rare. July—August. (B.)

Mostly on Helianthus.

Niles. Riverside. Berry Lake, Ind.

SOLANACEÆ.

SOLANUM, Tourn.

726. S. DULCAMARA, L. Bittersweet.

In waste places near dwellings. July. (B.)

Evanston. South Chicago.

727. **S. nigrum,** L. Common Nightshade.

Waste places and dry fields; common. July—September.

728. **S. carolinense,** L. Nightshade. Horse-nettle.
South Chicago. Colehour, Ind., July. Near Union Stock Yards, *Babcock.* Grand Crossing, *Bastin!*

729. S. CAROLINENSE, L., var. FLORIDANUM, Chap.
By Ft. Wayne R.R., near Englewood, *Hill.*
Mainly a form with deep-lobed leaves,—*Gray's Synoptical Flora of North America.* (B. P.)

730. S. ROSTRATUM, Dunal. Nightshade.
Tolleston, Ind., on Ft. Wayne R.R., near Calumet bridge, *Hill.* South Chicago, August, 1886, *A. B. Martin.* Dune Park, Ind., 1890. (B.)

PHYSALIS, L.

731. **P. virginiana,** Mill. Ground Cherry.
P. viscosa, in Manual, 5th Ed.
Dry and sandy soil; common. July—September.

732. **P. lanceolata,** Michx. Ground Cherry.
P. pennsylvanica, in Manual, 5th Ed.
Dry places, usually in sandy soil; frequent. July—September.

DATURA, L.

733. D. STRAMONIUM, L. Stramonium. Thorn-Apple.
Old fields and waste grounds around dwellings and roadsides; frequent. August—September.

734. D. TATULA, L. Purple Thorn-Apple.
Evanston; a single specimen, August, 1882.
Apparently a waif. (B.)

NICOTIANA, Tourn.

735. N. RUSTICA, L. Wild Tobacco.
Old and dry fields, near Evanston; rare, August, 1882.
Supposed to be a relic of Indian cultivation. (B. P.)

SCROPHULARIACEÆ.

VERBASCUM, L.

736. V. THAPSUS, L. Common Mullein. Shepherd's Club.
Dry fields, banks and roadsides; common, often abundant. June 15th—August, rarely as late as November.
The white-flowered form is rarely found. In 1887, it was quite common in the fields around South Chicago, and northward to Woodlawn.

737. V. BLATTARIA, L. Moth Mullein. *
Evanston, 1885, rare. Whiting, Ind. Cassella, Ind., *Hill.* (B.)
S. add to Garfield Park 1895

LINARIA, Tourn.

738. **L. canadensis,** Dumont. Wild Toad flax.
Sandy soil; frequent in the eastern portion of our district. May—July. (B.)

739. L. VULGARIS, Mill. Toad-Flax. Butter-and-Eggs. Ramsted. Rancid.
Old fields, banks and roadsides; frequent, locally common. June—September.
It occasionally grows very high. Specimens on the campus at Evanston measured 4 feet in height.

SCROPHULARIA, Tourn.

740. **S. nodosa,** L., var. **marilandica,** Gray. Fig-wort.
S. nodosa, L., in Manual, 5th Ed.
Damp grounds, banks of streams, borders of woods, fence-rows, etc.; common. June—August.
Specimens have been noted in several localities that were over 5 feet in height.

COLLINSIA, Nutt.

741. **C. verna,** Nutt. Collinsia. Innocence.
Swamps or low prairies; frequent. June.
Calumet Region. Wilmette, *Miss Belle Alling.* Riverside, *Babcock.* River Park and Maywood, *Bastin.* Blue Island, *Dodge.*
Flowers occasionally of uniform color, either blue or white.

CHELONE, Tourn.

742. **C. glabra,** L. Turtle-head.
Damp or wet places; frequent. July—September.
Often over 4 feet in height. The leaves are rarely doubly serrate.

PENSTEMON, Mitch. Beard-tongue.

743. **P. pubescens,** Solander.
Dry ground; infrequent. June—August.
Sometimes entirely glabrous. Flowers usually somewhat variegated or uneven in color.

744. **P. lævigatus,** Solander, var. **digitalis,** Gray.
P. digitalis, Nutt.
Moist rich soil; frequent. July—August.
Glencoe. Evanston. Bowmansvillle. Riverside. Calumet Region. Englewood, *Bastin.* Forest Hill, *Dodge!* Normal Park, *Brennan.*
The type may be found within our limits.

+ P. laevigatus Sol. Moist rich soil. C M W right of way West of River Forest. Frequent locally. Bow

MIMULUS, L. Monkey-flower.

745. **M. ringens**, L.
Swamps, ditches and wet banks; common. July—August.

746. **M. jamesii**, Torr.
Near Miller's, Ind. Found only in July, 1885. This locality has not been visited since, at the proper season.
It will probably be found in other localities. (B.)

GRATIOLA, L.

747. **G. virginiana**, L. Hedge-Hyssop.
Wet prairies and banks; frequent or common. June 20th—July.

748. G. SPHÆROCARPA, Ell. Hedge-Hyssop.
Evanston, *Boltwood!* (B.)

ILYSANTHES, Raf.

749. **I. riparia**, Raf. False Pimpernel.
I. gratioloides, Benth.
Wet places; infrequent. July—August.
Chiefly in the Calumet Region. Near Miller's, Ind.; rare, *Babcock!*

VERONICA, L.

+ 750. **V. virginica**, L. Culver's Physic.
Rich woods, moist banks and prairies; frequent. July—August.

751. **V. anagallis**, L. Water Speedwell.
Borders of streams and lakes, ditches and wet prairies; southward, frequent, elsewhere infrequent. July.
Flowers occasionally entirely blue.

752. **V. americana**, Schwein. American Brooklime or Speedwell.
Brooks and ditches and borders of lakes and sloughs; frequent. June—August. (B.)

+ 753. **V. scutellata**, L. Marsh Speedwell.
Niles woods; rare. June—July.
Swamps near Lake Calumet; frequent. Stony Island, *Hill!* Riverside; rare, *Babcock.*

754. **V. serpyllifolia**, L. Speedwell.
Roadsides and dry fields; common. May—August. (B.)
Spreads rapidly.

755. **V. peregrina**, L. Neck-weed. Purslane Speedwell.
Cultivated and waste grounds, roadsides, etc.; common. May—June.

756. V. ARVENSIS, L. Corn Speedwell.
Cultivated grounds near Austin; infrequent. May—June.
Glencoe and Winnetka; common, *Babcock.*

BUCHNERA, L.

757. **B. americana,** L. Blue-Hearts.
Moist sandy soil, in pine barrens southward; usually not common. July—September.
Miller's, Ind.; frequent. Pine Station, Ind., *Babcock!* Edgemoor, Ind.; frequent, *Johnson!* Normal Park, *Brennan.*

SEYMARIA, Ph.

758. **S. macrophylla,** Nutt. Mullein-Foxglove.
Banks of the Desplaines river, near Riverside, July, *Babcock!*

GERARDIA, L. Gerardia.

759. **G. pedicularia,** L. Lousewort. Foxglove.
Dry open woods and copses; infrequent. August.

760. **G. flava,** L. Downy False Foxglove.
Open woods and shrubby fields; infrequent or rare. August—September. (B.)
Niles woods. Riverside. Lamont. Normal Park, *Brennan.*

761. **G. quercifolia,** Ph. Smooth False Foxglove.
Rich woods and banks; frequent. July—August.

762. G. LÆVIGATA, Raf.

G. integrifolia, Gray.

South Chicago, *University of Chicago Herb.* (B.)

763. **G. auriculata,** Michx.
South of Hyde Park Station; rare, *Babcock.* Exterminated at this point, but found further south. South Chicago and southward; infrequent or rare, August.
The white-flowered form is occasionally seen.

764. **G. purpurea,** L. Purple Gerardia.
Low grounds; common in the eastern portion of our district. August.

765. **G. purpurea,** L., var. **paupercula,** Gray.
In similar localities with the type; rare. July—August. (B. P.)
Near Berry Lake, Ind., 1884. Forsyth, Ind., *Hill.*

766. **G. tenuifolia,** Vahl. Slender Gerardia.
Rich woods and banks, north and east; not common. August—September.

767. **G. skinneriana**, Wood.
G. setacea, in Manual, 5th Ed.*
Dry soil; frequent or common south. July—August. (B.)
Evanston and northward; rare.

CASTELLEIA, Mutis.

768. **C. coccinea**, Spreng. Scarlet Painted-cup. Indian Pink.
Prairies and low grounds in sandy soil; common, often abundant. May—July.
The yellow-flowered form is quite frequent, seemingly in drier soil. Rogers Park. South Chicago. Hyde Park. Miller's, Ind., *Hill!*

PEDICULARIS, Tourn.

769. **P. canadensis**, L. Common Lousewort. Wood Betony.
Open woods, banks, etc.; common. May—June.
Purplish flowers are quite frequent.

770. **P. lanceolata**, Michx. Lousewort.
Wet open woods and swamps; frequent south, infrequent elsewhere. August—September, occasionally as late as October.

MELAMPYRUM, Tourn.

771. **M. americanum**, Michx. Cow-Wheat.
Glencoe; rare, *Babcock.* Maywood and Riverside, *S. R. Copeland.* Pine Station, Ind., *Bastin!* Gibson's and Miller's, Ind.; infrequent. (P.)

OROBANCHACEÆ.

CONOPHOLIS, Wall.

772. **C. americana**, Wall. Cancer-root. Squaw-root.
In open oak woods; rare. June—July. (B.)
Lakeside. Woodlawn. Maywood. Desplaines. Stony Island, *Hill.*

APHYLLON, Mitchell.

773. **A. uniflorum**, Gray. One-flowered Cancer-root.
Damp woods; rare. May.
Wilmette. Maywood. Kensington. Glencoe and Riverside, *Babcock!* Evanston, near the lake shore, *Johnson.* Normal Park, *Brennan, Williams.* Berry Lake, Ind., *Hill!* Lamont, *Hill.*

774. **A. fasciculatum**, Gray. Cancer-root.
In sandy soil. May.
Glencoe and woods near Stony Island; rare, 1885-'87. Sand hills north of Pine Station, Ind.; rare, *Babcock!* Sands by the lake shore, Pine Station, Ind.; a parasite on Antennaria, *Hill!* Edgemoor, Ind.; a parasite on Artimesia biennis, Willd., *Boltwood, Johnson.*

*G. setacea, Walt., is a more southern form.

LENTIBULACEÆ.

UTRICULARIA, L. Bladderwort.

775. **U. vulgaris**, L. Common or Greater Bladderwort.
In stagnant pools, and in streams where the current is in the center, and moves slowly at the banks; from South Chicago, southward, common; infrequent elsewhere. May 25th—August.
Sometimes found without bladders.

776. **U. minor**, L. Smaller Bladderwort.
Shallow water, near South Chicago, and probably with the last; apparently rare. July. (B.)

777. **U. gibba**, L.
Shallow water near the southern end of Lake Calumet, July, 1885. Bogs at Miller's, Ind.; rare, *Babcock!* Margins of pools, Pine Station, Ind., *Hill*, *Brennan!*

778. **U. purpurea**, Walt.
Ponds; Pine Station, Ind., *Hill!* Miller's, Ind. (B. P.)

779. **U. resupinata**, B. D. Greene.
Near Whiting, Ind., in but one locality, August—September, *Hill.* Casella, Ind., *Hill!* (B. P.)

780. **U. cornuta**, Michx.
Wet places; chiefly southward; frequent. July. (P.)

NOTE.—U. intermedia, Hayne, may be found within our limits.

BIGNONIACEÆ.

TECOMA, Juss.

781. T. RADICANS, Juss. Trumpet-creeper. Trumpet-flower.
Commonly cultivated. Escaped cultivation at Evanston. Seemingly established at Riverside and in the camping grounds at Desplaines.
Near Riverside two specimens were found remote from cultivated grounds, growing in the rich soil on the banks of the river. July—August. (B.)

CATALPA, Scop., Walt.

782. C. BIGNONIOIDES, Walt. Catalpa. Indian Bean.
Though not indigenous, it is frequently found in cultivated grounds, and has become well established and acclimated. July. (B.)

ACANTHACEÆ.

RUELLIA, Plumier.

783. **R. ciliosa**, Ph. Ruellia.
Rather dry but rich soil; infrequent or rare. June—August.
West of Garfield Park, 1882. Hawthorn. Near Brighton. Banks of M. C. R. R., east of Calumet, and north of Riverside; rare, *Babcock.* Riverdale, *Bastin.*

VERBENACEÆ.

VERBENA, Tourn.

784. **V. urticæfolia**, L. White Vervain. Nettle-leaved Vervain.
Fields, roadsides, banks and open woods; infrequent and mainly south. July—August.
Hybrid forms are not infrequent.
(*a*) Form with flowers sometimes pale-blue; rare, near Riverside.
(*b*) Form with pinkish flowers; rare. Hyde Park. Maywood.

785. **V. angustifolia**, Michx. Narrow-leaved Vervain.
Dry soil, chiefly north; infrequent. July.

786. **V. hastata**, L. Blue Vervain.
Prairies, banks, roadsides, etc.; abundant. June—September.
In some seasons, the form with the leaves free from lobes, is common.

787. **V. stricta**, Vent. Hoary Vervain.
Barren fields, prairies and banks; frequent or common. July.

788. **V. bracteosa**, Michx. Prostrate Vervain.
Prairies and waste grounds; frequent. July—September.

LIPPIA, Houst.

789. **L. lanceolata**, Michx. Fog-fruit.
Banks of the Desplaines river; common. Wet places southward; frequent. July—August.

PHRYMA, L.

790. **P. leptostachya**, L. Lop-seed.
Woods and moist shaded banks, especially southward; common. July.
Palatine and Riverside; common, *Babcock*.

LABIATÆ.

ISANTHUS, Michx.

791. **I. cæruleus**, Michx. False Pennyroyal.
Bluffs near the lake shore at Evanston; frequent.
Gravelly and sandy banks, Englewood, *Hill*. July—Sept. (B.)

TEUCRIUM, L.

792. **T. canadense**, L. American Germander. Wood Sage.
Banks of streams and low grounds; frequent. July—August.
The white variety at Riverside and Harlem, *Babcock*.

COLLINSONIA, L.

793. **C. canadensis**, L. Stone-root. Collinsonia.
Rich woods; infrequent or rare. July—August. (B.)
Glencoe. Niles. Maywood.

MENTHA, Tourn. Mint.

794. M. VIRIDIS, L. Spearmint.
Wet grounds; not common. July. (B.)

795. M. PIPERITA, L. Peppermint.
Moist banks; infrequent or rare. (B.)
Maywood. Desplaines. Lamont.

796. **M. canadensis**, L. Wild Mint. Horse-Mint.
Moist or low grounds; common or abundant. June—September.

LYCOPUS, Tourn.

797. **L. virginicus**, L. Bugle-weed
Shaded and moist banks, and in swampy places; frequent. July—August. (B.)

798. **L. sinuatus**,* Ell. Water-Horehound.
L. europæus, L., var. *sinuatus*, Gray.
Wet places; common.

PYCNANTHEMUM, Michx. Mountain Mint. Basil.

799. **P. lanceolatum**, Ph.
Usually in dry or slightly moist prairies and open woods; common. August—September.

800. **P. linifolium**, Ph.
Dry open woods, fields and fence-rows; frequent. August. (B.)

801. **P. muticum**, Pers., var. **pilosum**, Gray. Basil.
P. pilosum, Nutt.
On a dry bank near Palatine; rare, August, 1885
Riverside, 1878, *Bastin*. (B.)

CALAMINTHA, Tourn.

802. **C. nuttallii**, Gray. Calaminth.
C. glabella, Benth., var. *nuttallii*, Gray.
Dry grounds, mainly in the eastern part of our district; infrequent. June—July.

HEDEOMA, Pers.

803. **H. pulegioides**, Pers. American Pennyroyal.
Dry open woods and fields; common. June—September.
Corolla usually about 3, occasionally 4 lines long.
A decidedly pubescent form has been collected near Glencoe.

*Babcock, in his list of plants of Chicago and vicinity, (Lens, vol. i., p. 146), enumerates L. europæus, L.; not common, Calumet.
The writers have not been able to find the typical europæus. L. sinuatus is common at this point.

MONARDA, L.

804. M. DIDYMA, L. Oswego Tea.
Rare.
Riverside.
A few specimens with the flowers bright scarlet and over $2\frac{1}{2}$ inches long were collected near South Chicago. Pine Station, Indiana, *Brennan*. (B. P.)

805. **M. fistulosa**, L. Wild Bergamot. Horse-Mint.
Rather dry banks, open woods and fence-rows; common, locally abundant. July—September, occasionally in November.

806. M. BRADBURIANA, Beck. Monarda.
South of Hyde Park; local, *Babcock*.

807. **M. punctata**, L. Horse-Mint.
Sandy fields, open woods and banks; common southward, less common elsewhere. July—September.

BLEPHILIA, Raf. Blephilia.

808. **B. ciliata**, Raf.
Dry ground, old fields, roadsides, etc.; infrequent. June—September. (B.)

809. **B. hirsuta**, Benth.
Rich woods, north; infrequent. July.
Palatine; rare, *Babcock*.

LOPHANTHUS, Benth. Giant Hyssop.

810. **L. nepetoides**, Benth.
Open woods and copses; frequent. July—August.

811. **L. scrophulariæfolius**, Benth.
Glencoe and Calumet Region; frequent, locally. Banks of the Desplaines river; rather scarce. Riverside, *Bastin*. Harlem; rare, *Babcock*.

NEPETA, L.

812. N. CATARIA, L. Catnip.
Waste places and woods; frequent, locally. July—September.

813. N. GLECHOMA, Benth. Ground Ivy. Gill.
Damp grounds near dwellings, and rarely in woods; infrequent. May—July.
Common at Evanston and northward. In woods near Maywood.

DRACOCEPHALUM, Tourn.

814. D. PARVIFLORUM, Nutt. Dragon-head.
Maywood; rare, *Babcock*. (P.)

SCUTELLARIA, L. Scullcap.

815. **S. lateriflora**, L. Mad-dog Skullcap.
In damp shaded places; common. July—September.

816. S. PARVULA, Michx.
Sandy soil or moist woods and copses, Lake County, Ind.; infrequent or rare. May—July.

817. **S. galericulata**, L.
Moist shaded banks of streams, borders of woods, and frequently in wet fields; frequent or common. July—August.

BRUNELLA, Tourn.

818. **B. vulgaris**, L. Self-heal. Heal-all.
Dry places; common, often abundant. July—August.
White form at Glencoe, *Babcock*.

PHYSOSTEGIA, Benth.

819. **P. virginiana**, Benth. False Dragon-head.
Wet banks; common southward, less frequent elsewhere. July—August.

MARRUBIUM, Tourn.

820. M. VULGARE, L. Horehound.
Escaped from cultivation at Evanston, and in a few other places. Not well established. July—September. (B.)

LEONURUS, L.

821. L. CARDIACA, L. Common Motherwort.
Waste places, more frequently around dwellings and barnyards. July—August.

GALEOPSIS, L.

822. G. TETRAHIT, L. Common Hemp-nettle.
Waste places; infrequent. August. (B. P.)

STACHYS, Tourn.

823. **S. palustris**, L. Hedge-nettle. Woundwort.
Banks of streams and wet places; frequent. June—September.

824. **S. aspera**, Michx. Hedge-nettle.
S. palustris, L., var. *aspera*, Gray.
Banks and wet places; infrequent. July—August. (B.)

PLANTAGINACEÆ.

PLANTAGO, Tourn.

825. **P. cordata**, Lam. Heart-leaved Plantain.
Wet places, banks of streams and lakes; infrequent. May—July.
Lakeside. Glencoe. Niles woods.

Individuals of this species are usually scattered, not more than one one or two being found in a locality.

826. **P. major,** L. Common Plantain. Ribwort. Wayside Plantain. Roadsides, around dwellings, waste places, etc.; common or abundant. May 20th—September.

Spikes are occasionally 20 inches long.

827. **P. rugellii,** Decaisne. Plantain.

P. kamtschatica, in Manual, 5th Ed.

A few specimens were found in 1887 on banks of C. & N. W. R. R., near Palatine. July. (B. P.)

This species closely resembles P. major, L., and probably has been overlooked.*

828. P. LANCEOLATA, L. Ribgrass. English Plantain. Ripplegrass. Ribwort.

In dry fields throughout our district; rare. June—July. (B.)

Possibly indigenous. Leaves from a foot to two feet in length, rarely three.

829. **P. virginica,** L. Ribgrass.

Evanston. Desplaines. Palatine. Pullman. Glencoe, *Herman Jaeger.* Englewood, *Brennan.* Grand Crossing, April, 1887, *Bastin.* (B.)

NYCTAGINACEÆ.

OXYBAPHUS, Vahl.

830. **O. nyctagineus,** Sweet. Oxybaphus.

A few specimens were found in July, 1885, at a quarry near Cheltenham Beach. Though looked for, they have not been found since, and were probably exterminated by the removal of the soil from the rocks, previous to blasting.

During the season of 1887, a few specimens were obtained from Stony Island. In both cases, the plants grew near an out-crop of limestone. (B.)

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*Since the note concerning P. rugellii was written, and during the season of 1890, the writers made a more careful study of P. major in this section, and are inclined to believe that the former species may be quite common. Lack of time prevented a sufficiently exhaustive study to settle the point.

For the help of students and collectors, we quote the following from the Cayuga Flora, p. 74: P. major, L., is distinguished from P. rugellii, Decaisne, by its thicker, shorter spike, its short ovoid-obtuse capsules, and ovate, obtuse, scarious margined sepals, and its leaves often dull green and hairy. In the latter species the spikes are longer, less dense, capsules oblong cylindrical, and sepals oblong and acute. The leaves are large, usually shining, bright green, the petioles often tinged with purple.

ILLECEBRACEÆ.

ANYCHIA, Michx. Forked Chickweed.

831. **A. dichotoma,** Michx.

Woods and shaded places; not common. June—July. (B.)

832. **A. capillacea,** D C.

A. dichotoma, Michx., var. *capillacea,* Torr.

Chicago, July 25th, 1877,—*University of Chicago Herb.* Near Riverside. (B. P.)

Grows in drier soil than the foregoing species.

AMARANTACEÆ.

AMARANTUS, Tourn.

833. A. RETROFLEXUS, L. Pig-weed. Red-root. Amaranth.

Old gardens and cultivated fields; common. July—September.

834. **A. albus,** L. White Pig-weed. Tumble-weed*.

Sandy soil near the lake shore, southward; infrequent Western portion of our district more common.

A form with reddish stems and calyx; leaves small and prominently mucronate, is reported from Englewood by Prof. Hill.

835. A. SPINOSUS, L. Thorny Amaranth.

Euxolus spinosus, Feay.

Introduced sparingly near Union Stock-yards, *Babcock.* Prairies near the corner of Halsted and 55th Sts., along the railroad, 1884.

ACNIDA, Mitch.

836. **A. tuberculata,** Moq. Water-hemp.

Montelia tamariscina, Gray, in part.

Along the lake shore; rare. August—September.

Desplaines river, *Babcock.*

CHENOPODIACEÆ.

CYCLOLOMA, Moq.

837. **C. platyphyllum,** Moq. Winged Pig-weed.

Near Grand Crossing on banks of I. C. R. R. and North Chicago; rare, *Babcock.* Sandy borders of C. R. I. & P. R. R., Normal *Hill!* South Evanston, *Johnson.*

*The name tumble-weed is more applicable to the plant when growing on the plains. It has its origin in the following habit, which may be witnessed, to some extent, within our limits: "It grows in a globular form, often 3 to 4 feet in diameter. When killed by frost, the branches remain rigid, the plant soon loosens from the soil, and the wind drives it bounding over the fields and prairies, until brought up in some fence corner. * * * This is an effective method of scattering the seed."—*J. C. Arthur.*

CHENOPODIUM, Tourn. Goose-foot. Pig-weed.

838. C. ALBUM, L. Lamb's-Quarters.
Cultivated grounds, roadsides, old fields, etc.; common or abundant. July—September.
This is a very variable species, but is rather polymorphous, than including distinct varieties.

839. C. URBICUM, L.
In waste places; infrequent.

840. **C. hybridum**, L. Maple-leaved Goose-foot.
Waste grounds everywhere; common. July—August, occasionally as early as June.
Quite variable as to size and shape of the leaves, and height of plants—2 to 5 feet high.

841. C. GLAUCUM, L. Oak-leaved Goose-foot.
In streets and waste places; frequent.
Brackish borders of Lake Calumet, 1886–'87.

842. C. BOTRYS, L. Jerusalem Oak. Feather Geranium.
Occasionally found along the lake shore from South Chicago, southward. June 25th—September.

843. C. AMBROSIOIDES, L. Mexican Tea.
Roadsides, waste places, etc.; common. July—August. (B.)

ATRIPLEX, Tourn.

844. **A. patulum**, L. Orache.
Summerdale, *Johnson*. Chicago, *Babcock*.

845. **A. patulum**, L., var. **hastatum**, Gray.
Along Archer Ave.; local, *Babcock*.
In this locality it seems to have been exterminated. The banks of the Chicago river in the Bridgeport and Brighton districts, where there is no dockage, furnishes the proper soil. Near Brighton, 1880, *S. R. Copeland*. Stock-yards, *University of Chicago Herb., credited to Babcock*. Englewood, *Hill*. Along the canal, a short distance east of Summit, 1883, *C. P. Murray*.
These reports would indicate that this species is indigenous to the district, from Bridgeport, southwest; a territory subject to constant changes. This may account for its rarity and apparent extermination.

CORISPERMUM, Ant. Juss.

846. **C. hyssopifolium**, L. Bug-seed.
Along the lake shore; frequent. Lake Calumet, east shore; rare. Sand of the lake shore; abundant, 1870, *Babcock*. September.

SALSOLA, L.

847. S. KALI, L. Common Saltwort.

Frequent on the lake shore near the University grounds, Evanston, where it is associated with Lathyrus maritimus, Bigel., and Polanasia graveolens, Raf.

This is the only locality within our limits from which the plant has been reported. (B.)

PHYTOLACCACEÆ.

PHYTOLACCA, Tourn.

848. **P. decandra**, L. Poke-root. Pigeon-berry.

Moist grounds, chiefly southward; infrequent. August.

Niles. Evanston, *Boltwood!* Englewood, *Hill!* Union Stockyards and Harlem; rare, *Babcock.*

In the Calumet Region, specimens occasionally attain a height of 12 feet.

POLYGONACEÆ.

RUMEX, L.

849. **R. britannica**, L. Great Water-Dock.

R. orbiculatus, Gray.

Wet places, near ponds, ditches and lakes southward; infrequent. August.

Glencoe, *Johnson.* Thatchers; not common, *Babcock.*

850. **R. altissimus**, Wood. Peach or Pale-leaved Dock.

R. britannica, in Manual, 5th Ed.

Probably rare. June—July. (B.)

Near Lake Hyde, 1884. Swamps near north end of Lake Calumet, 1883–'86. Calumet Region, *S. R. Copeland.* Glencoe, *Johnson.*

+ 851. **R. verticillatus**, L. Swamp Dock.

Swamps; apparently infrequent. July. (B.) Burnham

Hawthorn. Near Blue Island. Glencoe, *S. R. Copeland.*.

852. R. CRISPUS, L. Curled Dock. Yellow Dock.

Cultivated and waste grounds, usually in dry soil; abundant. June—October. (B.)

853. R. OBTUSIFOLIUS, L. Bitter Dock.

With the last; common. June—July. (B.)

A form which is apparently a hybrid of this species and R. crispus, L., is occasionally found.

854. R. SANGUINEUS, L. Bloody-veined Dock.

Waste places, near cultivated grounds; throughout, but infrequent or rare. July. (B. P.)

855. R. ACETOCELLA, L. Field or Sheep Sorrel.
In waste places, old fields, etc.; very abundant. June—September, occasionally as early as May 15th. RH

POLYGONUM, Tourn. Knotweed. Polygonum.

856. **P. aviculare**, L. Knot-grass. Door-weed. Goose-grass.
Near buildings, and everywhere in waste places. July—September.

857. **P. erectum**, L. Erect Knot-grass.
P. aviculare, L., var. *erectum*, Roth.
Rich and moist soil in shaded places; frequent. July—August.

858. **P. ramosissimum**, Michx.
Lake shore at Evanston; rare. July, 1884–'87. Near Lake Calumet. Sandy shore near South Chicago, *Bastin!* (B.)

859. **P. tenue**, Michx.
Rare. September. (B.)
Hyde Park, *Bastin*. Sand hills, near Whiting, Ind., *Hill!*

860. **P. lapathifolium**, L., var. **incarnatum**, Watson.
P. incarnatum, Ell.
Marshes and borders of lakes and ponds; common. July—August.
During the season of 1886, the white-flowered form prevailed, and was common at Lake Hyde, Ind.
The flowers were mostly flesh-colored during 1887.

861. **P. pennsylvanicum**, L.
Moist banks and ditches, roadsides and moist places; frequent south and west. July—September.

862. **P. amphibium**, L. Water Persicaria.
Generally in the form of Var. aquaticum, Willd.
Chiefly in shallow water south; infrequent elsewhere. July—August.

863. **P. muhlenbergii**, Watson.
P. amphibium, L., var. *terrestre*, Gray.
Muddy banks of the Desplaines river, near Riverside. On the prairies southeast of the Bridewell; infrequent. Miller's and Berry Lake, Ind. Evanston, *Boltwood*. Sandy borders of sloughs, Pine Station, Ind., *Hill*. (B. P.)

864. P. ORIENTALE, L. Prince's Feather.
Sparingly escaped from cultivation. Spontaneous in gardens. August.

865. P. PERSICARIA, L. Lady's Thumb. Heart-weed.
Moist waste places; common, locally abundant. June—September.

866. **P. hydropiperoides,** Michx. Mild Water-pepper.
Aquatic, or in muddy places; frequent southward and north to Riverside, elsewhere infrequent. July 25th—September.

867. **P. hydropiper,** L. Common Smartweed. Water-pepper.
Moist or swampy places; frequent and scattered. July 20th—October.

868. **P. acre,** H. B. K. Water Smartweed.
Swamps, ditches and borders of lakes and rivers; frequent southward. July—September. (B.)

869. **P. virginianum,** L.
Shaded rich woods; common. August.

870. **P. sagittatum,** L. Arrow-leaved Tear-thumb.
Damp or wet places, Lake County, Ind.; frequent, elsewhere less common. August.
A form is occasionally found with the stem rounded, and with the reflexed prickles scattered.

871. P. CONVOLVULUS, L. Black Bindweed. Knot Bindweed.
Fields and waste grounds; frequent from Riverside, south through the Calumet Region, and to the lake shore; infrequent elsewhere. June—September, usually in July.

872. **P. dumetorium,** L., var. **scandens,** Gray. Climbing False-Buckwheat. Hedge Bindweed.
Moist woods and shaded banks; frequent. August—September.

FAGOPYRUM, Tourn.

873. F. ESCULENTUM, Moench. Buckwheat.
Old fields, escaped from cultivation; infrequent. June—August. (B.)

POLYGONELLA, Michx.

874. **P. articulata,** Meisner. Joint-weed.
Polygonum articulatum, Gray.
Bluffs near Evanston; rare. Miller's, Ind., *Bastin!* Sand hills, Tolleston, Ind., *Hill.*
White-flowered form, Miller's, Ind., *Hill!*

PODOSTEMACEÆ.

PODOSTEMON, Michx.

875. **P. ceratophyllus,** Michx. River-weed. Thread-foot.
South Chicago, *University of Chicago Herb.* (B. P.)

ARISTOLOCHIACEÆ.

ASARUM, Tourn.

876. **A. canadense**, L. Wild Ginger. Canada Snakeroot.
Rich moist woods; infrequent, probably local, more common north and northwest. May—June.
Glencoe. Niles. Near Riverside. Palatine. Near Washington Heights; frequent. Rose Hill, *Johnson!* Forest Hill, *Brennan.*

PIPERACEÆ.

SAURURUS, L.

877. **S. cernuus**, L. Lizard's Tail.
Swamps, south and southeast.
Glencoe and Evanston; rare. July. (B.)

LAURACEÆ.

SASSAFRAS, Nees.

878. **S. officinale**, Nees. Sassafras.
Rich and rather open woods; scattered. May.
Winnetka. Palatine. Riverside; rare. South Chicago. Sheffield, Pine Station and Miller's, Ind.

LINDERA, Thunb.

879. **L. benzoin**, Blume. Spice-bush. Benjamin-bush. Allspice.
Moist woods; rare. April—May. (B.)
Niles. Riverside. Casella, Ind. Bank of the Calumet river, near Miller's, Ind. Highland Park, Lake County, Ills., *C. P. Murry.*

ELÆAGNACEÆ.

SHEPHERDIA, Nutt.

880. **S. canadensis**, Nutt. Canadian Shepherdia.
Bluffs. May 12th—July.
Glencoe and Evanston; frequent. Borders of sloughs and sandy banks; Pine Station, Ind.; common, *Babcock, Hill!*

SANTALACEÆ.

COMANDRA, Nutt.

881. **C. umbellata**, Nutt. Bastard Toad-flax.
Dry banks and fields in sandy soil; common, chiefly eastward. May 25th—June.
Riverside, *Babcock.*

EUPHORBIACEÆ.

EUPHORBIA, L. Spurge.

882. **E. polygonifolia**, L. Shore Spurge. Knotgrass Spurge.
Sandy soil of the lake shore, both north and south; frequent. July—September.
Near Lake Calumet; rare.

883. **E. maculata**, L. Spotted Spurge.
Roadsides, old gardens, etc.; common, often abundant. September.

884. **E. preslii**, Guss.
E. hypericifolia, in Manual, 5th Ed.
Open woods and fields, chiefly in sandy soil, near the lake shore from Glencoe south to Pine Station, Ind. Riverside and Calumet; probably rare. From Evanston to Palatine; frequent. July—October.

885. **E. corollata**, L. Flowering Spurge. White Spurge.
In dry soil; everywhere common, often abundant. June—September, occasionally as late as November.
A form that is densely and softly pubescent, at least below, occurs on sand hills near Pine Station, Ind., *Hill.*

886. E. CYPARISSIAS, L. Garden Spurge. Cypress Spurge.
Roadsides and near gardens; frequent. June—July. (B.)

887. **E. commutata**, Engelm.
Local. May—July.
Maywood. Calumet. Riverside, *Babcock!*

ACALYPHA, L.

888. **A. virginica**, L. Three-seeded Mercury.
Fields and open woods; frequent. July—October. (B.)

URTICACEÆ.

ULMUS, L.

889. **U. fulva**, Michx. Slippery or Red Elm.
In rich woods; frequent locally. April 15th—May 10th. (B.)
North Evanston. Niles. Riverside and Maywood, on the banks of the Desplaines river.

890. **U. americana**, L. White Elm. American Elm. Water Elm.
Moist woods, along streams, throughout our district; infrequent and scattered. April—May 10th.
Cultivated for ornament.

NOTE.—Ulmus alata, Michx., Whahoo or Winged Elm.
Two or three specimens have been introduced, and are under cultivation at Evanston.

CELTIS, Tourn.

891. **C. occidentalis**, L. Sugarberry. Hackberry.
Rich woods; rare. April—May.
Winnetka. Banks of the Calumet, near Miller's, Ind. Desplaines river, north of Thatcher; rare, *Babcock.*

CANNABIS, Tourn.

892. C. SATIVA, L. Hemp. Red-root. Neckweed.
Waste places; frequent. July—August.

HUMULUS, L.

893. **H. lupulus**, L. Common Hop.
Riverside, on the banks of the Desplaines river, and Salt Creek; not common, *Babcock!* July.

MORUS, Tourn.

894. **M. rubra**, L. Red Mulberry.
Riverside, east of river and north of R. R.; not common, *Babcock!* Near River Park, 1879, *Bastin.* June.

URTICA, Tourn.

895. **U. gracilis**, Ait. Tall Nettle.
Moist grounds, bordering woods, fields, waste places, etc.; locally common. June 20th—August.

896. U. DIOICA, L. Stinging Nettle.
Waste places; scattered and rare. August. (B.)

LAPORTEA, Gaud.

897. **L. canadensis**, Gaud. Wood Nettle.
Moist rich woods; not common. July—September.
Niles woods; common. (B.)

PILEA, Lindl.

898. **P. pumila**, Gray. Richweed. Clearweed.
Moist shaded banks and rich woods. June 15th—September.
Niles woods; common. Riverside and Calumet Region; infrequent, elsewhere rare.

BŒHMERIA, Jacq.

899. **B. cylindrica**, Willd. False Nettle.
Swamps and shaded moist banks and woods, south and southeast; frequent, elsewhere infrequent. June—August.

PARIETARIA, Tourn.

900. **P. pennsylvanica**, Muhl. Pellitory.
Near the lake shore, northward; infrequent or rare. June—July. (B.)

JUGLANDACEÆ.

JUGLANS, L.

901. **J. cinerea**, L. Butternut. Oil-nut.
Wilmette. Niles. Woods north of Riverside, *Babcock!* Rare and local. May.

902. **J. nigra**, L. Black Walnut.
Rich woods northward; infrequent. May—June 10th.

HICORIA, Raf. (Carya, Nutt.)

903. **H. ovata**, Britt. Shell or Shag-bark Hickory.
Carya alba, Nutt.
Woods and fields, mainly in the northern and western portions of Cook County; frequent. May. (B.)

904. **H. glabra**, Britt. Pig-nut. Broom Hickory.
Carya porcina, Nutt.
Winnetka, north and west; frequent. May. (B.)

905. **H. minima**, Britt. Bitter-nut. Swamp Hickory.
Carya amara, Nutt.
Moist or swampy open woods; infrequent. May. (B.)
Evanston and northward in ravines. Niles woods.

MYRICACEÆ.

MYRICA, L.

906. M. CERIFERA, L. Wax-Myrtle.
A single specimen of this shrub, on the lake shore near Cheltenham Beach, was noted in 1884–'85. In 1886 it had disappeared, probably destroyed by workmen. It was, so far as known, the only representative of the species within our limits.
This species is seldom found as far west as Ohio. In Michigan, two specimens have been reported from the shore of Lake Erie. (B. P.)

907. **M. asplenifolia**, Endl. Sweet Fern.
Comptonia asplenifolia, Ait.
Common in the sandy soil of the southeastern portion of our district; less frequent northward. April—May.

CUPULIFERÆ.

BETULA, Tourn.

908. **B. populifolia**, Ait. American White Birch.
B. alba, var. *populifolia*, Spath.
Near the lake shore, both north and south; rare.
Glencoe and Pine Station, Ind., *Babcock!* (P.)

+909. **B. papyrifera,** Marsh. Paper or Canoe Birch.

B. papyracea, Ait.

Rich and moist woods and banks; frequent, especially near the sandy sloughs southeast. (B.)

Prof. Hill reports the following forms from Pine Station, Ind.:

(*a.*) Leaves abrupt or wedge-shaped at the base, short pointed.

(*b.*) Leaves heart-shaped at the base, somewhat pointed.

(*c.*) Leaves abrupt or rounded at the base, long pointed.

The trees were small, 10 to 20 feet high; bark white, except in the youngest trees; leaves on the young shoots large and hairy.

910. **B. pumila,** L. Low Birch. Tag Alder.

Two specimens were found in a slough near Lake George and East Chicago. Sloughs at Miller's, Ind.; common, *Babcock!* Rose Hill, *Johnson.*

ALNUS, Tourn.

911. **A. incana,** Willd. Speckled, Black or Hoary Alder.

Banks of streams and sloughs; infrequent. April—May.

Banks of Desplaines river, near Riverside. (B. P.)

912. **A. serrulata,** Willd. Smooth Alder.

Edgemoor, Ind., *Boltwood.* (B.)

CORYLUS, Tourn.

913. **C. americana,** Walt. Common Wild Hazel-nut.

Clearings and woods; common. April.

OSTRYA, Micheli.

914. **O. virginica,** Willd. American Hop-Hornbeam. Iron-wood. Lever-wood. Deer-wood.

Rich woods, throughout our district, especially northward, but far from common.

Usually the trees are much scattered.

CARPINUS, L.

915. **C. caroliniana,** Walt. American Hornbeam. Blue or Water Beech. Iron-wood.

C. americana, Michx.

Ravines of the north; rare. May.

Calumet river, near Miller's, Ind. Banks of the Desplaines river, *Babcock!*

QUERCUS, L. Oak.

916. **Q. alba,** L. White Oak.

Rich soil; common. May 20th—June 15th.

917. **Q. stellata,** Wang. Post, Rough or Box White Oak. Iron Oak. Turkey Oak.

Q. obtusiloba, Michx.

Chiefly in sandy soil, south; rare. May. (B.)
Evanston. Windsor Park. Whiting, Ind.
A single tree in each of these localities.

918. **Q. macrocarpa,** Michx. Bur-Oak. Over-Cup or Mossy-Cup Oak. "White Oak."
Rich soil; frequent. May 15th—June 10th.

919. **Q. bicolor,** Willd. Swamp White Oak.
Rich wet woods and banks of streams; rare and scattered. May 20th—June 5th. (B.)

920. **Q. rubra,** L. Red Oak. Champion Oak.
Usually in rich soil, occasionally in barren places; common. May 12th—25th.

921. **Q. coccinea,** Wang. Scarlet Oak.
Usually in rather dry soil; often in moist places; abundant. May 15th—June.

922. **Q. tinctoria,** Bartram. Black Oak. Quercitron, or Yellow-barked Oak.

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

Apparently in all kinds of soil; frequent. May 10th—June 5th.

923. **Q. palustris,** Du Roi. Swamp or Spanish Oak. Pin Oak.
Banks of streams and wet places; infrequent. May 10th—25th.

924. **Q. nigra,** L. Black Jack or Barren Oak.
Barren sandy soil; infrequent, north.

925. **Q. imbricaria,** Michx. Laurel or Shingle Oak.
Groves along Flag Creek, about one mile northwest of Willow Springs.
Trees 30 to 60 feet high. On some of the young shoots the leaves are slightly lobed, the mass of the leaves being typical. Fruit ripe in October; rare and local. *Hill!* (B.)

FAGUS, Tourn.

926. **F. ferruginea,** Ait. American Beech.
A single tree near North Evanston, seemingly indigenous.
Highland Park, Lake County, Ill., *W. S. Moffat.*

SALICACEÆ.

SALIX, Tourn. Willow.

927. **S. nigra,** Marsh. Black Willow.
Banks of streams and lakes; frequent or common. May. (B.)

928. **S. nigra,** Marsh., var. **falcata,** Torr.
Glencoe, *Babcock!* (P.)

929. **S. amygdaloides,** Ander. Peach-leaved Willow.

S. nigra, Marsh., var. *amygdaloides*, Ander.

South and southeast; frequent. May.

930. **S. lucida,** Muhl. Shining Willow.
Sandy banks of sloughs, and along streams, chiefly southward; frequent. May.
Usually typical.

931. S. FRAGILIS, L. Brittle Willow.
I. C. R. R., south of Woodlawn, *Babcock.*
Most likely one of the fragilis × alba hybrids, *Bebb.* (P.)

932. S. ALBA, L., var. VITELLINA, Koch.
About dwellings; frequent. May. (P.)

933. **S. longifolia,** Muhl. Long-leaved Willow. Sand-bar Willow.
In wet *sandy* places, from South Chicago southward, not far from the lake shore; frequent. April 15th—August.
Very variable.

934. **S. rostrata,** Rich. Beaked Willow. Livid Willow.

S. livida, Wahl., var. *occidentalis*, Gray.

Moist grounds from Grand Crossing, southeast; common, infrequent or rare elsewhere. April.
In drier places, it has the nature of a tree about 10 feet high. Scales pinkish-tipped; leaves usually serrate.

935. **S. discolor,** Muhl. Glaucous Willow. Pussy Willow.
Low places and banks; frequent or common. April.
Two forms occur:
(*a*) The common form or type.
(*b*) A low tree form not over 6 feet high, with the serratures reaching to the tip of the leaf; aments, ¾ inch long. Whiting, Indiana.

936. **S. humilis,** Marsh. Prairie Willow.
Dry places; common. April.
Dwarf forms are not uncommon, and closely resemble S. tristis, but they are not so much branched, the stipules are more evident, and the leaves are long and not crowded.

937. **S. tristis,** Ait. Dwarf Gray Willow.
Bogs and borders of sloughs in dry, sandy soil; infrequent, chiefly from Englewood, southeast. April. (B.)
In sandy soil, Normal Park, 10 to 25 inches high; leaves small or medium, *Hill.*
Seldom over 15 inches in height. A specimen from near Pine Station, Ind., was 28 inches in height; leaves about $1\frac{1}{2}$ inches long, narrow and quite sessile; aments globular; stipules glandular.

938. **S. petiolaris,** Smith. Petioled Willow.
In low sandy soil, chiefly near the lake shore; frequent. April—May 10th.
Prof. Dudley, of Cornell University, has found, without exception, in testing a large number of cases, that the twigs do not disarticulate at the base, while the twigs of S. sericea, which it closely resembles in the earlier stages of the development of the staminate plants, are brittle, *Cayuga Flora, p.* 89.

939. **S. petiolaris,** Smith, var. **gracilis,** Ander.
Colehour, Ind.; rare. (B.)

940. **S. candida,** Willd. Sage Willow. Hoary Willow.
Bogs and sloughs of the extreme southeast; frequent. April—May 15.
Occasionally 8 feet high.
On a specimen from near Miller's, Ind., the capsules were light pinkish-woolly as were also the young shoots, and the underside of the narrowly-lanceolate leaves.

941. **S. cordata,** Muhl. Heart-leaved Willow.
In wet places; common. April.
Shrubs 3 to 12 feet high.
A form in the collection of C. P. Murray, from Whiting, Ind., has the leaves broadly lanceolate, sharply serrate, retaining the hairyness on the midrib beneath, till very late in the season; stipules ovate, capsules about 2 lines long.
Possibly a hybrid cordata × adenophylla, *Bebb.*
We have not been able to locate this interesting form, and have only the herbarium specimen to examine. As both cordata and adenophylla grow near Whiting, a hybrid form is liable to occur and should be looked for.

942. **S. cordata,** Muhl., var. **augustata,** Ander.
With the type; infrequent. (P.)

943. **S. glaucophylla,** Bebb.
Sandy banks of the lake shore, southeast; common, rare northward. April—May 10th.

944. **S. adenophylla,** Hook.
Sandy soil, near the lake shore, chiefly south of Chicago; frequent. April 25th—May 20th.
This most interesting willow is essentially an inhabitant of the far north. It is common or abundant locally on the shores of the great lakes.
As it is a plant of stout growth, it is enabled to withstand the strong winds of the lake regions, and rooting deeply, it not only becomes firmly fixed in the soil, but also tends to arrest the influence of the winds that constantly shift the sands of its habitat. It is often found upon the sand dunes, in the southeastern part of our district, facing the lake, and holding the sands in position until a firm growth of grass further protects the loose soil from the ravages of the storms.

945. **S. myrtilloides,** L., var. **pedicellaris,** Ander.
Bogs; rare. May. (B. P.)
Pine Station and Casella, Ind. Miller's, Ind., *Hill!*

POPULUS, Tourn.

946. P. ALBA, L. White Poplar. Silver-leaved Poplar. Abele.
Escaped from cultivation and grows spontaneously in a few localities. (P.)

947. **P. tremuloides,** Michx. American Poplar. Aspen.
Woods and open places, following the removal of timber; frequent. April 5th—25th. (B.)

948. **P. grandidentata,** Michx. Large-toothed Poplar. Aspen.
Woods; not common. April.
Evanston. Niles. Palatine.

949. **P. balsamifera,** L. Balsam Poplar.
In wet places; Evanston and northward; rare. May 1st—15th. (B.P.)

950. **P. monilifera,** Ait. Cottonwood. Necklace Poplar.
Includes *P. angulata,* Ait.
Moist and wet places; frequent or common. April—May.
When planted for shade, the form with red catkins, (male trees), should be selected, if it is desirable to avoid the cotton of the seeds. Often flowers, when not more than 10 feet high.

CERATOPHYLLACEÆ.

CERATOPHYLLUM, L.

951. **C. demersum,** L. Hornwort.
Ditches, ponds, slow streams, etc.; common, occasionally abundant. It is seldom found in fruit, but during August, 1885, fruiting forms were occasionally met with in the Calumet Region and northern Indiana.

HYDROCHARIDACEÆ.

ELODEA, Michx.

952. **E. canadensis,** Michx. Water-weed.
Anacharis canadensis, Planch.
Sluggish streams and ponds; common. July.

VALLISNERIA, L.

953. **V. spiralis,** L. Tape-grass. Eel-grass.
Sluggish streams, southeast; frequent. July 25th—August.
Desplaines river, near Maywood, *Babcock!*

ORCHIDACEÆ.

LIPARIS, Rich. Twayblade.

954. **L. liliifolia,** Rich.
Wet sandy soil, usually in shaded places; rare. June. (B.)
Ravines of the northeast. From South Chicago, southeast. Forest Hill, *Hill.*

955. **L. lœselii,** Rich.
Boggy ground; usually rare. June 15th—July 10th. (B.)
North end of Lake Calumet. Miller's, Ind. South Chicago to Casella, Ind.; quite common, *Hill!* Pine Station, Ind., *Bastin!*

APLECTRUM, Nutt.

956. **A. hyemale,** Nutt. Putty-root.
A clump consisting of a few specimens was found in the woods, near a ditch running west from Berry Lake, Ind., and about one quarter of a mile from the lake. May, 1888. (B.)

CORALLORHIZA, Haller. Coral-root.

957. **C. innata,** R. Br.
South Chicago, *University of Chicago Herb.* Sand ridges, east of Berry Lake, Ind., *Hill!* June. (B. P.)

958. **C. multiflora,** Nutt.
Wooded ravines, northeast; infrequent or rare. July. (B.)
Riverside. Near Palatine. Berry Lake, Ind. Forest Hill; not common, *Hill.*

SPIRANTHES, Rich. Ladies' Tresses.

959. **S. cernua,** Rich. Screw-stem.
Moist prairies; frequent, especially southward. August 15th—September.

960. **S. gracilis,** Bigel.
Wooded banks of ravines in the northern portion of Cook County; frequent. July—August.
Sandy soil of the southeast, infrequent or rare.

GOODYERA, R. Br.

961. **G. pubescens,** R.Br. Rattlesnake Plantain.
Pine woods near Whiting, Ind., 1880, *Hill!* (B.)

ARETHUSA, Gronov.

962. **A. bulbosa,** L. Arethusa.
Bogs; rare. June. (B. P.)
Pine Station and Casella, Ind. Miller's, Ind., *Bastin, Hill!* Marsh near South Chicago; now exterminated, *Bastin.*

CALOPOGON, R.Br.

963. **C. pulchellus,** R.Br. Calopogon. Grass Pink.
Wet prairies and bogs; common south, rather local elsewhere. June 10th—August.
A form with white, or slightly pinkish flowers, is occasionally found.

POGONIA, Juss. Pogonia.

964. **P. ophioglossoides,** Nutt.
In wet sandy soil and bogs, mainly southeast; common, locally abundant. June—July.

965. **P. pendula,** Lindl.
Wet pine barrens, Casella, Ind.; flowers white, or faintly tinged with pink, *Hill!* Open pine woods in sandy soil, Miller's, Ind.; rare. August. (B.)

ORCHIS, L.

966. **O. spectabilis,** L. Showy Orchis.
Moist rich woods; frequent. April 25th—May.

HABENARIA, Willd.

967. **H. tridentata,** Hook. Rein-Orchis.
Wet rich woods; rare and scattered. June—July 15th. (P.)
Glencoe. Miller's and Casella, Ind. Wet grassy lands; Sheffield, Ind., *Hill.* Pine Station, Ind., *Bastin!* Lake and Calumet, Ind., *Babcock.*

968. **H. virescens,** Spreng. Greenish Orchis.
Wet shaded woods and banks; rare. June 15th—July 5th.
Glencoe. Maywood. Grand Crossing. Berry Lake and Pine Station, Ind. Riverside, *Babcock!* Wet pine woods, Edgemoor, Ind., *Hill.*

969. **H. bracteata,** R.Br. Bracted Green Orchis.

H. viridis, R.Br., var. *bracteata,* Reich.

Moist woods and shaded banks; infrequent in the ravines northward and in woods at Niles. Rare elsewhere. May.
Pine woods, Casella and Miller's, Ind. Pine Station, Ind , *Bastin.*

970. **H. hyperborea,** R.Br. Northern Green Orchis.
North Evanston. Bogs and wet woods near Miller's, Ind., *Hill!* Pine Station; rare, *Babcock, Bastin.* June—July. (P.)

971. **H. hookeri,** Torr. Small Two-leaved Orchis.
Ravines of the northern portion of our district; rare. Rich woods near Niles. Wet woods, Miller's, Ind. Glencoe, *Babcock.* River Park, *Bastin.* Pine woods, Edgemoor, Ind., *Hill.* Winnetka, *Johnson.* June.

972. **H. hookeri,** Torr., var. **oblongifolia,** Paine.
Pine woods, Edgemoor, Ind., *Hill!* June. (B. P.)

973. **H. ciliaris,** R.Br. Yellow Fringed-Orchis.
Sandy sloughs of the southeastern portion of our district; frequent. July 15th—August.

974. **H. blephariglottis,** Torr. White Fringed-Orchis.
Two specimens near Stony Island, growing in the deep grass of a swamp. July, 1887. (B. P.)

975. **H. leucophæa,** Gray. Greenish Fringed-Orchis.
Moist prairies and woods; frequent southward, rare elsewhere. July—August.

976. **H. lacera,** R.Br. Ragged Fringed-Orchis.
Swamps and moist woods; infrequent south. July.
Casella, Ind. Normal, *Brennan.* Calumet, Ind., *Babcock.* Miller's, Ind., *Hill, Bastin!*

977. **H. psycodes,** Gray. Purple Fringed-Orchis.
Wet grounds; rare. July. (B.)
Near Lake Calumet. Hog Island, *Williams.* Miller's, Ind., *Hill, Bastin.* Englewood, *Dodge.*

CYPRIPEDIUM, L.

978. **C. candidum,** Muhl. Small White Lady's Slipper.
Bogs; local. May 20th—June.
Ravenswood. Winnetka. Rose Hill. Hog Island. Englewood to South Chicago and southeast. Calvary, *Miss Belle Alling.*

979. **C. parviflorum,** Salisb. Smaller Yellow Lady's Slipper.
Rich low woods and bogs; local. May—June.
Ravines north of Evanston. Palatine. Calvary, *Miss Belle Alling.* Southeast; frequent.

980. **C. pubescens,** Willd. Larger Yellow Lady's Slipper.
Moist rich woods and bogs; frequent, especially in ravines northward; less frequent elsewhere. June.

981. **C. spectabile,** Swartz. Showy Lady's Slipper.
Chiefly in the bogs and sloughs of the southeastern portion of our district, where it is frequent; rare, northward. June—July.
It is said to have been abundant, a few years since, near Calumet, Ind., from which locality it has been nearly exterminated by florists.

A monstrous flower of this species, found June, 1881, at Pine Station, Ind., near the shore of Lake Michigan, had the following characteristics; it was borne on the same stalk with a flower which had the ordinary form of the species. Its organs were arranged in five alternating whorls, each of three pieces, save the third, which consisted of but two; the floral organs were adnate to the ovary; the stamens gynandrous, and the styles united as in the ordinary forms; but the ovary was not twisted, the stigmas were deeply and equally three-lobed, and the leaves of the perianth were equally developed, *Bastin, in his College Botany.*

982. **C. acaule,** Ait. Slender or Pink Lady's Slipper. Moccasin Flower.
Low places in sandy soil; west bank of the Calumet river, about one mile northeast of Calumet Heights on the B. & O. R. R. Local, *Bastin.* (B.)

HÆMODORACEÆ.

ALETRIS, L.

983. **A. farinosa,** L. Aletris. Colic-root. Star-Grass. Unicorn.
In sandy soil, from South Park, southward; frequent. Less frequent, north of Chicago. July—August 15th.

IRIDACEÆ.

IRIS, Tourn.

984. **I. versicolor**, L. Larger Blue Flag.
Swamps and wet places; common. May 25th—July.

SISYRINCHIUM, L. Blue-eyed Grass.

985. **S. angustifolium**, Mill.
S. bermudiana, L., var. *mucronatum*, Gray.
Moist grassy places; common, often abundant. June—September. The white-flowered form is frequent locally.

986. **S. anceps**, Cav.
S. bermudiana, L., var. *anceps*, Gray.
Moist prairies; frequent. May—June.
Near Stony Island. Grand Crossing. Edgemoor, Ind., *Johnson*.

AMARYLLIDACEÆ.

HYPOXYS, L.

987. **H. erecta**, L. Star-grass.
Meadows, lawns, roadsides, woods, etc.; common or abundant. May 20th—August.
During the season of 1888, two or three plants were observed on a lawn near Garfield Park, Chicago, the flowers of which had twelve parts to the perianth.

DIOSCOREACEÆ.

DIOSCOREA, Plumier.

988. **D. villosa**, L. Wild Yam.
Rich woods; infrequent. July.
Niles. Riverside. South Park. Stony Island. Berry Lake and Miller's, Ind.

LILIACEÆ.

SMILAX, Tourn.

989. **S. herbacea**, L. Carrion-flower.
Moist banks and woods, especially southward; frequent. May 20th—June.

990. **S. rotundifolia**, L. Common Greenbrier.
Moist woods; frequent and scattered. June. (B.)

991. **S. glauca**, Walt. Greenbrier.
Evanston. Niles. South Chicago, *Dodge*. Whiting, Ind., *Herman Jaeger*.

992. **S. hispida,** Muhl. Hispid Greenbrier.
Rich woods; infrequent. (B.)
Glencoe. Niles. Edgemoor, Ind., *Johnson.*

ALLIUM, L.

993. **A. tricoccum,** Ait. Wild Leek.
Rich and moist woods; frequent, especially southward. June 15th—July.

994. **A. cernuum,** Roth. Wild Onion.
Prairies; common, abundant southward. July—August 10th.

995. **A. canadense,** Kalm. Wild Onion. Garlic.
Moist open woods and prairies; not common. May—June.

CAMASSIA, Lindl.

996. **C. fraseri,** Torr. Eastern Quamash. Wild Hyacinth.
Scilla fraseri, Gray.
Scilla esculenta, Ker.
Moist prairies, open woods and banks; frequent. May.

POLYGONATUM, Tourn.

997. **P. biflorum,** Ell. Smaller Solomon's Seal.
Open woods and shaded banks; frequent. May 15th—June.

998. **P. giganteum,** Dietrich. Great Solomon's Seal.
Banks of streams and lakes and moist woods; frequent. June.

ASPARAGUS, Tourn.

999. A OFFICINALIS, L. Garden Asparagus.
Escaped from cultivation to roadsides and waste fields; infrequent. May—June. (B. P.)

SMILACINA, Desf. False Solomon's Seal.

1000. **S. racemosa,** Desf. False Spikenard.
Moist shaded places; frequent. June.
With S. stellata, Desf.

1001. **S. stellata,** Desf.
Moist open woods and shaded banks; common. May—June.

1002. **S. trifolia,** Desf. Three-leaved False Solomon's Seal.
Bogs and wet banks; rare. May.
Roger's Park. Pine Station and Berry Lake, Ind. Gibson's, Ind., *Babcock.*

MAIANTHEMUM, Wigg.

1003. **M. canadense,** Desf. Two-leaved False Solomon's Seal.
Smilacina bifolia, Ker., var. *canadensis,* Gray.
Moist woods and banks; common. May—June 10th.

UVULARIA, L.

1004. **U. grandiflora**, Smith. Larger Bellwort.
Moist rich woods and shaded banks; common in the woods and ravines of the north, elsewhere frequent. April 25th—June.

OAKESIA, Watson.

1005. **O. sessilifolia**, Watson. Sessile-leaved Bellwort.
Uvularia sessilifolia, L.
Niles woods; rare. May. (B. P.)

ERYTHRONIUM, L.

1006. **E. americanum**, Ker. Yellow Adder's-tongue. Yellow Dog's-tooth Violet.
Low moist places; rare. April 15th—May.
Glencoe. Niles. Maywood, *Babcock*.

1007. **E. albidum**, Nutt. White Adder's-tongue or Dog's-tooth Violet.
Moist open woods and shaded places; frequent. April—May.

LILIUM, L.

1008. **L. philadelphicum**, L. Wild Orange Lily.
Usually in dry sandy soil; common eastward. July—August.
A specimen with two stamens changed to petals was collected at Englewood, *Hill*.

1009. **L. superbum**, L. Turk's-cap Lily. Wild Tiger Lily.
Moist and rich soil; infrequent, and chiefly southeast. July 15th—August.
Riverside; rare. Palatine; abundant, *Babcock*.

1010. **L. canadense**, L. Wild Yellow Lily.
Moist places; infrequent. July—August. (B.)
Wilmette. Hyde Park, *Bastin*.

MEDEOLA, Gronov.

1011. **M. virginiana**, L. Indian Cucumber-root.
Rich moist woods; infrequent, except locally. June.
Stony Island. Berry Lake, Ind. Gibson's, Ind., not common, *Babcock*. Miller's, Ind., *Hill*. Edgemoor, Ind., *Johnson*.

TRILLIUM, L.

1012. **T. sessile**, L. Sessile Trillium.
Rich moist woods; infrequent. May. (B.)
Northern and western portions of our district.

1013. **T. recurvatum**, Beck. Trillium.
Moist rich woods; common. May—June.

1014. **T. erectum,** L. Birth-root. Bath-flower.
Rich and open woods; infrequent. May—June 25th.

1015. **T. grandiflorum,** Salisb. Large White Trillium.
Rich woods and banks; common northward; less frequent south. May.
An abnormal form with three typical and one shorter petal, about ⅓ the size of the others, was collected at Winnetka.
A double-flowered form has been observed in the ravines near Glencoe; specimens with stalked sepals are not uncommon.

1016. **T. cernuum,** L. Nodding Trillium.
Moist rich woods and swamps; infrequent and scattered. May—June. (B.)

TOFIELDIA, Hudson.

1017. **T. glutinosa,** Willd. False Asphodel.
Moist places. June—July.
From Hyde Park south and southeast; not common, except at Pine Station, Miller's and Edgemoor, Ind. Banks of the Desplaines river near Maywood; rare.

PONTEDERIACEÆ.

PONTEDERIA, L.

1018. **P. cordata,** L. Pickerel-weed.
Aquatic and low swamps; frequent, or common locally. July—September 15th.

HETERANTHERA, Ruiz & Pav.

1019. **H. graminea,** Vahl. Water Star-grass.
Schollera graminifolia, Willd.
Aquatic; frequent in the streams and ponds of the southeast, rare elsewhere. July 20th—August. (B.)

XYRIDACEÆ.

XYRIS, Gronov.

1020. **X. flexuosa,** Muhl. Yellow-eyed Grass.
Wet sandy swamps and bogs, from Sheffield, Ind., southward. July—August.

COMMELINACEÆ.

COMMELINA, Dill.

1021. **C. virginica,** L. Day-flower.
Sandy hills at Miller's, Ind., *Babcock!*
Babcock reports it "abundant" in this locality. We do not find it so at the present time.

TRADESCANTIA, L.

1022. **T. virginica**, L. Common Spiderwort.
Moist open woods, prairies and fields; common or abundant. June—August. RH

JUNCACEÆ.

JUNCUS, Tourn. Rush. Bog-rush.

1023. **J. effusus**, L. Common or Soft Rush.
Low banks of streams, lakes or swamps; frequent. July. (B.)

1024. **J. balticus**, Deth., var. **littoralis**, Engelm.
Sandy soil near the lake shore, both north and south; frequent south. June.

1025. J. MARGINATUS, Rostk.
Three or four specimens were found on the lake shore near Whiting, Ind., July 25th, 1888. (B.)
Probably a waif from the East.

1026. **J. greenii**, Oakes & Tuck.
Whiting, Ind.; rare. July.
Miller's, Ind., 1878, *Bastin*. Sandy soil, east of railroad, about midway between Clarke & Tolleston, Ind., *Hill*. (B.)

1027. **J. tenuis**, Willd.
Low places; common. July. (B.)

1028. **J. gerardi**, Loisel.
Near Chicago, *Vasey,—in Plants of Illinois*. (B.)

1029. **J. bufonis**, L.
Low roadsides, banks and prairies; scattered. June—July.

1030. **J. alpinus**, Vill., var. **insignis**, Fries.
Wet sandy soil near the lake shore; rare. June—July. (B.)
South Chicago. Near Colehour and Casella, Ind. Sheffield, Ind., *Hill*.

1031. **J. acuminatus**, Michx.
Wet grounds near Pine Station, Ind. June. (B.)
Miller's, Ind., *Hill*.

1032. **J. scirpoides**, Lam.
Wet sandy soil; rare. August. (B. P.)
Miller's, Ind., *Bastin!* Tolleston, Ind., *Hill*.

J articulatus
J. helocarpum

1033. **J. nodosus,** L.

Wet sandy places and swamps; frequent or common from Hyde Park southward, elsewhere infrequent or rare. July.

1034. **J. nodosus,** L., var. **megacephalus,** Torr.

Near Stony Island, 1888. Berry Lake, Ind., 1887. Pine Station, Ind., *Babcock.*

1035. **J. canadensis,** J. Gay.

Low grounds, chiefly southward; common. August—September. (B. P.)

1036. **J. canadensis,** J. Gay., var. **longicaudatus,** Engelm.

Wet sandy soil; frequent. August. (B.)
Tolleston and Pine Station, Ind. Miller's, Ind., *Hill.*

1037. **J. canadensis,** J. Gay., var. **brachycephalus,** Engelm.

Wet places; infrequent or rare. August. (B.)
Southeast from Englewood.

LUZULA, D C.

1038. **L. campestris,** D C. Wood-Rush.

Fields and open woods; common or abundant. May.
Two forms are found:
(*a*) Decidedly hairy.
(*b*) Nearly smooth, or with a few scattered hairs.

TYPHACEÆ.

TYPHA, Tourn.

1039. **T. latifolia,** L. Common Cat-tail. Flag. Reed-Mace.

Aquatic or in swamps; common. June—July 15th.

1040. **T. angustifolia,** L. Narrow-leaved or Small Cat-tail.

T. latifolia, L., var. *angustifolia*, Wood.

Swampy places or aquatic. July. (B. P.)
"Skokie," Glencoe; rare. Liable to be found with the last. From South Chicago, south and southeast; frequent.

SPARGANIUM, Tourn. Bur-reed.

1041. **S. eurycarpum,** Engelm.

Frequent in swamps and borders of lakes, from Hyde Park southward. June.

1042. **S. simplex,** Hudson.

Borders of ponds; not common. July. (B.)
South Chicago. Miller's and Tolleston, Ind. Pine Station, Ind., *Hill!*

1043. **S. minimum,** Fries.

Ponds and streams, southeast; rare. July. (P.)

Pine Station, Ind., *Babcock!* Clarke, Ind., short and partly out of water, *Hill.*

ARACEÆ.

ARISÆMA, Martius. Indian Turnip.

1044. **A. triphyllum,** Torr. Jack-in-the-Pulpit.

Moist woods and shaded swamps; common. April—June.

A form having acuminate leaflets with one or two lobes is occasionally found.

1045. **A. dracontium,** Schott. Green Dragon. Dragon-root.

Low shaded banks and wet woods; infrequent. May.

Often with the last.

PELTANDRA, Raf.

1046. **P. undulata,** Raf. Arrow Arum.

P. virginica, Kunth.

In shallow water, chiefly south and southeast; infrequent. June—July. (B.)

SYMPLOCARPUS, Salisb.

1047. **S. fœtidus,** Salisb. Skunk Cabbage.

Wet banks, bogs and low woods; frequent. March—May, rarely as late as July.

In 1888 a few specimens were found with the spathe without spots or stripes.

ACORUS, L.

1048. **A. calamus,** L. Sweet Flag. Calamus.

Margins of streams and wet or swampy places; occasionally in drier places, where the water accumulates and remains for a short time after a storm; common southward. May 15th—June 25th.

LEMNACEÆ.

SPIRODELA, Schl.

1049. **S. polyrrhiza,** Schl. Duckweed.

Lemna polyrrhiza, L.

Ponds and borders of slow streams; infrequent.

LEMNA, L. Duckweed.

1050. **L. trisulca,** L.

In small ponds near Lake Calumet, 1884–'86, *C. P. Murray.* Lake Calumet, *Bastin!* Calumet river, near South Chicago, *Hill.* Not in flower in either locality. (B.)

1051. **L. perpusilla,** Torr.
Calumet Region; rare. A few fertile specimens were found near Hyde Lake, Ind., August 15th, 1884. (B. P.)

1052. **L. minor,** L.
In stagnant water; common.
Found in flower in July, 1886, *C. P. Murray!*

WOLFFIA, Horkel.

1053. **W. columbiana,** Karsten. Wolffia.
South end of Berry Lake, Ind., in stagnant places, floating just beneath the water; $\frac{1}{5}$ to $\frac{3}{4}$ of an inch long. Bayous of Calumet river, South Chicago, *Hill!* (B.)

ALISMACEÆ.

ALISMA, L.

1054. **A. plantago,** L. Water Plantain.
Aquatic; common. July—September.

SAGITTARIA, L. Arrowhead.

1055. **S. variabilis,** Engelm. Common Arrowhead.
Aquatic or in swampy places; abundant. July—August.
The following varieties, or forms, are common and found with the type: obtusa, Gray; angustifolia, Gray; gracilis, Engelm. The latter on the authority of Babcock. A form with double flowers was found at Hinsdale by Mr. C. J. Fellows, *Babcock*, and a few similar specimens were collected near Pullman in 1885.
Var. latifolia occurs at South Chicago, *Williams.*

1056. **S. heterophylla,** Ph.
In swamps, chiefly southeast; infrequent. August. (B.)

1057. **S. heterophylla,** Ph., var. **angustifolia,** Engelm.
Near Miller's, Ind.; rare. (B. P.)

1058. **S. heterophylla,** Ph., var. **rigida,** Engelm.
Calumet river, near Miller's, Ind.; rare. August. (B. P.)
Calumet river, near South Chicago, *Hill.*

1059. **S. graminea,** Michx.
Ditches and swamps; frequent from Hyde Park south. July—August, sometimes as early as June 15th.

NAIADACEÆ.

TRIGLOCHIN, L. Arrow-grass.

1060. **T. palustris,** L.
A few specimens were noticed in a swamp near Sheffield, Ind.; rare. August, 1884–'85. (B.)

When looked for in 1887, they had disappeared. So far as known, this is the only locality within our limits where this species has been observed.

1061. **T. maritima,** L.

Marshy places from Woodlawn, southward, near the lake shore; not common. July—August.

North of Chicago; rare.

SCHEUCHZERIA, L.

1062. **S. palustris,** L. Scheuchzeria.

Miller's, Ind., *Bastin!* (B.)

POTAMOGETON, Tourn. Pondweed. (Arranged by Prof. E. J. Hill.)

1063. **P. natans,** L.

Common in ponds, ditches and rivers. July—August.

1064. **P. fluitans,** Roth.

P. lonchites, Tuck.

Aquatic, August, 1878, *University of Chicago Herbarium.* Chicago, *Babcock.* Desplaines river, near Desplaines, *W. K. Higley.* Deep ditches, South Chicago. July—September. (B.)

Frequent in the Calumet river, and usually growing, with very long stems, in deep water.

1065. **P. pulcher,** Tuck.

Rare, 1884 and 1885. June—August. (B.)

As yet found in but one place; in a slough by the roadside from Clarke to Pine Station, Ind. Perfect fruit found June 21st, but the upper leaves at that date were not full grown.

1066. **P. amplifolius,** Tuck.

Frequent in deep pools and ditches. August—September. (B. P.)

Railroad ditches east of Englewood. South Chicago. Calumet river. Ponds in pine barrens, southeast.

The stems are often *branching,* and floating leaves frequently absent.

1067. **P. heterophyllus,** Schreb.

P. gramineus, Fries.

Desplaines river, near Riverside, *W. K. Higley.* July—September.

Common in ditches and shallow ponds from Englewood eastward.

A species exceedingly variable, especially in the shape and size of its floating leaves, and the number of its submersed leaves, these sometimes being few, but often very numerous, and differing considerably in size. Specimens collected at Pine Station, Ind., have the fruit plainly keeled, and with two parallel ridges rather fainter than the keel, one on each side, becoming nearly or quite obsolete at the base of the fruit; submersed leaves short and numerous.

1068. **P. zizia,** Mertens & Koch.

P. lucens, L., var. *minor,* Nolte.

Eastward from South Chicago, having about the same range there as P. lucens, and as common, especially at Pine Station, Ind. August—September. (B. P.)

Late in the season the plant sends up branches bearing immersed and shining leaves, by the lengthening of the stem beyond the earlier emersed ones, that at this time are submerged. (B. P.)

1069. **P. lucens,** L.

Throughout but infrequent, most common in ponds and small lakes of the Calumet Region from South Chicago eastward. August—September.

"Skokie." Cheltenham Beach. Riverside, *University of Chicago Herbarium.*

1070. **P. perfoliatus,** L., var. **lanceolatus,** Robbins.

Common in Calumet river and in lakes and ponds southeast of Chicago. July—October. (B. P.)

Quite variable in the length of the leaves, from $1\frac{1}{2}$ to $3\frac{3}{4}$ inches, those of the lower part of the stems are commonly shorter. All the plants collected from this vicinity, and nearly all throughout the West, are of the variety, and not of the type.

1071. **P. zosteræfolius,** Schum.

P. compressus, Fries.

Infrequent. June—August. (B.)

Calumet river and ditches entering it. South Chicago.

1072. **P. pauciflorus,*** Ph.

Very common throughout, in shallow water of pools and ditches. June—September. (B)

Perfect fruit is sometimes found in the early part of June. Peduncles short, spikes capitate, 2 to 8 flowered. The forms in our vicinity nearly all approach the following variety, generally being plainly 3-nerved.

*This species, like several other Potamogetons, is quite variable, and the type and variety imperceptibly grade into one another. It sometimes occurs with hair-like stems, barely a foot in length, and with fine, short leaves, (Manistee, Mich.), or with stems 2 to 4 feet long, and with leaves 3 to 5 nerved, (as in the rapid water of the Pine river, at Poysippi, Wis.), where it is var. niagarensis. Those found in our limits are somewhat intermediate, the extremes of size not yet having been seen. None of the forms collected by us at the West exactly agree with the type of the var. niagarensis, which grows in the mill race at Niagara Falls, near the Cataract House.

1073. **P. pauciflorus**, Ph., var. **niagarensis**, Gray.

P. niagarensis, Tuck.

With the same general characteristics as the species, but more robust, and more apt to be in running water, though not exclusively so. Leaves longer, (1½ to 3½ inches in length) and plainly 3 to 5 nerved, spikes 6 to 12 flowered. Same range. (B. P.)

1074. **P. pusillus**, L.

Frequent in still water, 2 to 3 feet deep, at South Chicago, and in pools and ditches at Englewood. July—August. (B.)

In both localities will be found forms with the leaves almost setaceous, (var. tenuissimus, Koch.)

1075. **P. mucronatus**, Schrad.

Common in ditches, near B. & O. R. R. shops, South Chicago. June—July, 1880–'81. (B. P.)

1076. **P. pectinatus**, L.

Common in streams and lakes of the Calumet Region, very abundant in railroad ditches at South Chicago. July—October.

The leaves of this species are quite variable, as well as the mode of branching. The leaves, especially on small plants, are commonly 1-nerved and setaceous, sometimes, particularly on larger forms, they are linear, bluntish, and with 3 to 5 double nerves. These forms usually branch but little, the leaves being arranged along the sides of the stems. Such forms might almost be taken for a different species. It is probable that the broad-leaved forms rarely perfect their fruit. Having first found them in 1880 at Manistee, Mich., they were thought to be P. flabellatus, Babington, (See Botanical Gazette, vol. 6, p. 262.) But the next year finding the same form among the Channel Islands of the St. Mary's river, and also in the Calumet river, an opportunity was given to study them at home. None of the plants found in August had mature fruit, as was also the case with those at Manistee and Sault Ste. Marie. Those in the Calumet river were again examined in October, but with no better result. But these forms from the Calumet had one character, as yet quite distinctive of P. pectinatus, and somewhat unique among Potamogetons, in abundance. They were well provided with bulbs or tubers on the creeping, underground stem. These appear in the Fall, (I have detected them as early as August 23rd,) and serve to make the species perennial. The slender axis joining the bulbs usually perishes, leaving them to start a new growth in the Spring. Sometimes they become detached and float on the water, but readily sink when the water is still. They abound in starch, and

serve to nourish the young plant. They seem especially numerous on the broad-leaved forms, and may take the place of fruit. Irmisch in his work (Ueber einige Arten aus der natürlichen Pflanzenfamilie Potameen, Berlin, 1858) gives a good description of them, with excellent figures, in an elaborate account of P. pectinatus. He compares these tubers or bulbs (Knolle) to those of Crocus and Gladiolus, and in their function of propagating the species to those of Scirpus maritimus and Cyperus esculentus, among Monocotyledons, and among Dicotyledons to the tubers of the potato and Stachys palustris.

NOTE.—Some species of the genus are found just beyond our limits, in Cedar Lake, Ind., and are likely to be found within them. These are P. robbinsii, Oakes, and P. prælongus, Wulfen. There are some indications of P. vaseyi, Robbins, having been found at S. Chicago, but as the specimens were imperfect, and not accessible now, or perhaps not in existence, it is deemed best to omit it. Aside from those given, and included in this note, no others are reported growing nearer than McHenry Co., that touches Cook County at the northwest corner. P. vaseyi (its original locality), P. spirellus, Tuckerman and P. rufescens, Schrader, are all reported from that county by Dr. George Vasey, and may be looked for in the neighboring parts of Cook County. P. illinoiensis, Morong, may also occur here, as we find specimens of P. amplifolius with branching stems, but as it is a doubtful species at best, it may not be easy to establish its presence here.

ZANNICHELLIA, Micheli.

1077. **Z. palustris,** L. Horned Pondweed.

Pond near Cheltenham Beach; rare. July 16, 1888. (Form with fruit nearly sessile.) The form with peduncled fruit is more common, but intermediate forms occur, so that the distinctions on which var. pedunculata, Gray, are founded do not hold. Abundant in ditches at S. Chicago. Throughout in shallow water, but not abundant. July. (B.)

NAIAS, L.

1078. **N. flexilis,** Rostk. Schmidt. Naiad.

Ponds, shallow streams and lakes; common, especially in the Calumet Region. July—Aug. (B.)

CYPERACEÆ.

CYPERUS, Tourn. Cyperus. Gilingale.

1079. **C. flavescens,** L.

Evanston, *Johnson.* (B. P.)

1080. **C. diandrus,** Torr.

Low grounds; frequent southward, less frequent elsewhere. Aug.—Sept.

Abundant, especially south, *Babcock.*

1081. **C. diandrus,** Torr., var. **castaneus,** Torr.

With the type; infrequent. (B. P.)

1082. **C. aristatus,** Rottb.

C. inflexus, Muhl.

In sandy soil near the lake shore, both north and south; frequent. August—September.

1083. **C. schweinitzii,** Torr.

In sandy soil near the lake shore, south of Chicago; infrequent. July—September 25th.

Miller's, Ind.; abundant, *Babcock!* Evanston, *Johnson.*

1084. **C. filiculmis,** Vahl.

Dry fields and banks; frequent or common southward. August—September.

1085. **C. erythrorhizos,** Muhl.

Along I. C. R. R., between Oakland and Hyde Park; common, *Babcock.*

Generally infrequent.

1086. **C. esculentus,** L. Nut-Grass.

C. phymatodes, Muhl.

Banks of a slough west of Berry Lake, Ind.; rare. August 25th, 1885, and September 5th, 1887. (B.)

1087. **C. strigosus,** L.

Damp fields and banks; the most common form of the genus. August—October 15th. (B.)

1088. **C. speciosus,** Vahl.

C. michauxianus, in Manual, 5th Ed.

Low sandy soil from Hyde Park southward; infrequent or rare. August—October.

1089. **C. engelmanni,** Steud.

Low grounds at Forsyth, Indiana, September, 1879, *Hill.* (B.)

1090. **C. ovularis,** Torr.

Sandy fields; rare. September, 1889. (B.)

East Chicago, Ind.; plants 8 inches to 2 feet high, spike 2 to 8 flowered, *Hill.*

DULICHIUM, Pers.

1091. **D. spathaceum,** Pers. Dulichium.

Borders of ponds and sloughs in the Calumet Region, south to Miller's, Ind.; common, elsewhere infrequent. July 25th—September.

ELEOCHARIS, R.Br. Spike-Rush.

1092. **E. capitata**, R.Br.

"Found in a single locality in a slough south of Whiting, Ind., August 29th, 1881, and described in Botanical Gazette, VII, 3 (1882), as E. dispar.

Elsewhere in the United States, E. capitata ranges, as far as reported, throughout the Gulf States from Florida to Texas, New Mexico, Oregon and the borders of Colorado Desert. It is found in Mexico and several of the West India islands. As far as I have ever seen in examining many of the plants at Whiting, they have but *two* stamens, though the number of stamens in species of Eleocharis is not constant, and is not regarded as reliable in characterization. It is an annual plant in our district, without rhizomes to perpetuate it. Having observed it for several years, I find that the seeds germinate in the latter part of June, in the water or mud.

On looking for the plant the present season, (1889) the stems were about $\frac{1}{2}$ inch high, the first of July, thickly covering the ground in spots. On examining the plants about the middle of October, all were dead, root and stem, although dried stalks were plentiful. Its season, therefore, is from three and one-half to four months," *Hill!* (B. P.)

1093. **E. ovata**, R.Br.

E. obtusa, Schultes.

Moist places, muddy banks and sloughs; infrequent. June 25th—August 10th.

Hyde Park and south; common, *Babcock.*

We do not find this species at all common south of Chicago.

1094. **E. palustris**, R.Br.

Aquatic, and muddy banks; common, especially southward. June —July. (B).

1095. **E. palustris**, R.Br., var. **glaucescens**, Gray.

In shallow water from Englewood eastward; common. (B.)

Usually found with the type.

1096. **E. intermedia**, Schultes.

Hyde Park, *Bastin.* (B.)

1097. **E. tenuis**, Schultes.

Wet prairies, borders of sloughs, etc.; common. June 15th—August 15th. (B.)

1098. **E. compressa**, Sullivant.

Wet prairies; frequent southward. (B.)

1099. **E. acicularis,** R.Br.
Muddy places; common. June—July. (B.)

1100. **E. pauciflora,** Link.
Wet, sandy soil, south of Whiting, Ind., *Hill!* (B. P.)

FIMBRISTYLIS, Vahl.

1101. **F. spadicea,** Vahl., var. **castanea,** Gray.
F. castanea, Vahl.
Damp prairies; frequent, at least locally. July. (B.)
Englewood and southeast, also at Waukegan, Lake County, Ill., *Hill!*

1102. **F. laxa,** Vahl.
Hyde Park; common, *Babcock.*
We have seen only doubtful specimens of this species from our district.

1103. **F. autumnalis,** Roem. & Schultes.
Moist sands. August—September. (B.)
At Tolleston and Whiting, Indiana, it is local but abundant. Specimens found at Whiting have the nut covered with stipitate tubercles, or wart-like projections. These are mentioned by Torrey in his "Cyperaceæ," under Trycholostylis mucronulatus, and in Chapman's Flora, *Hill!*

1104. **F. capillaris,** Gray.
Dry, sandy soil; infrequent. July—August. (B.)

SCIRPUS, Tourn. Bulrush or Club-Rush.

1105. **S. subterminalis,** Torr.
Ponds; infrequent. July. (B. P.)
Pine Station, Ind., *Hill.* Near Whiting, Ind.

1106. **S. pungens,** Vahl.
Sloughs of the Calumet Region and eastward; frequent. July. (B.)

1107. **S. lacustris,** L Great Bulrush.
S. validus, Vahl.
Aquatic and swamps; frequent or common, especially in the Calumet Region and northern Indiana. July.

1108. **S. debilis,** Ph.
Wet places; frequent. August.
At Miller's, Ind., Prof. Hill has found plants with the bristles usually five in number.

1109. **S. fluviatilis,** Gray. River Bulrush.
Borders of lakes and streams from South Chicago, south and southeast; frequent. July—August.

1110. **S. atrovirens,** Muhl.
Frequent in wet prairies and bogs. June—July. (B.)

ERIOPHORUM, L. Cotton-Grass.

1111. **E. lineatum,** Benth. & Hook.
Scirpus lineatus, Michx.
Low prairies; frequent. June—July. (B.)
South Chicago, *Hill.* Calumet Region and east; infrequent.

1112. **E. cyperinum,** L. Wool-Grass or Rush.
Scirpus eriophorum, Michx.
Wet places; infrequent or rare. (B.)
West of Berry Lake, Ind., frequent in 1886.
Very variable. Possibly variety laxum, Gray, may be found within our limits.

1113. **E. virginicum,** L.
Sloughs and swamps, chiefly from the Calumet Region, east; common. July—August.

1114. **E. polystachyon,** L.
Wet prairies and bogs; common, especially in the southern portions of our district. May 20th—July 15th.

1115. **E. polystachyon,** L., var. **latifolium,** Gray.
Found with the type. (B. P.)

1116. **E. gracile,** Koch.
Sheffield, Ind.; rare. Miller's and Pine Station, Ind. May—July 10th.
South Chicago, *University of Chicago Herbarium.* (B.)

HEMICARPHA, Nees.

1117. **H. subsquarrosa,** Nees.
Includes var. *drummondii,* in Manual, 5th Ed.
Damp sandy soil; rare. July. (B.)
Miller's, Ind., 1880, *Hill!* This form is the variety drummondii of the 5th Edition of the Manual. Also found at Berry Lake, Ind., 1890.
The nearest point at which the type has been found is Laporte, Ind.

RHYNCHOSPORA, Vahl. Beak-Rush.

1118. **R. cymosa,** Nutt.
Not common. Miller's, Ind., August 8th, 1876. Tolleston, Ind.
Prof. Hill first detected this plant at Kankakee, Ills., in 1870, and the second time at Miller's, Ind. It grows in some localities with R. glomerata, Vahl., but is much less common. (B.)

1119. **R. alba,** Vahl.

Three specimens were found near Grand Crossing, August 5th, 1886. (B.)

1120. **R. capillacea,** Torr., var. **leviseta,** E. J. Hill (Am. Nat., Vol. X., June, 1876, p. 370.)

Frequent in wet sands at Pine Station, Edgemoor and Whiting, Ind. First discovered at Pine Station in 1875, and frequently found since then; bristles *perfectly smooth*, but not otherwise differing from the type. All the specimens in our district, yet examined, are of the variety, not the type; found also at Torch Lake, Mich., with the type, *Hill!* (B. P.)

1121. **R. glomerata,** Vahl.

Wet places; frequent south and southeast. July—September.

CLADIUM, P. Br.

1122. **C. mariscoides,** Torr. Twig-Rush.

Near the south end of Lake Calumet; rare. July 1883–'85. Pine Station, Ind., 1889. Cook County, *Scammon,—in Bebb's Herb. at Northwestern University.* (B.)

Abundant in marsh east of Englewood, *Hill.*

SCLERIA, Berg. Nut-Rush.

1123. **S. triglomerata,** Michx.

Southern portions of the Calumet Region; infrequent. June 15th—August.

Miller's, Ind. Evanston, *Boltwood.* Common at Pine Station, Ind., *Hill!*

1124. **S. verticillata,** Muhl.

Sandy borders of sloughs near Miller's, Ind.; rare. August, 1888. (B. P.)

CAREX, Ruppius. Sedge.

1125. **C. intumescens,** Rudge.

Wet places; common or abundant. May—July. (B.)

1126. **C. grayii,** Carey.

Wet banks; generally rare. May 10th—July.

Thatcher. Riverside. Swamps near Stony Island, a single specimen, 1885. Near banks of Desplaines river; abundant, *Babcock.* Hobart and Wheeler, Ind., *Hill.*

1127. **C. lupulina,** Muhl.

Wet places; frequent, especially southward. May 25th—July 15th. (B.)

"A variable and perplexing species," *Bailey.*

1128. **C. lupulina,** Muhl., var. **pedunculata,** Dew.
With the type; frequent, (B. P.)

NOTE.—**C. lupulina,** Muhl., var. **polystachya,** Schwein & Torr.
C. lupuliformis, Sartw.

Glencoe; rare, *Babcock.*
Babcock's specimen is not available, and as the writers have never been able to find this form, and, as it is easily mistaken for var. pedunculata, think it possible there may have been a mistake in identification.

1129. **C. utriculata,** Boott.
Sloughs from Sheffield south to Pine Station, Ind.; infrequent. June. (B.)

1130. **C. monile,** Tuck.
In wet places; not common. June—July. (B.)

1131. **C. lurida,** Wahl.
C. tentaculata, Muhl.
Wet prairies and sloughs; common or abundant. June 15th—July. (B.)

1132. **C. hystricina,** Muhl.
Wet prairies and banks; common, especially southward. May 15th—August.
Pine Station, Ind.; abundant, *Babcock!*

1133. **C. pseudo-cyperus,** L., var. **americana,** Hochst.
C. comosa, Boott.
Swamps of the Calumet Region; infrequent. June.
Pine Station and Gibson's, Ind.; not common, *Babcock!*
Borders of Calumet Lake, *Bastin.*
Sloughs, East Chicago, Ind., 1889, where some of the plants were remarkable for the character of the staminate spikes, which had fertile flowers variously intermixed, sometimes one-half fertile, usually the upper part. In this respect it resembled C. hystricina, Muhl., as sometimes found. However, the majority of specimens were usually typical, *Hill.*

1134. **C. squarrosa,** L.
Sloughs near Casella, Ind.; rare. June, 1888.
Wheeler, Ind., *Hill.* (B.)

1135. **C. scabrata,** Schwein.
Wet borders of sloughs from Colehour, Ind., southward; rare. May. (B. P.)
Evanston. Niles' woods, 1886. Grand Crossing, 1889.

1136. **C. filiformis**, L.

Sloughs throughout the Calumet Region and south to Miller's, Ind.; infrequent or rare. May—June.

Pine Station, Ind., *Babcock!* Morgan Park, *Hill.*

1137. **C. filiformis**, L., var. **latifolia**, Boeckl.

C. *lanuginosa*, Michx.

Wet places; common. May—July.

1138. **C. riparia**, W. Curtis.

Sloughs near Cassella and Miller's, Ind.; infrequent. May 25th—July 5th. (B.)

Clarke, Ind.; sterile spikes usually 3; uppermost usually stalked; leaves variable, about 4 inches wide, *Hill.*

1139. **C. fusca**, All.

C. buxbaumii, Wahl.

Bogs, Hyde Park, south to Miller's, Ind.; common, infrequent elsewhere. May—July 25th.

Specimens from Clarke, Ind., had the uppermost spike staminate at the apex, as well as at the base, May, 1881, *Hill.*

1140. C. VULGARIS, Fries.

Banks of the Calumet river, near L. S. & M. S. R. R. bridge. June 25th, 1887. (B. P.)

But two specimens of this species, evidently introduced from the East, were found. This is the only record of its occurring within our limits. Having looked for it repeatedly since 1887, we are convinced that the two plants were merely waifs, and that it has disappeared altogether.

1141. **C. stricta**, Lam.

Wet prairies and peat bogs; common, especially southward. May 15th—June.

1142. **C. stricta**, Lam., var. **decora**, Bailey. (Bot. Gaz. xiii., '85.)

C. aperta, in Manual, 5th Ed.

Woods at Riverside; abundant, *Babcock.* Evanston, *Johnson.*

C. aperta, Boott, is a plant of the Pacific Coast; the name being founded on specimens collected by Scoules & Douglas in the Columbia river. Boott made a variety b, founded on specimens from the Eastern United States. This is the C. aperta of Gray's Manual, 5th Edition.

Prof. Hill reports the following note concerning a specimen collected at Kankakee, Ill., in 1872: Spikes rather short, (as compared with C. aperta), the perigynia covered with minute, transparent dots; some of the scales barely as long as the perigynium.

1143. **C. aquatilis,** Wahl.

Desplaines river, near Desplaines; rare, 1889. Lake Calumet, near the southern end; rare, 1886. Calumet river, near South Chicago; infrequent. June. (B.)

Sterile spikes rarely four. A form with long and narrow leaves, with the fertile spikes quite short, 1½ to 2 inches long, is occasionally met with. Plants 2 to 5 feet high.

1144. **C. crinita,** Lam.

Banks of streams and wet places; frequent. (B.)

1145. **C. gracillima,** Schwein.

Sloughs; rare. May—June. (B. P.)

Pine Station and Miller's, Ind.

A form with scales obtuse or with a short point was found in wet places in woods west of Clarke, Ind., 1889, *Hill.*

1146. **C. grisea,** Wahl.

Moist places; infrequent.

South Park. Pullman. Riverside, *Brennan.* Desplaines, *C. P. Murray.* (B. P.)

1147. **C. granularis,** Muhl.

Wet places north of Lake Calumet; infrequent. May.

At Clarke, Ind., in moist or even dryish soil, *Hill.* (B.)

1148. **C. crawei,** Dew.

Sloughs and wet places, especially south; frequent. June.

1149. **C. flava,** L., var. **viridula,** Bailey.

C. œderi, in Manual, 5th Ed.

Lake shore from South Chicago, south to Pine Station, Ind.; frequent. May—June. (B. P.)

Bluffs near Evanston, *Miss Frances Towle.* Rose Hill, *Johnson.*

Prof. Hill reports the following: I find this abundant in wet sands from Englewood east. It delights particularly in railway excavations when not too wet, growing in extensive patches and thickly covering the ground.

1150. **C. conoidea,** Schk.

Moist prairies; infrequent, especially southward. May 25th—June. (B.)

1151. **C. oligocarpa,** Schk.

Woods; rare. June.

Forest Hill, also Hobart, Ind., *Hill!* (B.)

Bailey remarks: "I find that in general, botanists have not a clear conception of this species. Distinguished from C. grisea, var.

angustifolia, with which it is sometimes confounded, by its smaller perigynium, which is abruptly contracted at its middle into a conspicuous beak."

It is likely also to be confounded with some forms of laxiflora, when the latter bears few fruits, but in the finely striated perigynium, I have found one of the best discriminations, *Hill.*

1152. **C. laxiflora,** Lam.

Open woods, fields, etc.; frequent. May 20th—July 15th, often as late as October.

1153. **C. laxiflora,** Lam., var. **striatula,** Carey.

Var. *blanda*, Boott.

Common or abundant. May—June. (B. P.)

1154. **C. laxiflora,** Lam., var. **patulifolia,** Carey.

Var. *plantaginea*, Boott.

Near Stony Island; rare, 1886. Berry Lake, Ind.; rare, 1888. (B. P.)

NOTE.—A very variable species, the varieties growing in similar localities with the type.

Var. intermedia, Boott, of Gray's Manual, 5th Ed., which is frequently found within our limits, is now regarded by Bailey as the type form.

1155. **C. careyana,** Torr. Carey's Sedge.

Shaded ravines north of Evanston; very rare. May. (B.)

This is also found beyond our limits in ravines made by the brooks of the Calumet river about its sources at Otis, Ind., *Hill.*

1156. **C. plantaginea,** Lam.

Shaded banks and rich open woods; infrequent. May—June. (B. P.)

Glencoe. Evanston. Niles. Riverside. Casella, Ind., and southward.

1157. **C. saltuensis,** Bailey.

C. vaginata, Tausch.

Sloughs between Pine Station and Clarke, Ind.; rare. June, 1887–'89.

Moist slopes near sloughs, with C. granularis, Muhl., Clarke, Ind., May, 1881, *Hill.* (B. P.)

1158. **C. tetanica,** Schk.

Common south and east, less frequent in the northern portion of our district.

1159. **C. tetanica,** Schk., var. **meadii,** Bailey. Mead's Sedge.

C. meadii, Dew.

C. meadii, Dew., var. *bebbii*, Arthur.?

In wet places. May—June 25th.

From Sheffield, south to Pine Station, Ind.; rare. Hinsdale, Du Page County; common, *Babcock.*

1160. **C. aurea,** Nutt.

Banks of streams, sloughs, etc., from Hyde Park southward; frequent. May 20th—July, often as late as September.

Moist woods at Niles; rare. Pine Station, Ind.; abundant, *Babcock!*

Sterile spikes with fertile flowers at the apex, Whiting and Pine Station, Ind., *Hill.*

1161. **C. eburnea,** Boott.

Dry sands, Pine, Ind.; common where found, but apparently limited in range, *Hill.* (B. P.)

1162. **C. richardsoni,** R.Br.

Dry sands, Pine Station, Ind.; infrequent. May. (B.)

Apt to be overlooked, and taken for C. pennsylvanica, Lam.

1163. **C. varia,** Muhl.

C. emmonsii, Dew.

Sandy woods, Whiting to Miller's, Ind.; infrequent. May—June. (B.)

Varies somewhat. Bracts longer than the culm, Whiting, Ind., June, 1880; without radical peduncle and with green spikes, East Chicago, Ind., May, 1886. Generally grows in tufts, sometimes very dense, in dry sandy soil, and usually with both kinds of spikes, the peduncled one from the base, and the others, 2 to 4, crowded near the top of the culm.

1164. **C. pennsylvanica,** Lam.

Dry banks and open woods; common throughout.

1165. **C. communis,** Bailey.

C. varia, in Manual, 5th Ed.

Dry open woods in the northern part of the county; not frequent, more frequent southward. (B.)

1166. **C. umbellata,** Schk.

Dry banks; infrequent. May—June. (P.)

Evanston. Niles. Sheffield, Ind. Pine Station, Ind.; common, *Babcock!*

1167. **C. pubescens,** Muhl.

Moist banks and open woods; infrequent. May—June. (B.)

Riverside and Stony Island; rare. Maywood. Evanston, *Johnson.*

1168. **C. jamesii,** Schwein.

C. steudelii, Kunth.

A single specimen was found June 5th, 1885, in woods near Jackson Park. Near Chicago, *Vasey.* (B.)

1169. **C. polytrichoides,** Muhl.

Wet prairies and swamps; frequent. May. (B.)

1170. **C. stipata,** Muhl.

Low places; common. May. (B.)

1171. **C. crus-corvi,** Shuttlew.

Swamps; rare. (B.)

Sloughs near Berry Lake, Ind., 1884. Pine Station, Ind., 1884. Riverside, *Munroe.*

1172. **C. teretiuscula,** Gooden.

Sloughs, near Pine Station, Ind.; infrequent or rare. May—June. (B.)

Niles; rare. Clarke, Ind., *Hill.*

1173. C. ALOPECOIDEA, Tuck.

Woods at Miller's, Ind.; rare, May, *Hill!* (B. P.)

1174. **C. vulpinoidea,** Michx.

Low places; common. June—July 10th. (B.)

Perigynia occasionally lanceolate with the beak long and quite entire. This is seemingly a late flowering form, July 15th to 25th.

1175. **C. sartwellii,** Dew.

C. disticha, in Manual, 5th Ed.

Border of sloughs, near Miller's, Ind.; rare. May, 1888. (B.)

Middle spikes all staminate, Evanston, *Johnson.*

1176. **C. tenella,** Schk.

Near Evanston, *Johnson.* (B. P.)

Berry Lake and Casella, Ind.; rare

1177. **C. rosea,** Schk.

Moist meadows and shaded banks; common. May—June 20th. (B.)

1178. **C rosea,** Schk., var. **radiata,** Dew.

With the type. May—June 10th. (B. P.)

Includes Var. *minor,* Boott., which is fully as common as the species.

1179. **C. sparganioides,** Muhl.

Low places and rich open woods; common. May—June 20th. (B.)

A form with the spikes branched is quite frequently found.

1180. **C. muhlenbergii,** Schk.

Frequent in dry open woods and on sandy ridges, from South Chicago, south. June—July.

Lake shore near Kenwood. Jackson Park, 1889, culm 2 feet high; perigynia ovate, longer than the mucronate scale, margins rough. Evanston, *Boltwood.*

1181. **C. cephalophora,** Muhl.

Open and rich woods and old fields; common. May. (B.)

Upper spike sometimes entirely staminate.

1182. **C. echinata,** Murray, var. **microstachys,** Boeckl.

C. sterilis, Willd.

C. stellulata, L., and var. *scirpoides,* Gray.

Wet places and sloughs; frequent, especially southward. May—June 15th.

Common at Clarke and Miller's, Ind., *Hill.*

1183. **C. canescens,** L.

Bogs near Pine Station, Ind.; rare, 1885. (B. P.)

1184. **C. canescens,** L., var. **apicola,** Wahl.

C. canescens, L., var. *vitilis,* Carey.

C. vitilis, Fries.

Wet grounds. June. (B. P.)

A tall and slender form varying in the proximity of the heads, East Chicago, Ind., 1889, *Hill.*

1185. **C. bromoides,** Schk.

Swamps of the Calumet Region and south; infrequent. May—June. (B. P.)

Evanston, *Johnson.* Otis, Ind., *Hill.*

In 1887 the dicœcious form was frequent.

1186. **C. muskingumensis,** Schwein.

C. arida, Schwein. & Torr.

Near Chicago, *Northwestern University Herb.* Wheeler, Ind., just south of our limits, *Hill.* (B.)

1187. **C. tribuloides,** Wahl.

C. lagopodioides, Schk,

Moist open woods and banks; frequent in the northern portion of our district. June—July 10th. (B.)

Evanston. Niles. Palatine. Desplaines. Riverside.

With some heads compound at the base, East Chicago, Ind., June, 1889, *Hill.*

C. cristatella Britton

1188. **C. tribuloides,** Wahl., var. **cristata,** Bailey.

C. cristata, Schwein.

Moist fields, open woods and prairies; frequent. May 25th—June. (B. P.)

1189. **C. scoparia,** Schk.

Low places; frequent, especially south. June 15th—July.

With dense heads, Colehour, Ind., 1875, *Hill.*

1190. C. FŒNEA, Willd.

C. adusta, in Manual, 5th Ed.

Evanston, 1886, and in 1889, *Johnson.* (B.)

1191. **C. straminea,** Willd.

C. straminea, var. *tenera,* in Manual, 5th Ed.

Prairies, wet places and open woods. June—August. (B.)

The typical form is quite frequent, but the species varies greatly.

1192. **C. straminea,** Willd., var. **brevior,** Dew.

C. straminea, and vars. *typica, hyalina, and meadii,* in Manual, 5th Ed.

Frequent, with the type. June. (B.)

1193. **C. straminea,** Willd., var. **aperta,** Boott.

Bogs; infrequent. (B. P.)

Heads short or broadly conical, often loose or nodding, with narrow perigynium, *Hill.*

1194. **C. straminea,** Willd., var. **alata,** Bailey.

C. alata, Torr.

Bogs, among bushes; rare. (B. P.)

Tolleston, Ind., 1878–'80; tall, 3 to 3½ feet in height, with large tapering spikes, and broadly winged perigynium, *Hill!* In wet sandy soil, East Chicago, Ind.

NOTE.—Perhaps others of the varieties enumerated in Bailey's "Synopsis of North American Carices," and "Studies of the Types," may occur within our limits, but the species and these three varieties are all that it is safe to admit with present material.

GRAMINEÆ.

SPARTINA, Schreb.

1195. **S. cynosuroides,** Willd. Fresh-water Cord-Grass. Marsh-Grass.

Low banks of streams and lakes; common, especially in the southern portion of our district. August.

PANICUM, L. Panic Grass. Crab-Grass.

1196. P. GLABRUM, Gaudin.
On railroad near the Stock Yards; rare, *Babcock.*

1197. P. SANGUINALE, L. Common Crab-Grass.
In waste places and cultivated grounds; frequent or common. August—September.

1198. **P. capillare,** L. Old-witch Grass.
In dry sandy soil and cultivated fields; common. Aug.—Sept.

1199. **P. autumnale,** Bosc.
Sand ridges, south of Whiting, Ind.; rare. August 25th, 1885. (B.)

1200. **P. virgatum,** L.
Maywood, *Babcock.* Frequent along the sands of the lake shore. August.

1201. **P. latifolium,** L.
Moist and wet woods; common. June—September.
Lower sheaths sometimes rough and hairy, *Hill.*

1202. **P. clandestinum,** L.
Low rich woods and banks; not rare. July. (B.)
Niles. Maywood. Palatine. Stony Island. Colehour and Berry Lake, Ind.

1203. **P. scoparium,** Lam.
P. pauciflorum, Ell.
Wet copses, near Sheffield, Ind.; infrequent. July, *Hill.* (B.)

1204. **P. depauperatum,** Muhl.
Dry open woods; common. June—July.
Said to be abundant in the hilly woods of the northern part of Cook County.

1205. **P. dichotomum,** L.
Meadows, prairies and open woods; common or abundant, June—July 15th.

1206. **P. laxiflorum,** Lam.
Meadows, etc.; frequent. June—July. (B.)
Closely resembles the last, and may be passed over by the collector.

1207. P. CRUS-GALLI, L. Barnyard Grass.
Rich soil and cultivated ground; frequent.. August—September.

1208. P. CRUS-GALLI, L., var. HISPIDUM, Torr.
Ditches, near Stony Island; infrequent. Swamps at Forsythe, Ind., *Hill.* (B.)

SETARIA, Beauv.

1209. S. VERTICILLATA, Beauv. Bristly Fox-tail Grass.
Cultivated grounds near 65th St.; rare. July 25th, 1888. (B.)

1210. S. GLAUCA, Beauv. Pigeon Grass. Fox-tail Grass.
Fields and roadsides; common or abundant. July—August.

1211. S. VIRIDIS, Beauv. Bottle-Grass.
Cultivated and waste grounds; frequent. July—September.

1212. S. ITALICA, Kunth. Bengal Grass. Millet.
Spontaneous in cultivated grounds; rare. June—July. (P.)

CENCHRUS, L.

1213. **C. tribuloides,** L. Hedgehog-Grass. Bur-Grass.
Common in the eastern portion of our district; frequent elsewhere. August—September 15th.

LEERSIA, Swartz.

1214. **L. virginica,** Willd. White Grass.
Damp, rich, open woods and shaded banks; common. August—September 15th.

1215. **L. oryzoides,** Swartz. Rice Cut-grass.
Sloughs and wet places throughout the southern part of our district; common, infrequent elsewhere. July 25th—August.

ZIZANIA, Gronov.

1216. **Z. aquatica,** L. Indian Rice. Wild Rice. Water Oats.
Low places that are under water a portion of the season, sloughs and borders of lakes; frequent in the Calumet Region, elsewhere less common. August.
It seems to prefer the shallow borders of lakes, near the outlet or inlet, and in favorable localities it attains a heigh of 10 or 12 feet. The leaves vary in length from 1 to 4 feet.
In the far northwest, where it is very abundant, it is of considerable importance as a food product., and is used extensively by the Indians.

ANDROPOGON, Royen. Beard-Grass.

1217. **A. furcatus,** Muhl.
Rather dry soil; common. August.

1218. **A. scoparius,** Michx.
In dry soil, especially north and west; frequent. August. (B.)

1219. **A. virginicus,** L.
A. dissitiflorus, Michx.
Sandy soil at Englewood; infrequent, September, *Hill.* (B.)

CHRYSOPOGON, Trin.

1220. **C. nutans,** Benth. Indian Grass. Wood-Grass.

Sorghum nutans, Gray.

In rather dry or sandy woods and fields; frequent. Aug.—Sept.

PHALARIS, L.

1221. P. CANARIENSIS, L. Canary-Grass.

Near Woodlawn Station, 1887. Garfield Park, 1888. 20th St., near railroad, *Babcock.* Rare. August. (P.)

1222. **P. arundinacea,** L. Reed Canary-Grass.

Wet places; infrequent. June—August.

Banks of the Desplaines river; frequent.

HIEROCHLOA, Gmelin.

1223. **H. borealis,** Roem. & Schultes. Vanilla Grass.

Moist meadows; rare and not far from the lake shore. May. (B.)

ARISTIDA, L.

1224. **A. tuberculosa,** Nutt. Tripled-awned Grass.

Dry sandy soil; frequent south. August. (B.)

STIPA, L.

1225. **S. spartea,** Trin. Porcupine Grass.

We have identified a few specimens of this species from west of Crawford.

Evanston, *Boltwood.* Grand Crossing, *Babcock.* Englewood and Miller's, Ind., *Hill,* who also reports it as common in the southern part of the county.

MUHLENBERGIA, Schreb. Drop-seed Grass.

1226. **M. sobolifera,** Trin.

Woods at Stony Island; rare. August, 1884–'85. (B.)

1227. **M. glomerata,** Trin.

Usually found in wet or swampy places, but occasionally in dry sandy soil; infrequent or rare. August.

Near Altenheim. Colehour, Ind. Riverside, *Herman Jaeger.* Desplaines river, near Maywood, *Babcock.*

1228. **M. mexicana,** Trin.

Low prairies and swampy places; frequent. July 25th—September.

1229. **M. sylvatica,** T. & G.

Desplaines river, near Maywood, *Babcock!*

1230. **M. willdenovii,** Trin.

Desplaines river, near Maywood, *Babcock.* Desplaines. Stony Island.

BRACHYELYTRUM, Beauv.

1231. **B. aristatum**, Beauv.

Along the banks of the Desplaines river from Riverside to Maywood; rare. June, 1886–'87. (B.)

PHLEUM, L.

1232. P. PRATENSE, L. Timothy.

Common in cultivation, also spontaneous throughout our district, in rich soil. June—September.

ALOPECURUS, L.

1233. **A. geniculatus**, L., var. **aristulatus**, Torr.

A. aristulatus, Michx.

In wet places and the shallow waters of sloughs; frequent or common. June 15th—August. (B.)

SPOROBOLUS, R.Br. Drop-seed or Rush-Grass.

1234. **S. vaginæflorus**, Vasey.

Vilfa voginæflora, Torr.

Old fields and banks in sandy soil; common. August—September. Maywood; abundant, *Babcock.*

1235. **S. junceus**, Kunth.

Sandy soil, north of Normal Park, near 74th St.; rare, Aug., 1886. *Hill.* (B. P.)

1236. **S. heterolepis**, Gray.

Common near the lake shore, *Babcock.*

Our investigation does not confirm Babcock. We find it rather infrequent, and as far west as Riverside.

1237. **S. cryptandrus**, Gray.

Sandy soil near Northwestern University. A few specimens were found near the lake shore at Sheffield, Ind., in Aug., 1887. (B.)

At Sheffield, stems geniculate, sheaths bearded along the edge, root perennial, *Hill.*

AGROSTIS, L.

1238. A. ALBA, L., var. VULGARIS, Thurb. Red-top. Herds'-Grass.

A. vulgaris, With.

Meadows; frequent.

1239. **A. perennans**, Tuck. Thin-Grass.

Damp open woods and shaded banks; infrequent. July.

Niles' woods. Stony Island. Maywood, *Babcock.* River Forest, *C. P. Murray.*

1240. **A. scabra,** Willd. Hair-Grass.
Prairies; common. July.

CINNA, L.
1241. **C. arundinacea,** L. Wood Reed-Grass.
Moist or wet shaded places; frequent, especially along river banks. July—September.

CALAMAGROSTIS, Adans.
1242. **C. canadensis,** Beauv. Blue Joint-Grass.
Deyeuxia canadensis, Beauv.
Wet places; frequent throughout our district. July 5th—Aug. 25th. By its strong rhizomes and roots it tends to hold together the shifting sands of the lake shore dunes.

1243. **C. longifolia,** Hook. Reed Bent-Grass.
Ammophila longifolia, Benth.
Sandy soil along the lake shore, both north and south; infrequent or rare. August.

AMMOPHILA, Host.
1244. **A. arundinacea,** Host. Sea Sand-Reed.
Calamagrostis arenaria, Roth.
Sandy soil along the lake shore, south; not rare. August.

DANTHONIA, D C.
1245. **D. spicata,** Beauv. Wild Oat-Grass.
In Babcock's herbarium, credited to M. S. Bebb and labeled "Near Chicago." (B.)

PHRAGMITES, Trin.
1246. **P. communis,** Trin. Reed.
Sloughs, south and southeast; frequent or common, elsewhere less common.

KŒLERIA, Pers.
1247. **K. cristata,** Pers.
Dry banks and fields; frequent or common. July.

EATONIA, Raf. Eatonia.
1248. **E. obtusata,** Gray.
Frequent on dry prairies from Englewood, south. June—July. (B.)

1249. **E. pennsylvanica,** Gray.
Moist and open woods and fields; frequent. June—July. (B.)

ERAGROSTIS, Beauv. Eragrostis.

1250. **E. reptans**, Nees.
Streams of the Calumet Region; infrequent.
Along the Desplaines river; rare, *Babcock*. August.

1251. E. MINOR, Host.
E. poæoides, Beauv.
Sandy, waste grounds; infrequent. July—August. (B. P.)
Englewood, *Hill*.

1252. E. MAJOR, Host.
E. poæoides, Beauv., var. *megastachya*, Gray.
In sandy soil and waste places; common. June 25th—August.

1253. E. PILOSA, Beauv.
Dry sandy fields, Tolleston, Ind., August, 1886; abundant in this locality, *Hill!* Along railroads, *Babcock*.

1254. E. FRANKII, Meyer. Frank's Eragrostis.
Hyde Park. Low sandy banks near Sheffield, Ind., 1884. Colehour, Ind., 1889. Along railroads, *Babcock*.

1255. E. TENUIS, Gray.
Cheltenham Beach; rare, 1884. Roseland, *Brennan*. South Chicago, *University of Chicago Herb*. August. (B.)

1256. **E. pectinacea**, Gray.
Englewood, in sandy soil; infrequent, July, *Hill*. (B.)

DIARRHENA, Raf.

1257. **D. americana**, Beauv. Diarrhena.
Woods near Graceland, *Babcock*.

DACTYLIS, L.

1258. D. GLOMERATA, L. Orchard Grass.
Door yards, shaded fields and banks; frequent. June—July.

POA, L. Meadow-Grass.

1259. P. ANNUA, L. Low Spear-Grass.
Dry fields and waste places; abundant. May—October.
Sometimes biennial, Hammond, Ind., May 19th, 1883, *Hill*.

1260. P. COMPRESSA, L. Wire-Grass.
Dry prairies; infrequent. July. (B.)
Near Garfield Park. Cheltenham Beach. Frequent from Englewood south, *Hill!*

1261. **P. serotina**, Ehrh. False Red-top. Fowl Meadow-Grass.
Moist meadows; not common. July—September.

1262. **P. pratensis,** L. Green or Common Meadow-Grass. Kentucky Blue Grass. June Grass.
Meadows and dry banks; frequent. May—June, occasionally as late as September.

1263. P. BREVIFOLIA, Muhl.
Near Chicago, *Babcock's Collection, credited to M. S. Bebb.* (B.)

GLYCERIA, R.Br. Manna-Grass.

1264. **G. canadensis,** Trin. Rattlesnake-Grass.
Swamps and wet places; frequent or common. July—August.

1265. **G. nervata,** Trin. Fowl Meadow-Grass.
Wet prairies, fields and swamps; common. June—July. (B.)

1266. **G. fluitans,** R.Br.
Swamps and sloughs; frequent. June—July 25th.

FESTUCA, L. Fescue-Grass.

1267. **F. tenella,** Willd.
Sandy dry soil. June. (B.)
Englewood, south and east.
Abundant where found, as at Englewood from 65th St., south; about Hegewisch, Ind.; Hammond road from Whiting to East Chicago, *Hill!*
Delights to grow along roadsides and paths of low sandy ridges, *Hill.*

1268. F. OVINA, L.
The only locality where I have found this species is near the ice-house, about a mile east of Hammond, Ind., on the dry banks of the Calumet river. The locality is evidently an old Indian resort, as attested by chips and arrow-heads of flint, teeth and bones of animals, and shells of mollusks, common northward. The species is not indigenous here. I have found it indigenous in cavities of rocks on the shores of Lake Superior, as at Marquette, Mich. Any little cup-shaped hollow where a handful of soil could gather, furnished a foothold for a small tuft of the grass, where it had for a companion, growing under the same conditions, another mountain grass, 3 to 8 inches high, Trisetum subspicatum, Beauv. *Hill.* (B. P.)

1269. **F. nutans,** Willd. Nodding Fescue-Grass.
Jackson Park. Woods near Stony Island. Woods near north end of Lake Calumet, 1886. Woods at Maywood, *Babcock.* July.

1270. F. ELATIOR, L. Taller or Meadow Fescue.
Woods at Maywood, *Babcock.* Riverside, *C. P. Murray.*

BROMUS, L. Wild Chess.

1271. **B. kalmii**, Gray.

Dry banks along railroads and roadsides; infrequent. June—July.

1272. B. SECALINUS, L. Cheat or Chess.

Dry banks and old fields, also in grain fields; infrequent. June—July.

1273. **B. ciliatus**, L.

Moist banks, open woods, etc.; frequent. July—August 25th.

1274. **B. ciliatus**, L., var. **purgans**, Gray.

With the type; rare. July. (B. P.)

LOLIUM, L.

1275. L. PERENNE, L. Common Darnel. Ray-Grass.

In cultivated ground near Chicago, *Bastin*. Rare. (B. P.)

AGROPYRUM, Gaertn.

1276. A. REPENS, Beauv. Couch, Quitch, or Quick-Grass. False Wheat.

Triticum repens, L.

In fields and cultivated grounds; common or abundant. June—August.

It can hardly be considered sufficiently abundant to be troublesome within our limits.

This is an introduced plant for the states of our latitude and eastward, where it always occurs in cultivated fields and pastures. It is said to be native on the western plains and Rocky Mountains. This troublesome weed comes to us from Europe. I believe it is also native along the northern lakes. In 1878, I found it on sand hills in the woods near Petoskey, Mich., growing with A. dasystachyum, Vasey, without any appearance of its troublesome habit. One seemed as much native as the other. In the summer of 1889, I found it on the shore of Lake Superior, north of Marquette, Mich. Here it grew among the willows and bushes on the sand ridge that forms the shore, in company with Calamagrostris longifolia Hook., and Panicum virgatum, L., evidently as much native as they. It was taller than the form in our fields, 3 to 4 feet high. There were no cultivated fields near, as it was cut off from them by a wide stretch of forest and swamp. The specimens from Petoskey were evidently Var. nemorale, Anderson, but those from Marquette were typical. The roots were creeping, but not so extensively as in cultivated soil, *Hill*.

1277. A. VIOLACEUM, Lange.

Triticum violaceum, Hornemann.

Sandy, open woods, south of Whiting, Ind., near Lake George; rare. July, 1881, *Hill!* (B. P.)

Glumes 5 to 7 nerved. A northern or mountain species, seemingly quite out of its range. In August, 1888, I found the same species at Ha! Ha! Bay on the Sagueney river, Canada. It is credited to the mountains of Pennsylvania to the White Mountains, and according to Lapham, Wisconsin and northward, *Hill.*

1278. A. CANINUM, Roem. & Schultes. Wheat-Grass.

Triticum caninum, L.

Introduced with grass seed into a lawn at 711 Warren Ave., Chicago. Liable to be found in cultivated grounds.

Spontaneous on prairie near Garfield Park. (B.)

HORDEUM, Tourn.

1279. **H. jubatum**, L. Squirrel-tail Grass.

Moist prairies and fields; common near the lake shore. June—July.

ELYMUS, L. Wild Rye.

1280. **E. virginicus**, L.

Banks of the Desplaines and Calumet rivers; frequent. July—August.

1281. **E. canadensis**, L. Nodding Wild Rye.

Banks of streams and lakes; frequent, probably more common than the last.

1282. **E. canadensis**, L., var. **glaucifolius**, Gray.

Banks of the Desplaines river and other streams; frequent. August. (B.)

1283. **E. striatus**, Willd.

Woods at Riverside, *Babcock.*

ASPRELLA, Willd.

1284. **A. hystrix**, Willd. Bottle-Brush Grass.

Gymnostichum hystrix, Schreb.

Moist and rich woods and shaded banks; common. July—August.

CONIFERÆ.

PINUS, Tourn.

1285. **P. strobus**, L. White Pine.

Sandy regions, southeast; frequent. June. (B.)

It is said that previous to 1871 it was abundant in the neighborhood of Berry Lake, Ind., and was sawed into lumber, but during the fall of that year the whole area was burned over.

1286. **P. banksiana**, Lambert. Gray or Northern Scrub Pine. Bank's or Jack Pine.

Barren bluffs and sand dunes along the lake shore; rare, north of Chicago, frequent southeast.

NOTE.—**Pinus inops**, Ait., and **rigida**, Mill., have been introduced at Evanston, and one or two plants were growing in an old field near the same place until recently.

LARIX, Tourn.

1287. **L. americana**, Michx. American Tamarack or Larch. Black Larch.

Swamps in the extreme southeastern portion of our district. May. Miller's, Ind., and vicinity.

THUYA (Thuja), Tourn.

1288. **T. occidentalis**, L. American Arbor Vitæ. White Cedar.

Glencoe and vicinity; rare, *Babcock!* Pine Station, Ind., *Hill.* Berry Lake, Ind. May.

JUNIPERUS, L.

1289. **J. communis**, L. Common Juniper.

Evanston and northward; infrequent or rare. May.
Sand hills, Pine Station, Ind.; rare.

1290. **J. sabina**, L., var. **procumbens**, Ph. Savin. Juniper.

A few specimens were found near Glencoe as recently as 1885, but have now disappeared from that locality. (B.)

Waukegan, Lake County, Ills.; abundant near lake shore, *Babcock.*

1291. **J. virginiana**, L. Red Cedar. Savin.

Sandy soil; frequent locally. April. (B.)

South Evanston. Miller's and Whiting, north to Berry Lake, Ind.

PART II.

CRYPTOGAMIA.

EQUISETACEÆ.

EQUISETUM, L. Horsetail-Rush.

1292. **E. arvense,** L. Common Horsetail.
Moist places, usually in sandy or gravelly soil; common, often abundant. April—June.

1293. **E. limosum,** L. Swamp Horsetail.
In wet places and shallow water; frequent, especially southward. June—July. (B.)

1294. **E. hyemale,** L. Scouring Rush. Shave-Grass.
Wet ground, chiefly in sandy soil; frequent from Whiting, Ind., southward, elsewhere infrequent. May—July. (B.)

1295. **E. lævigatum,** Braun.
Usually in wet *sandy soil*, southeast; infrequent or rare. June—July. (B.)
Miller's and Pine Station, Ind. South Chicago, *Brennan.*

1296. **E. variegatum,** Schleicher.
Wet sandy soil, usually along the borders of sloughs. July. (B.)
Miller's, Ind.; not rare. Pine Station and Edgemoor, Ind., *Hill!*

FILICES.

ADIANTUM, L.

1297. **A. pedatum,** L. Common or American Maidenhair.
Moist woods and shaded banks, in rich soil; frequent. July—August 15th.

PTERIS, L.

1298. **P. aquilina,** L. Common Brake. Eagle Fern. Bracken.
Open woods, banks and copses; frequent. July—August.

WOODWARDIA, Smith.

1299. **W. virginica,** Smith. Chain-Fern.
Bogs; frequent or common near Miller's, Ind. July. (P.)

ASPLENIUM, L. Spleenwort. Shield-Fern.

1300. **A. ebeneum**, Ait.
In sandy soil; very rare. (B.)
Woods near Berry Lake, Ind. Miller's, Ind., *Bastin.*

1301. **A. thelypteroides**, Michx. Silvery Spleenwort.
Specimens have been exhibited from the northern portion of Cook County, near Glencoe. Berry Lake, Ind.; rare. July. (B.)

1302. **A. filix-fœmina**, Bernh. Lady-Fern.
Moist rich woods; infrequent or rare, except locally. July.
Niles. Near Stony Island. Maywood. Glencoe, *Babcock!* Riverside, *Herman Jaeger.*

PHEGOPTERIS, Fee.

1303. **P. hexagonoptera**, Fee.
Rich open woods and shaded ravines, chiefly in the northern portion of Cook County; infrequent. July—August 10th.

ASPIDIUM, Swartz.

1304. **A. thelypteris**, Swartz. Marsh Shield-Fern.
Low grounds and marshes; common throughout the southern portion of our district, less frequent elsewhere. August.

1305. **A. spinulosum**, Swartz, var. **intermedium**, Eaton.
In damp rich woods, both north and south; common. July.

1306. **A. acrostichoides**, Swartz. Christmas Fern.
Woods and banks of ravines, north of Glencoe. Three or four specimens were found on a sand hill near Miller's, Ind., in 1886–'87. Not found in 1888. Rare. July. (B.)

CYSTOPTERIS, Bernh.

1307. **C. fragilis**, Bernh. Bottle Cystopteris. Bladder-Fern.
Shaded banks and rich woods; infrequent west and north. July.

ONOCLEA, L.

1308. **O. sensibilis**, L. Sensitive Fern.
Moist or wet places, especially in marsh grass; common or abundant. June 15th—July 25th.

OSMUNDA, L.

1309. **O. regalis**, L. Flowering Fern. Royal Fern.
Moist rich woods and swamps; frequent. May 15th—July.

1310. **O. claytoniana**, L. Clayton's Flowering Fern.
Wet woods, shaded banks and swamps; frequent east. May 15th—June 15th.

1311. **O. cinnamomea,** L. Cinnamon Fern.
Swamps and low places; common near the lake shore, especially southeast. May.

OPHIOGLOSSACEÆ.

BOTRYCHIUM, Swartz.

1312. **B. ternatum,** Swartz, var. **obliquum,** Milde.
B. lunarioides, var. *obliquum,* in Manual, 5th Ed.
Woods near Miller's, Ind., *Babcock!* Rare. August.

1313. **B. ternatum,** Swartz, var. **intermedium,** Watson.
B. lunarioides, in Manual, 5th Ed.
Woods near Miller's, Ind., *Hill!* August. (B. P.)

1314. **B. virginianum,** Swartz. Virginia Grape Fern.
Rich and rather open, moist woods; frequent. May 20th—June.

LYCOPODIACEÆ.

LYCOPODIUM, L. Club-Moss.

1315. **L. lucidulum,** Michx. Trailing Evergreen. Shining Club-Moss.
Damp pine woods; rare. August. (B.)
Chesterton, Ind., 1883, *Hill.* Pine Station, Ind., 1887. Miller's, Ind., 1889.

1316. **L. inundatum,** L. Marsh Club-Moss.
In sandy soil, damp woods and pine barrens; rare. July—August. (B. P.)
This species has been found for several seasons in the following localities: South Evanston; Miller's, Pine Station, Berry Lake, and Tolleston, Ind ; not far from the lake shore, in each case.

1317. **L. obscurum,** L. Ground Pine.
L. dendroideum, Michx.
Woods, near Pine Station, Ind., 1889. Miller's, Ind., *Hill.* (B. P.)

1318. **L. complanatum,** L. Festoon Ground Pine.
Sandy soil; infrequent or rare. August—September. (B.)
North of Berry Lake, Ind. Miller's, Ind., *Hill!*

SELAGINELLACEÆ.

SELAGINELLA, Beauv. Dwarf Club-Moss.

1319. **S. rupestris,** Spring.
In sandy soil; infrequent. July—August 25th. (B.)
Pine Station, Ind. A few plants were found at Colehour, Ind., in 1886. Miller's, Ind., *Hill.*

1320. **S. apus,** Spring.

Shaded banks and sandy banks of sloughs; rare. August. (B.)

Evanston. Pine Station, Miller's, 1889, and Clarke, Ind. Windsor Park. Colehour, Ind., *Hill.*

ISOETES, L.

1321. **I. melanopoda,** J. Gay. Quillwort.

Muddy borders of a pond near Hyde Park water works, 1885. Wet prairies near Grand Crossing, 1886–'87. (B.)

SALVINIACEÆ.

AZOLLA, Lam.

1322. **A. caroliniana,** Willd. Azolla.

In a pond near South Chicago, 1886.

During improvements made in this locality, the pond was filled. So far as known, this is the only locality where this species has been found within our limits. (B.)

APPENDIX I.

ADDITIONS TO THE FLORA.

Page 6. **Hydrastis canadensis,** L.
Collected at Rose Hill; rare, *Johnson.*

Page 11. Insert after NASTURTIUM OFFICINALE, R. Br.,—
N. SYLVESTRE, R. Br. Yellow Cress.
Banks of Salt Creek, near Western Springs. Local, *Hill!* (B.)

Page 16. Insert after **Viola blanda,** Willd.,—
V. PRIMULÆFOLIA, L. Primrose-leaved Violet.
In woods near Gardner's Park, Kensington; local, *Brennan.* (B. P.)

Page 23. **Flœrkea proserpinacoides,** Willd.
Woods on the hills near Beverly Hill Station; abundant, 1891, *Hill.*

Page 35. Insert after **Geum strictum,** Ait.,—
G. vernum, T. & G. Avens.
Beverly Hills, frequent, *Hill.* (B.)

Page 36. **Potentilla palustris,** Scop.
Specimens from near 83rd St. and Egondale Ave. have from 5 to 7 sepals and petals, and as many bractlets at each sinus; leaflets 3 to 7; June 15th, 1891, *M. A. Miner!*

Page 36. **Rosa setigera,** Michx.
Climbing or Prairie Rose.
Willow Springs, *Hill.*

Page 41. Insert after **Didiplis linearis,** Raf.,—
Rotala ramosior, Koehne.
Near Evanston; rare, *Johnson.* (B.)

Page 41. Insert after **Decodon verticillatus,** Ell.,—
CUPHEA VISCOSISSIMA, Jacq. Clammy Cuphea.
Prairies, North Evanston; local, *Johnson!* (B.)

Page 45. **Chærophyllum procumbens,** Crantz.
Riverdale on the banks of the Calumet river; abundant in 1891, *Hill!*

Page 47. Insert after **Cornus sericea**, L.,—

C. baileyi, Coult. & Evans. (Botanical Gazette, vol. xv, p. 37.)

Common on sand ridges along the lake shore. (B. P.)

"Erect shrub, with reddish-brown, mostly smooth branches; branchlets and inflorescence, pubescent to wooly; petioles 6 to 25 mm. long; leaves from lanceolate to ovate, acute or short acuminate, acute or obtuse at base, appressed-pubescent to glabrate above, white beneath and with wooly hairs variously intermingled with appressed ones (or in some cases all appressed), 2.5 to 12 cm. long, 1.2 to 7.5 cm. wide; flowers in small rather compact cymes; calyx teeth from small to prominent; fruit white; stone decidedly compressed, flat-topped, rarely oblique, with a very prominently furrowed edge, much broader than high (3 mm. high, 4 to 6 mm. broad).

It differs from *C. asperifolia* in its mostly glabrate upper leaf surface, white lower leaf surface, and much compressed deeply furrowed stone, which is much broader than high. It differs from *C. stolonifera*, with which it has been mostly confused in herbaria, not only in the woolliness of the lower leaf surface, but very strikingly in the stone characters just enumerated. It resembles *C. sericea* so little that a statement of the differences would be a repitition of all the specific characters." *Coulter & Evans, Botanical Gazette as cited.*

Page 59. Insert after **Aster ptarmicoides**, T. & G.,—

A. angustus, T. & G.

Near the Town of Lake High School; common, *J. E. Armstrong.* (B.)

Page 68. **Cacalia suaveolens**, L.

Thickets west of Porter's, Ind., on the east side of the Calumet river, at the crossing of the M. S. & L. S. R. R.; rare, *Hill.*

Page 69. Insert in place of **Cnicus undulatus**, Gray.,—

C. hillii, W. M. Canby (Garden and Forest, March 4th, 1891).

Prof. E. J. Hill, in honor of whom the species is named, furnishes us with the following description:

General appearance much like that of C. pumilus, Torr., but the whole plant is smaller and more simple in habit, 15 to 20 inches high; heads large, rarely more than one, naked or with 1 to 3 narrow involucrate leaves; root perpendicular, simple, very slender for 2 to 6 inches below the crown, then enlarging, hollow and fusiform, about 8 to 10 inches long; leaves smaller and less divided than in C. pumilus, often, especially the younger ones, nearly undulate; scales of the involucre with a dark glutinous line on the

back; pappus usually slender-pointed, but occasionally a few with narrow-spatulate tips; anthers more or less acuminate. Flowers several weeks earlier than C. pumilus, its season being from about June 20th to August 1st. Dry sands from Whiting, Ind., eastward near the lake shore. First observed, July 9th, 1890. Collected at Kankakee, Ill., 1870, *E. J. Hill.* Athens, Ill., *Elihu Hall.* Ames, Ia., *A. S. Hitchcock.*

It probably takes the place of C. pumilus in the west, and the region of the Great Lakes. (B. P.)

Page 94. Insert after LEONURUS CARDIACA, L.,—

L. SIBIRICUS, L.

Grand Boulevard, *Bastin.* (B.)

Page 98. SALSOLA KALI, L. tragus Moq.

C. P. & Ft. W. R. R., near Clarke, Ind.; also on side track to ice house near Wolf Lake, within the limits of Chicago, *Hill.*

Page 106. Insert after **Quercus bicolor,** Willd.,—

Q. muhlenbergii, Engelm.

Rare and local; west side Wolf Lake, near the north end, in Lake County, Ind., *Hill!*

Page 106. Insert after **Quercus imbricaria,** Michx.,—

Q. imbricaria × tinctoria.

Groves along Flag Creek, about one mile northwest of Willow Springs.

Some of the leaves were almost like those of Q. imbricaria, but the larger number were lobed, but less deeply than in typical tinctoria; leaves slightly pubescent on the underside. All acorns gathered from this form were either typical fruits of imbricaria, or of Q. tinctoria, but with pubescent, yellowish, squarrose scales. Q. macrocarpa was the only other species found in the immediate vicinity, *Hill!*

Page 118. Insert after **Tradescantia virginica,** L.,—

T. virginica, L., var. **villosa,** Watson.

In woods near Washington Heights, June, 1891, *Bastin.* (B.)

✓Page 122. **Potamogeton pulcher,** Tuck.

Collected in a railroad ditch near Dune Park, Ind.; rare, 1891.

Page 122. Insert after **Potamogeton amplifolius,** Tuck.,—

P. illinoensis, Morong.

Leaves generally not very large, smaller, on the whole, than those of P. amplifolius; stipules blunt. Lake Calumet, in water 2 feet or more deep, at Pullman, August 27th, 1890, *Hill.* (B.)

Page 127. Insert before **Eleocharis capitata,** R. Br.,—

E. quadrangulata, R.Br.

Wolf Lake, near 121st St.; rare, though abundant in this locality, *Hill!* (B.)

Page 128. **Scirpus debilis,** Ph.

Persistent forms bearing two stamens are frequent at Dune Park and Miller's, Ind.

Page 129. **Hemicarpha subsquarrosa,** Nees.

Typical specimens are found in the wet sands along the railroad from Miller's to Dune Park, Ind.; frequent, *Hill!*

Page 133. Insert after **Carex crinita,** Lam.,—

C. virescens, Muhl.

Woods, in gravelly soil, near Sharpshooter's Park in Gano; common and local, *Hill.* (B.)

APPENDIX II.

ANALYSIS OF FAMILIES.

Families.	Genera.	Native Species.	Native Varieties.	Introduced Species.	Introduced Varieties.
Ranunculaceæ	14	29	5	4	
Magnoliaceæ	1	1			
Menispermaceæ	1	1			
Berberidaceæ	2	2			
Nymphæaceæ	4	5	1		
Sarraceniaceæ	1	1			
Papaveraceæ	2	2			
Fumariaceæ	4	4		2	
Cruciferæ	12	18	2	14	
Capparidaceæ	2	1		1	
Cistaceæ	3	6	1		
Violaceæ	1	11	2	2	
Caryophyllaceæ	7	12		11	
Portulacaceæ	3	3		1	
Hypericaceæ	2	9	1	1	
Malvaceæ	4	3		5	
Tiliaceæ	1	1			
Linaceæ	1	2		1	
Geraniaceæ	4	6	1		
Rutaceæ	2	2			
Ilicineæ	2	2		1	
Celastraceæ	2	3	1		
Ramnaceæ	2	3			
Vitaceæ	2	4			
Sapindaceæ	3	6			
Anacardiaceæ	1	6			
Polygalaceæ	1	7			
Leguminosæ	22	44	2	9	
Rosaceæ	12	42	5	2	
Saxifragaceæ	5	10		1	
Crassulaceæ	2	1		2	
Droseraceæ	1	1	1		
Hamamelideæ	1	1			
Haloragеæ	4	6			
Melastomaceæ	1	1			
Lythraceæ	3	3			
Onagraceæ	5	14	2	1	
Curcubitaceæ	2	2			
Cactaceæ	1	1			
Ficoideæ	1			1	
Umbelliferæ	21	20	3	4	
Araliaceæ	1	4			
Cornaceæ	2	8			
Caprifoliaceæ	6	14		1	
Rubiaceæ	4	11	3		
Valerianaceæ	2	2		1	
Dipsaceæ	1			1	
Compositæ	51	144	18	26	1

Families.	Genera.	Native Species.	Native Varieties.	Introduced Species.	Introduced Varieties.
Lobeliaceæ	1	6			
Campanulaceæ	2	3	1		
Ericaceæ	9	16	4	1	
Primulaceæ	5	8	2	1	
Oleaceæ	1	4			
Apocynaceæ	1	2			
Asclepiadaceæ	2	12	1		
Gentianaceæ	4	10			
Polemoniaceæ	2	7			
Hydrophyllaceæ	2	4			
Borraginaceæ	6	9	1	3	
Convolvulaceæ	3	5	2	3	
Solanaceæ	4	4		5	1
Scrophulariaceæ	16	27		6	
Orobanchaceæ	2	3			
Lentibulaceæ	1	6			
Bignoniaceæ	2			2	
Acanthaceæ	1	1			
Verbenaceæ	3	7			
Labiatæ	20	22	1	11	
Plantaginaceæ	1	4		1	
Nyctaginaceæ	1	1			
Illecebraceæ	1	2			
Amarantaceæ	2	2		2	
Chenopodiaceæ	5	4	1	6	
Phytolaccaceæ	1	1			
Polygonaceæ	4	16	2	8	
Podostemaceæ	1	1			
Aristolochiaceæ	1	1			
Piperaceæ	1	1			
Lauraceæ	2	2			
Elæagnaceæ	1	1			
Santalaceæ	1	1			
Euphorbiaceæ	2	6		1	
Urticaceæ	10	10		2	
Juglandaceæ	2	5			
Myricaceæ	1	1		1	
Cupuliferæ	7	19			
Salicaceæ	2	17	4	2	1
Ceratophyllaceæ	1	1			
Hydrocharidaceæ	2	2			
Orchidaceæ	11	28	1		
Hæmodoraceæ	1	1			
Iridaceæ	2	3			
Amaryllidaceæ	1	1			
Dioscoreaceæ	1	1			
Liliaceæ	14	28		1	
Pontederiaceæ	2	2			
Xyridaceæ	1	1			
Commelinaceæ	2	2			
Juncaceæ	2	10	5	1	
Typhaceæ	2	5			
Araceæ	4	5			
Lemnaceæ	3	5			
Alismaceæ	2	4	2		
Naiadaceæ	5	17	2		
Cyperaceæ	11	93	20	3	
Gramineæ	37	60	3	25	2

Families.	Genera.	Native Species.	Native Varieties.	Introduced Species.	Introduced Varieties.
Coniferæ	4	6	1		
Equisetaceæ	1	5			
Filices	9	14	1		
Ophioglossaceæ	1	1	2		
Lycopodiaceæ	1	4			
Selaginellaceæ	2	3			
Salviniaceæ	1	1			
ADDITIONS FROM APPENDIX I.					
Cruciferæ				1	
Violaceæ				1	
Rosaceæ		1			
Lythraceæ	2	1		1	
Compositæ		1			
Cornaceæ		1			
Labiatæ				1	
Cupuliferæ		2*			
Commelinaceæ			1		
Naiadaceæ		1			
Cyperaceæ		2			
Final totals, 113	490	1042	108	181	5

*One hybrid.

INDEX OF FAMILIES AND GENERA.

SYNONYMS IN ITALICS.

Phaenology. August,

Nelumbo lutea, Water Chinquapin.
Gerardia.
G. purpurea, G. auriculata,
G. tenuifolia. G. Skinneriana.
G. pedicularia, G. flava, G. quercifolia.
Buchnera Americana.
Sabbatia angularis, Amer. Century Plant.
Bartonia tenella.
Gentiana alba, earliest of the Gentians, which are more common in Sept.
Rhexia Virginica, Deer Grass.
Clematis Virginiana, Virgins Bower.
Polygala cruciata, Rose Pinks.
P. sanguinea, Purple
P. incarnata.

Parnassia Caroliniana.
Desmodium 12 species,
D. Canadense largest flowers.
Lespedeza. Bush Clover.
Cassia Chamaecrista,
Strophostyles & Phaseolus Wild Bean,
Cuscuta, Dodder, 6 species,
C. glomerata, Rope like,
C. Gronovii, Parasitic on 40 different plants, shrubs & young trees,
C. tenuiflora also on several,
C. Chlorocarpa in low ground on several plants,
C. arvensis attacks several,
Compositae. Helianthus common
Bidens Beckii, Water Marigold.
Solanum rostratum,
Salsola Kali, var. tragus,
Potamogeton. 16 species here,
P. interruptus in Calumet river,
Grasses, Scirpus. Eleocharis.
Scleria.

Phaenology, September & October,

Compositae the predominating flowers. Begin to be abundant in August, but reach their maximum in September, and are found more or less till the heavy frosts come, some even when the snow falls in sheltered situations.

Helianthus one of the most conspicuous, all begin in August, some in July, but characteristic, in connection with the Golden rods the flora of the last of Aug. and early part of September. They and the Golden rods all or quite all disappear in September but Aster continue later, and They give the predominating yellow tinge to the flora, greatly aided in low grounds by Species of Coreopsis and Bidens.

13 species Helianthus have been recognized in our flora. One of these H. annuus has been introduced. 2 varieties one to be added, so that we have 15 kinds.

H. grosse-serratus most common. Runs into H. giganteus.

H. decapetalus another not easy to diagnose.

H. tuberosus, the Jerusalem Artichoke.

H. mollis - cultivated.

Solidago. 20 species native, one introduced, and 4 varieties, or 25 kinds.

S. nemoralis, most common in dry fields and prairies. Very variable in form.

S. serotina and S. Canadensis by fences, borders of fields or woods.

S. Riddellii, a prairie form, one of the most peculiar in its leaves.

S. Ohioensis quite like it in inflorescence, but differs in leaves. Very abundant in the wet black ground of Sand region.

S. tenuifolia and lanceolata roadsides and fields, often spreading — & often the land has been plowed, being weedy in character.

S. serotina and S. Canadensis are among the prettiest flowered, the individual flower very delicate, and the racemes exceeding graceful.

A strikingly handsome species is S. speciosa and its var. angustata with compact, thyrse-like inflorescence, and smooth leaves and stem. Common in dry sandy ground.

S. rugosa and S. ulmifolia have neat foliage and graceful racemes, smaller and more open than S. serotina & Canadensis.

S. caesia and S. latifolia — foliage and flowers.

S. humilis var. Gillmanii, by lake shore.

29 Species of Aster have been enumerated from our vicinity. To these 6 varieties are to be added, making the genus the largest in our phenogamous flora with the exception of Carex. All are indigenous with the probable exception of A. altissimus.

If we were to arrange the Asters by colors we should find three predominating, white, blue and purple, with violet shades common, all varying in intensity and shading into one another. One, A. ptarmicoides var. lutescens, is pale yellow, varying to the white of the typical species.

Those with white flowers are mostly small-flowered, but the flowers themselves numerous. Of these A. multiflorus is most floriferous.

The largest flowered are those with purple, or purplish flowers. A. Novae-Angliae being the largest and most handsome.

A. laevis has pretty large sky blue flowers, sometimes as especially the present season with rays violet or purple tinged. With its smooth foliage it is one of the finest fall our autumn flowers.

Those with blue or purplish blue flow-

as are more medium in the size of the flowers, but the flowers pretty numerous and showy, A. puniceus has pretty large lilac-blue flowers, and approaches the New England Aster in this respect, and A. prenanthoides with pale blue flowers varying nearly to white comes not far behind.

Another with very neat foliage is A. sericeus, the silky Aster, the leaves being ~~any~~ hairy covering soft and silky in look and texture. It is a small species of the dry ground, about a foot high, and with medium sized or even quite large violet purple flowers.

(2 Boltonia asteroides so nearly resembles an Aster that it would be commonly taken for one. It is found in wet grounds, and is most abundant in the Calumet region. It is a very smooth plant, and has rather large, white flowers, borne at the ends of the widely spreading open branches.

(1) Aster azureus — very common in the sand region.

Liatris — 5 species, L. spicata, scariosa and cylindracea the most common. August flowering

Corcopsis - C. trichosperma has pretty large rays, abounds in wet ground. The variety tenuiloba the common form of it in the sand region.

C. aristosa quite similar, but not so frequent.

Bidens chrysanthemoides, a Bur Marigold, has large golden yellow flowers. The rays are sometimes 1½ in. long, making a flower 3 in in diameter. 5a)

Spiranthes cernua, an Orchid.

Grasses that are ornamental, Andropogons, furcatus, scoparius and Virginicus. Chrysopogon nutans.

The Reed Grass, Phragmites communis. Zizania aquatica.

Hamamelis Virginiana. Found in blossom as early as Sept 25 & as late as Nov. 16.

Plants blooming a second time.
Viola pedata. Vaccinium Pennsylvanicum.
Linnaea borealis.
Cornus stolonifera and C. Baileyi.

Gentians.

Seven species. Handsomest G. crinita, Fringed Gentian. G. serrata - sometimes hard to distinguish from the former. Some of the best clumps of it seen in the Pine region.

G. saponaria, Soapwort Gentian, and G. andrewsii.

G. puberula, the dark blue flowers, dry ground species.

G. quinqueflora - less common, smaller flowers.

G. alba - pale flowers, yellowish white.

The bright blue of the Gentians as a whole. Late flowering - continuing till quite cold weather.

OPEN TO THE PEOPLE.

[illegible]ADEMY OF SCIENCES SET APART FOR THE PUBLIC.

Matthew Laflin Memorial in Lincoln Park Is Formally Dedicated to Its High Mission—Luther Laflin Mills Speaks for the Family—Dr. Selim H. Peabody Outlines the Plan of the Work to Be Done—Prof. Chamberlin and Others Deliver Addresses.

Fully 1,000 people assembled at the new Chicago Academy of Sciences in Lincoln Park last night to hear the opening exercises and to inspect the building and museum. The main hall and the library were decorated with palms, ferns, and chrysanthemums, and the place resounded with orchestral music.

The exercises were held in the spacious library room and were presided over by C. M. Higginson, the Chairman of the Building committee, who, before introducing the speakers, said in part:

The preliminary arrangements in regard to the construction of the building and the completion of the accepted plans extended over a number of months in the early part of 1893. The final agreement between the parties was signed Aug. 29, 1893, and ground was broken Sept. 11. The corner stone was laid with appropriate ceremonies Sept. 19, 1893, and the work has been pushed vigorously to this date. The whole building is a fireproof structure that we are now permitted to present to the public. The cost to date is [illegible]. Though the academy enters its building free from debt additional donations [illegible] to complete the general design of [illegible] determined upon, and will much [illegible] the line of [illegible].

Mr. Higginson then introduced Andrew [illegible]ford, the President of the Lincoln Park Board, who spoke in part as follows:

The form of the agreement made between the [illegible] of Lincoln Park and the Academy of Sciences locating this building where it now is may be briefly as follows: The park was to set apart the site, which is fully described therein, the Academy of Sciences was to furnish $75,000, the amount contributed by Mr. Laflin, and the construction of the building was to be under the immediate direction of the Academy of Sciences, but also under the supervision and control of the Park Commissioners.

The park furnished $25,000 additional to complete and finish the building, a part of which was to be set apart for the perpetual use of the Lincoln Park Commissioners. When the building was constructed and finished it was to be the property of the Park Commissioners as a part of the park in trust, to be used for the purposes of the Academy of Sciences. The Park Commissioners further obligated themselves to pay not exceeding $5,000 in any one year for the custody, care, management, and protection of the specimens, collection, library, or property in said building, paying salaries of curator or director and assistants, and in addition heat and light the building. It becomes, therefore, a public trust.

Reason for the Academy's Existence.

Mr. Higginson then introduced Luther Laflin Mills, representing the Laflin family, who spoke in part as follows:

The motive of the existence of the academy, which is the "increase and diffusion of scientific knowledge," is inferior to no purpose for which, in this philanthropic age, men unite to aid the race in matters practical and material. This is the day of organized humanities; the spirit of helpfulness is atmosphere; to educate and lift mankind is its peculiar sentiment. And this institution is harmonious with the time and the lofty spirit which characterizes it. It offers wisdom to the people as a gratuity and will guide them freely in the paths of science. These considerations of its history, its objects, and its relation to the public deeply impressed and appealed to Mr. Laflin, with the result that in the month of June, 1892, he communicated to Mr. E. W. Blatchford his desire to establish a permanent home for the Chicago Academy of Sciences. Its location in Lincoln Park had for years been a hope of many of its faithful friends, especially Mr. Benjamin W. Thomas, Mr. Blatchford, and the lamented Mr. William C. Goudy; and by the concurrence of the trustees of the academy, the Board of Lincoln Park Commissioners, and Mr. Laflin, it was decided that his purpose should be realized in this beautiful place of the people.

Mr. Higginson then introduced Dr. Selim H. Peabody, the President of the academy, who delivered the main address of the evening, and who spoke in part as follows:

The first step which I will name as desirable in the educational course of the academy is that of [illegible] first and perhaps [illegible] but [illegible] its first proper place with reference to institutions of the grade which it proposes to maintain established elsewhere throughout the world. The next class of the education to be given through its museum. The conditions at present found and probably will always prevent this museum from becoming a great eclectic display, or even from presenting in any line a compendium of what the world has to show. It should be the immediate ambition of every member of the academy to make its museum a complete illustration of the natural history of its immediate vicinity, adding from other regions, as occasion will permit, enough to make a thorough working outline of each branch of science which it attempts to illustrate.

The library contains about 4,000 volumes of a purely scientific and not of a popular character. The books may not be taken from the building, but may be consulted here by members of the academy and by students who come properly accredited to the officers in charge. Few of the books are bound and there is an immediate and pressing need for a sum of money—not less than $2,000—to be expended in binding before they can be safely put in use. A third means of making the academy a means of instruction should be in the formation of classes in those subjects for which it is peculiarly equipped. The details of such a service have not been discussed, but I believe that the plan is feasible, at an expense to those participating not greater than is already paid for popular university extension lectures.

I would have the academy collect and administer a special fund for the maintenance of frequent [illegible] lectures of a character at the same time thorough, scientific, and attractive. The finest model of this kind of service has been maintained by the Lowell Institute in Boston for more than fifty years. There need be no limit to the range of subjects. They should present the foremost thoughts of the age at the time of their delivery. They should be made remunerative enough, as to the speaker, to command the best talent on either hemisphere.

For a Broad Work in Science.

After Dr. Sarah Hackett Stevenson had spoken in favor of nature study, her address being applauded all through, Mr. Higginson introduced as the last speaker of the evening Prof. T. C. Chamberlain, Vice President of the academy, who spoke in part as follows:

Your committee, in selecting as one of the subjects of the evening "The Relationship of the Academy to Other Institutions of Learning," has chosen a theme of vital consequence to the academy, on its side, to the other institutions of learning of the city on their sides, and to the [illegible]. Besides other beneficent work the academy will beyond question perform three important functions: A first, as an institution for the development of knowledge; a second, as an institution for the setting forth of knowledge by speech and by print; and a third, in providing for study and inspection through its museum [illegible] of science and of art. In each of these relationships it is possible for it to [illegible] and do good, do much good. But [illegible] it can do more good—much more [illegible] relations controlled with other institutions that are seeking [illegible]. The academy will unquestionably [illegible] investigation in any case, but in a [illegible] primarily engrossed in business activities investigators will be relatively few and [illegible], and unless they be brought together the [illegible] of enthusiasm will be less actively kindled. [illegible] but that helpfulness which one [illegible] renders to another [illegible]. Many of the more [illegible] that await investigation are incapable [illegible] by any one investigator. They must [illegible] the [illegible] training and [illegible] lies in the several different fields [illegible]. The more largely, therefore, workers in [illegible] can be brought into working relations [illegible] for the likelihood of effective attack [illegible] problems that call for research. A [illegible] of the investigator will naturally center [illegible] the academy, [illegible], by the [illegible] of their occupation, centered about other [illegible] of learning in the city. The problem [illegible] for our solution is: How can [illegible] brought into the most effective working relationships? It is not my function [illegible] to offer in detail a solution of this [illegible] with propriety and possible [illegible] towards a solution, that the importance of entering into cooperative relations [illegible] institutions of learning be recognized [illegible] inauguration of a new and hopeful era in [illegible] of the academy.

At the conclusion of the speaking the company [illegible] in the main room above and [illegible] the inspection of the great [illegible] of the academy, which will be open to the public, free of charge, every day in the week from this time forth from 10 a. m. to [illegible] p. m. on week days and from 1 to 5 p. m. [illegible] days.

GROWTH OF THE ACADEMY OF SCIENCE.

Founded in 1857, It Suffered Misfortune but Clung to Life.

In 1857 a society for the promotion of [illegible] took the name of the "Chicago Academy of Natural Sciences." The original [illegible] were Drs. J. V. Z. Blaney, N. S. Davis, J. W. [illegible], F. Helmuth, H. A. Johnson, [illegible], H. Packer, F. Scammon, R. K. [illegible]th, J. D. Webster, E. W. Blatchford, and H. W. Zimmerman, to which list a large [illegible] was added.

In 1859 this society was incorporated under the provisions of a general law by the name of "The Chicago Academy of Sciences." In 1862 Mr. Robert Kennicott, always one of the most active members of the society and a chief contributor to its collections, returned from a three-years' exploration of Arctic America richly laden with specimens in many departments of natural history. The actual expenses of this expedition were paid by the Smithsonian Institution, aided by various persons, and were materially lessened by the Hudson's Bay company and its officers. The collections went to the Smithsonian Institution with the understanding that any other institution which Mr. Kennicott might name, and which would suitably provide for their reception and care, should have a full series of the specimens. Mr. Kennicott desired this series should find a home in Chicago.

In the winter of 1863-'64, led by the great value of the collections and by readiness of the Smithsonian Institution to fulfill its agreement as to duplicates, several prominent residents of Chicago resolved to found a scientific museum in the metropolis of the Northwest. An informal meeting was held at the house of Mr. Edmund Aiken, at which Prof. Agassiz was present.

Prof. Agassiz's Testimony.

His testimony to the worth of Mr. Kennicott's labors confirmed the determination of those present that funds should be provided for the proper reception of the material at their hands. A large sum was subscribed at this meeting, and by the efforts of Messrs. Scammon, Walker, McCagg, Blatchford, Thompson, and others, additional subscriptions were made. An act of incorporation, as now published, was obtained, and the academy was placed on the foundation on which it now rests. The trustees appointed Mr. Kennicott the first director of the museum. The specimens which were rapidly forwarded by the Smithsonian Institution were arranged under his direction, temporarily in rooms in the Metropolitan Building, Randolph and La Salle streets. Additions were made by members of the academy, by friends in the vicinity, and by exchanges from American and foreign societies.

In March, 1865, Mr. Kennicott, with a party of young naturalists, went to Alaska to survey a route for a telegraph line, then proposed to connect North America with Russia. The expedition was sent by the Western Union Telegraph company, which offered every facility for doing scientific work outside the line of their special labor. The outfit for scientific purposes was furnished by the trustees from the funds of the academy.

Loses His Life.

From this expedition, auspiciously begun and for a time successfully conducted, Mr. Kennicott never returned. He died suddenly on the banks of the Yukon River, in the depths of a remote and desolate region. Notwithstanding his loss the academy reaped substantial results from this enterprise.

At the departure of Mr. Kennicott the museum was intrusted to Dr. William Stimpson, the Secretary of the academy. At the death of Mr. Kennicott Dr. Stimpson became director of the museum.

June 7, 1866, the museum building was partly destroyed by fire. The collections were much damaged and parts were destroyed. Before this fire the question of a change of location had been discussed and immediately thereafter a lot on Wabash avenue, north of Van Buren street, was bought and the erection of a fireproof building begun. The first meeting of the academy in this building was held Jan. 28, 1868. The house was of brick, 55x80 feet in area and fifty feet high; the floors were of brick and iron, the stairways and principal doors of iron, and the windows were covered with iron shutters. The basement was used for laboratory and storeroom, the first floor for a library and offices, while the whole upper part, twenty-eight feet high, a large room surrounded by two wide galleries, was occupied by the museum. All available space was filled with cases of the most approved design.

Oct. 1, 1871, there were, besides a large number of miscellaneous collections, a large number of private collections upon deposit.

On the 9th day of October, 1871, this building, in spite of the fireproof qualities it confidently supposed to possess, with all its contents of inestimable value, specimens, library, manuscripts, and apparatus, was burned. Of all the wealth of natural science which the academy had held, only a few [illegible] remained.

Appeal for Help.

Within twelve days thereafter a circular was issued invoking the help of corresponding societies, which elicited many liberal responses. The Secretary, already feeble and prostrated by the calamity which had destroyed, at once, the voluminous manuscripts of his life and the sources whence they had been drawn, went to Florida, hoping that a milder climate would extend his lease of life. He died May 26, 1872, at the home of his wife in Ilchester, Md.

This loss seemed to the friends of the academy the last stroke. Yet hope and courage remained. It was determined to rebuild upon the old site and upon the same plan, modified by such improvements as experience could suggest. Upon the front of the same lot a business block of the first-class, four stories in height, was erected, which was expected ultimately to yield a regular income for the support of the academy. An incumbrance rested upon this property which the public spirit of Chicago, it was hoped, would remove. The restored building was occupied in the fall of 1873, the first meeting being held Oct. 14.

The growth of the museum after the fire was largely due to the zeal and fidelity of Dr. J. W. Velie, the assistant curator under Dr. Stimpson, and after his death curator of the museum. Large collections were made by him in local lines of natural history and also many specimens of several trips along the Florida coast. The panic of 1873 prevented the academy from reaping the income that was expected from the stores upon the front of the museum lot, and after a prolonged struggle the ownership of the building passed into other hands and the academy was obliged to store its library and a part of its collection, which portion of the collection found a temporary home in the old Exposition Building, where it remained for several years, until the building was torn down in 1890 to prepare the ground for the present Art Institute. The rest of the collection was then stored and remained closed from the public until its reappearance in the present building.


1907
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Α α alpha Ρ ρ rho

Β β beta Σ σ ς sigma

Γ γ gamma Τ τ tau

Δ δ delta Υ υ upsilon

Ε ε epsilon Φ φ phi

Ζ ζ zeta Χ χ chi

Η η eta Ψ ψ psi

Θ ϑ θ theta Ω ω omega

Ι ι iota

Κ κ kappa

Λ λ lambda

Μ μ mu

Ν ν nu

Ξ ξ xi

Ο ο omicron

Π π pi

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