TWENTY-SECOND ANNUAL REPORT
OF THE
REGENTS OF THE UNIVERSITY
OF THE
STATE OF NEW YORK,
ON THE CONDITION OF THE
State Cabinet of Natural History
AND THE
HISTORICAL AND ANTIQUARIAN COLLECTION ANNEXED THERETO.

Transmitted to the Legislature April 10th, 1869.

ALBANY:
THE ARGUS COMPANY, PRINTERS.
1869.
TWENTY-SECOND ANNUAL REPORT


UNIVERSITY OF THE STATE OF NEW YORK:
Office of the Regents, Albany, April 10, 1869.

To the Hon. Allen C. Beach,
President of the Senate:

Sir—I have the honor to transmit the Twenty-Second Annual Report of the Regents of the University, on the State Cabinet of Natural History and the Historical and Antiquarian Collection annexed thereto.

I remain, very respectfully,
Your obedient servant,

JOHN V. L. PRUYN,
Chancellor of the University.
REGENTS OF THE UNIVERSITY.

[Ex Officio Trustees of the State Cabinet of Natural History.]

JOHN V. L. PRUYN, LL.D., Chancellor.
GULIAN C. VERPLANCK, LL.D., Vice Chancellor.

Ex-Officio.
JOHN T. HOFFMAN, Governor.
ALLEN C. BEACH, Lieutenant-Governor.
HOMER A. NELSON, Secretary of State.

STANDING COMMITTEE OF THE REGENTS,
Specially charged with the care of the State Cabinet.
1869.

(The Governor) Mr. HOFFMAN,
THE SECRETARY OF STATE, Mr. JOHNSON,
Mr. CLINTON, Mr. BREVOORT,
Mr. CORNING, Mr. RANKIN.

CURATOR:
JAMES HALL, LL.D.
REPORT.

To the Honorable, the Legislature of the State of New York:

The Regents of the University, as trustees of the State Cabinet of Natural History, respectfully submit this their Twenty-Second Annual Report.

The Report of the Curator, herewith communicated, exhibits the progress of the Cabinet during the year 1868, and its present condition.

That of the Botanist shows the work of his department, and commends continued provision for that work to the favorable consideration of the Legislature.

The Cabinet in all its departments has been enlarged and improved, and may be looked upon with just pride by the citizens of the State, both in its scientific relations and as exhibiting the extensive and varied natural productions of the State.

The usual statement of receipts and expenditures is herewith communicated.

All of which is respectfully submitted, on behalf of the Regents,

JOHN V. L. PRUYN,

Chancellor of the University.
ACCOUNT CURRENT, 1867–8,
WITH APPROPRIATION FOR THE STATE CABINET OF NATURAL HISTORY.

**Dr.**
To balance from 1866–7, .................. $1,085 95
To appropriation for 1867–8 (*Session Laws*, 1867, *pp.* 1451, 1244), .................. 2,500 00

**Cr.**
By cost of additions to the collections, ...... $1,567 14
By chemicals, ............................ 145 92
By books and stationery, ..................... 27 15
By expressage and freight, ................... 79 60
By salary of Botanist, ....................... 416 66
By trays for shells, ........................ 119 15
By glassware, &c., .......................... 77 44
By expenses of taxidermist, ................... 63 20
By contingents, ............................. 68 48
By balance to new account, .................. 1,021 21

$3,585 95
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REPORT OF THE CURATOR.

To the Honorable the Board of Regents of the University of the State of New York:

Gentlemen—

I have the honor to present to you the following communication regarding the condition of the State Cabinet of Natural History, with a statement of the work done in the museum, together with a list of the additions made to the collections of the several departments during the past year.

The work of the year under the head of the several departments may be stated in a general manner as follows:

With the sanction and approval of the committee of your Board having charge of the museum, the plaster casts constituting the "Wadsworth Gallery" were removed to the third floor, and the opening in that floor closed, thus securing additional space. By this arrangement these casts were brought upon the same floor with the Mastodon and Elephant remains from our State, the one occupying the eastern and the other the western end of the same room. Among the most conspicuous of the casts of the Wadsworth collection are those of the Schistopleurum and Megatherium, both of which were South American animals of the Pleistocene period, while the Mastodon was a North American animal of essentially the same Geological period.

At a later date, with the consent of Mr. Wadsworth, the cast of the skull and tusks of Elephas ganesa, a fossil Asiatic species, and the Dinotherium, a European species of the same age, were placed on the central east side of the same room, and the skull, tusk and lower jaw of the American Mastodon were removed to the western end of the room with the Cohoes Mastodon skeleton.

The committee in charge of the museum authorized the purchase from Prof. Ward of a very fine specimen of the Irish Elk (Megacerus [Sen. No. 87.]
hibernicus), together with a cast of the skull of Diprotodon (an Australian mammal), the skull and lower jaw of a young Mastodon, and the lower jaw of the St. Catharine's Mastodon, which is interesting from preserving the smaller task in the lower jaw.

The Megaceras is mounted in the centre of the room, and presents a very fine appearance; while the casts of other European and Asiatic fossils are arranged on the east side of the centre. This arrangement gives us, on the west or left hand side, as we enter the room, a North American, the central part a European and Asiatic, and the eastern end a South American gallery, chiefly of the larger Mammalia of the Pleistocene period. This plan, with the comparatively small number of species which we are able to represent, makes a much more satisfactory and instructive arrangement than any other which we could adopt. In the same gallery with the Cohoes Mastodon, I propose to arrange all the remains of Mastodon and Elephant which we have or may obtain from the North American continent. The greater part of those we possess are already thus arranged, while others, which require some preparation, will soon be placed in the same position.

I would suggest the propriety ofprocuring for the European gallery, a skeleton of the Cave Bear and a few other things of the same geological age, sufficient to give an expression of the fauna of that period. A few other objects from the South American fauna of the same age would add greatly to the interest of the gallery upon that side.

The plan for the disposal of the remaining casts of the Wadsworth gallery, in proximity to the South American gallery, will essentially preserve the unity and integrity of that liberal gift to the museum, and be quite satisfactory to the donor.

The removal of the Wadsworth gallery from the first floor of the museum greatly enlarged the area for the collections of Geology and Palæontology, illustrating the New York series, and has enabled me to carry out the plan I had proposed for the arrangement of this important part of the museum. By this means we are enabled to add six table cases of twelve and a half feet in length for the Palæontological collections, and an extent of about thirty feet of table cases for the Geological series, which will give room for a very satisfactory arrangement of the entire Palæozoic series.

In the Palæontological series the cases have already been added, and the entire collection rearranged and extended to conform to the
enlarged condition. The few spaces in these cases at present left unoccupied will be properly filled in the course of a few months.

For the extension of the Geological series nearly all the specimens have been selected, and temporarily arranged in other cases or in drawers, ready to be placed in their proper positions as soon as the table cases shall be completed.

The arrangement of this room being essentially completed, at least as to the plan, I have had a diagram of the same constructed upon a large scale, marking the position and contents of the cases and their relation to each other. This diagram, on a smaller scale, with a general description of the contents of the cases, is intended to accompany the report to be made to the Legislature.

Considerable progress has been made in arranging, labeling and distributing into boxes the duplicate specimens of fossils heretofore remaining in drawers of cases in the Curator’s room. The several collections have been numbered 1, 2, 3, etc., and a record of these has been kept, together with a list of the species in each collection, and the number of individuals of each species in the several collections. These collections are still so incomplete that I would not recommend their distribution at the present time. During the coming year I hope to be able to make such progress in this work that in my next report I can submit a more complete statement, with a recommendation for the distribution of some part, at least, of the collections.

During the year some additions have been made to the Economic collections, and the space allotted to the building stones and marbles on each side of the main entrance hall has been found insufficient for their arrangement. The collections of the coming year will make it necessary to provide some other accommodations for the specimens. A few specimens have been added to the Iron Ores from Northern New York, as will be seen by the accompanying lists, but it has been quite impossible for me to visit that region, as I had intended, for the completion of this collection. Some interesting specimens of iron ore from the Lake Superior region have been donated by Hon. L. H. Morgan.

During the collection of the larger blocks of ores and building stones a considerable number of smaller specimens have been obtained, some of which have been added to the Geological series, while others, together with all those collected beyond the limits of the State, for want of room to arrange them, have been labeled and
packed in boxes properly marked, and are available at any time for examination and experiment. Some of them have already been used in testing the strength of the various kinds of stone.

The Crawfordsville collection of Crinoidea and other fossils have nearly all been unpacked, the specimens cleaned, numbered and distributed in drawers under their respective designations.

Besides what I have enumerated, there has been much miscellaneous work done among the collections which can scarcely form part of the report, but which enters into the final result in the arrangement and classification of the materials of the museum.

The work of survey and investigation at Cohoes has been essentially completed, and the large map of the river bed and adjacent parts of the country, showing the ancient and modern pot-holes and the position of the Mastodon, has been finished, together with other necessary work pertaining to the same subject.

The collection of minerals has been removed from the shelves, the specimens cleaned of dust, the cases cleaned and the specimens returned to their proper places. It has been impossible to give the time to a proper rearrangement of this collection which it so much needs.

The Gould Collection of Shells, which was in part temporarily arranged in drawers in the Curator’s room in the early part of the year, has been finally arranged by Mr. R. P. Whitfield, assisted by S. B. Woolworth, Jr., and J. W. Hall, in the cases appropriated therefor in the third story of the building. The space occupied under glass is about 380 square feet, and a considerable number still remain in drawers. The specimens as now arranged are very much crowded, but we have no alternative at the present time. The work of marking this collection with labels which can be read through the glass, thus facilitating the means of study and comparison by those visiting the museum, will be progressed as rapidly as the other duties of the museum will permit.

I have heretofore called your attention to the large number of shells from the Smithsonian Institution and other sources, still remaining in drawers. We are unable at the present time, or even with any prospective arrangement in the room allotted to this department, to find space for arranging them beneath glass, or in any way that they may be seen by visitors.

The collection of Corals has been arranged in two small cases in the window recesses of the third story; and, though comparatively
few species are represented, there are among them some fine spec-
mens, and the whole together offer at least a representation of this
class of organisms of which the museum had been entirely destitute
heretofore.

For the species of corals obtained from the Essex Institute, a satis-
factory return has been made in a collection of New York fossils,
numbering one hundred species, of which a record has been pre-
served.

The *Echinoderms* of the Pickett collection have been arranged and
labeled, and offer a tolerable representation of this class of organ-
isms, but a more extended collection is greatly to be desired.

The collection of *Birds' Eggs* has been arranged and classified,
and now presents a very satisfactory appearance. It is very desir-
able to extend this collection, so as to include all our more common
species.

The *Alcoholic Collection*, including Fishes and Reptiles, with
some Crustacea and Mollusca, has been for a long time in a very
unsatisfactory condition. In the larger proportion, and, so far as I
know, the entire collection had remained in the same alcohol in
which it was at first placed, and, in consequence, the fluid had
become turbid and highly charged with oily matter, so that the speci-
mens were obscured. Fresh alcohol had been added during suc-
cessive years, and the evaporation of the spirit, leaving the watery
portions, had reduced it in some cases to a strength of thirty-five
degrees, rendering it unfit for the preservation of the objects con-
tained in the jars.

The alcohol of the entire collection has been redistilled, and after
being reduced to the proper strength, the specimens have been
replaced, and now present a very satisfactory appearance, as well as
being safe from decay consequent on the deterioration of the fluid.
By redistilling this alcohol, instead of purchasing fresh spirit, we
have saved an expense of some three hundred and fifty dollars to
the museum.

Mr. Lintner, who has lately come into the museum as an assistant,
has taken charge of this collection, and has classified the whole, and
commenced the labeling in such a manner as to be instructive to
those who wish to study it. I have added to this collection a consid-
erable number of species, as will be seen by the appended list; some
of these species belong to the New York fauna, and were not before
represented in the museum.
I have likewise added some insects and mollusca, in alcohol, and I propose to increase this department so as to embrace the mollusca of the coast of New York, and some of the fresh water and land shells. I propose also to preserve in the same way, for the purpose of study, the larvae of known insects, especially those which have an interest in their economic relations.

The collection of Crustacea has been increased by the addition of a few species, but the department is very imperfectly represented, even in those species known to inhabit the State.

In the acquisition and preparation of Skulls, Skeletons, etc., of mammalia, I would report that two skulls of reindeer, a skull of the musk ox, and a fine skull and horns of the elk, heretofore in the collection, have been macerated and cleaned and are now ready for mounting.

I have added to the collection, also, the skull of the black tailed deer of the West; a skull and part of the skeleton of the buffalo; a skeleton of the antelope and two large skulls of the antelope, and a skull of the big horn or mountain sheep.

Mr. Kislingbury, who has been employed by the Regents to collect and prepare skeletons of the quadrupeds now or formerly living within the limits of the State, is at work in the museum preparing to mount the skeletons he has collected.

I have heretofore called your attention to the very inadequate space allotted to the Ethnological and Antiquarian collections. The case is now so full as not to allow a proper arrangement or classification, and many objects in possession of the museum necessarily remain packed in boxes. A box of specimens received last year from the Smithsonian Institution remains packed as it came to us (though the specimens have been examined), and we have no proper means of arranging or displaying the collection.

In view of the great and increasing interest attached to this department of knowledge and inquiry, I would earnestly recommend that some steps be taken for increasing the space available for these objects, and that means be adopted to increase the collection.

The Smithsonian Institution is constantly acquiring large collections of these objects, and the State Museum of New York could easily participate in the distribution which will be made of the duplicates, were proper steps taken at this time.

I have heretofore reported the completion of an index of the Geological and Palæontological subjects in the Reports on the State
Cabinet. At the present time a general index to the reports, including the Twentieth Report, is in course of preparation, and will probably be completed in time to communicate with the present Annual Report to the Legislature.

Mr. Peck, who is in charge of the Botanical Department, will communicate the results of his investigations during the past year.

I am unprepared at the present time to communicate the results of any scientific investigations on my own part. The duties of the museum (much of the time being necessarily spent in details of no scientific value) have been so onerous during the past two years and a half as to leave very little time for original investigations. I need not remind you that no Museum of Natural History can maintain its proper standing, in the opinion of the scientific public, without publishing the results of investigations in some of its departments; and, without this, it will soon cease to be of interest to scientific men, or to attract the attention of the more intelligent public.

I feel that I need offer no further argument to secure the sanction and coöperation of the Board of Regents in some plan which will secure them an annual report, showing progress in scientific investigations in several of the departments of the museum.

In conclusion, I would beg leave to ask the Regents, or a committee of the Board, to examine the present condition of the State Museum, in its several departments, with a view both to a knowledge of the present arrangement, of the materials and condition, and of learning from their own observations its necessities.

I have the honor to be very respectfully
Your obedient servant,
JAMES HALL.
ADDITIONS TO THE STATE CABINET DURING THE YEAR 1868.

I. BY DONATION.

I. TO THE ZOOLOGICAL DEPARTMENT.

From John Bratt, West Point, N. Y.
Nest of the small blue speckled Woodpecker, excavated in a maple tree, in front of the Academic buildings, West Point, containing, when opened, five eggs.

From S. T. Livermore, Albany, N. Y.
Tusks of a Walrus, from the Arctic Ocean.
Tooth of a Hippopotamus.
Jaw of a Porpoise.

From Richard Baker, Albany, N. Y.
Two Eggs laid by the same hen; the one measuring 1 inch and 1½ inches in its diameters; the other weighing five ounces, and of the diameters of 2½ and 3¼ inches.

From Horace F. Buckley.
A Wild Boar's Tusk from the Plains of San Joaquin, California.

From S. Vischer Talcott, Albany, N. Y.
A Rose-crested Cockatoo (Phycotolophius rosaceus Veill).

From Truman H. Aldrich, Troy, N. Y.
A collection of Land and Freshwater Shells, made in the vicinity of Troy.

II. TO THE BOTANICAL DEPARTMENT.

From W. R. Gerard, Poughkeepsie, N. Y.
Specimens of five species of rare Plants.

From G. T. Stevens, M.D., Albany, N. Y.
Specimens of Pinus inops Ait., from Essex Co., N. Y.
From S. H. Wright, M.D. Penn Yan, N. Y.
Specimens of twelve species of Plants, some of them very rare.

From E. L. Hankensen, Newark, N. Y.
Specimens of nine species of Plants, all desiderata for the Herbarium.

From G. B. Brainerd, Brooklyn, N. Y.
Twenty-seven specimens of Marine Algae, neatly mounted, and representing twenty species.

From T. F. Allen, M.D., New York.
Specimens of Wolfia columbiana Karston.

From V. Colvin, Albany, N. Y.
Specimens of Hemalia gracilis James.

From Dr. C. Devol, Albany, N. Y.
The lower part of the trunk of a young maple, with a portion of a hemlock trunk attached, through an aperture in which the maple had grown.

From Prof. C. Jewett, Brooklyn, N. Y.
Specimens of Plants collected about Cooperstown, N. Y., representing fifty-six species (received in 1867).

From Hon. G. W. Clinton, Buffalo, N. Y.
Specimens of Lunularia vulgaris Mich.

From B. D. Gilbert, Utica, N. Y.
Specimens of four species of Plants; among them the very rare Habenaria rotundifolia Rich., and Calypso borealis Salisb.

From E. C. Howe, M.D., Fort Edward, N. Y.
Specimens of two hundred and eighty-five species, of which two hundred and sixty-seven are Fungi.

III. TO THE GEOLOGICAL AND MINERALOGICAL DEPARTMENTS.

From the Hon. Henry Nicol, Brookhaven, L. I.
A broken pebble of dark colored Gneiss, of the form of some aboriginal implement. Found on his farm.

From Israel Nusbaum, Albany, N. Y.
A spheroidal concretion from the Calciferous Sandstone,
A pebble of Graphic Granite,
A pebble of banded Metamorphic Slate. Localities not stated.
From S. B. Woolworth, LL.D., Albany, N. Y.
A fine specimen of *Modiola concentrica*, from the Hamilton Group. Locality unknown.

From D. S. Blair, Albany, N. Y.
A specimen of Coal Plant, from Scranton, Pa., 190 feet below the surface, just above the second coal bed.

A block of Marble, from the State Quarries at Sing Sing.

From Mr. Rothout, Albany, N. Y.
A specimen of Auriferous Quartz, and a specimen of Pitchstone Obsidian, from California.

From Thomas E. Van Loon, Albany, N. Y.
A collection of Coal Plants, from Pennsylvania.

From W. D. Swain, M.D.
A pebble of Conglomerate, and white quartz pebbles in a brown matrix, said to have been found in Albany.

From Leonard Smith, Troy, N. Y.
Specimens of Variegated Marble, from Scranton Falls, Vermont.

From William Shepard, Clifton Park, N. Y.
Siliceous Limestone, of irregular stratification, worn in the form of a bone.

From J. C. Goodrich.

Stockbridge Limestone, from the Glendale Quarry, Mass. Sent as a sample for foundation of New Capitol.

From Dr. R. L. Allen and J. H. White, Saratoga, N. Y.
Four six-inch Cubes of Granite.

From Spencer Daniels, Albany, N. Y.
Fossil Fish and two fossil Crustaceans, from Solenhofen, Bavaria.

From Seth Covell, Saratoga Springs, N. Y.
A pebble of brownish sandstone, which, from its shape and eye-like cavities, was supposed to have been a Potato.

From Horace F. Buckley.

A part of a Mastodon Tooth, from Dry Creek, near Snelling's Ranch, California. Found in a stratum of claystone, sixty feet below the surface.
From Hon. Lewis H. Morgan, Rochester, N. Y.
A very fine collection of Specular and Magnetic Iron Ores, from Lake Superior, embracing:
- Polished Ore (Slakensides), from Lake Superior Iron Mine.
- Slate Ore, from Lake Superior Iron Mine.
- Specular Ore, from Washington Mine; and other specimens yet unpacked.

From E. Hall.
Hematitic Iron Ores, from Essex Co., N. Y.

IV. TO THE HISTORICAL AND ANTIQUARIAN DEPARTMENT.

From Truman H. Aldrich, Rens. Poly. School, Troy, N. Y.
A small Indian Hatchet, said to be from Massachusetts.
A Stone Pestle; probably an elongated sandstone pebble, from its form and mode of wearing; said to be from Massachusetts.

From Mr. Rothout, Albany, N. Y.
A Mexican Spur.

From G. E. Stimpson, Albany, N. Y.
Pistol of John Cheney, the famous “Hunter of the Adirondacks,” carried by him thirty-two years, and with which he had killed twenty-seven moose, hundreds of the red deer, one panther (three feet high and nine feet and nine inches long), about twenty black bears, ten or twelve grey wolves and a large number of fishers, foxes, otters, minks, raccoons and smaller game.

From New York State Agricultural Society.
Two Stone Axes and eighteen Arrow Heads, Indian.

V. TO THE LIBRARY (in 1867 and 1868).

From A. H. Worthen.

From — Kerr.

From the Author.

From the Authors.
ON THE STATE CABINET OF NATURAL HISTORY.


From the Author.


From the Author.


From the Author.

S. A. Sexe. Mærker Efter en Listid. Christiania, 1866. Pam. 4to.

From the Author.


Sitzungs-Berichte der naturwissenschaftlichen Gesellschaft Isis in Dresden. 1867, complete, 1868, Nos. 1 to 6.

From the Regents.


Regents of the University of the State of New York. Twentieth Annual Report on the condition of the State Cabinet of Natural History. Albany, 1867. 8vo.


From the Smithsonian Institution.


From the Author.

From the Smithsonian Institution.
Report of the Board of Regents of the Smithsonian Institution * * * * for the year 1867. Washington, 1868. 8vo.

II. BY PURCHASE.
I. TO THE ZOOLOGICAL DEPARTMENT.

Tooth of fossil Elephant, found in the gravel, twenty-five feet below the surface of the placer gold mining district of Montana, in Meagher county (formerly Gallatin county), near the head waters of Missouri river, twenty-five miles from Helena city. By A. S. Wood and John Kiergan, in August, 1867.

A Collection of one hundred and ninety-six Alcoholic Specimens, exclusive of Insects and Mollusks, as follows:

MAMMALS.
2 Mammals (young). 3 Vespertilio ——? Mississippi river.

FISHES.

12 Gasterosteosus occidentalis. 1 Echeneis remora. New York Harbor. 4 Aspidophorus Europans. River Mersey, England. 1 Hippocampus ——? Panama. 24 specimens of several species not determined.

REPTILES.
Insects.

Bottle Insects. Locality not stated.
" " Mississippi river.
" " Minnesota.
" " Indiana, Ohio, Kentucky.
" " Albany, N. Y.
" " Martinique, W. I.
" " Albany and vicinity.
" " Minnesota (Orthoptera).
1 Acanthodis macrocerus (Gigantic Locust). Panama.
1 Attacus Cecropia larva.
1 Ceratomia quadricornis larva.

Crustaceans.

7 Astacus Bartonii.
1 Scorpion. Osage river.
13 Crustaceans of several species, not determined.

Mollusks.

1 Bottle Mollusks. England.
1 " " New York Harbor.
13 Miscellaneous specimens.

A cast of Diprotodon Australis Owen.

A cast of Mastodon giganteus Cuv.; Skull and Lower Jaw of a young individual.

A cast of Mastodon giganteus Cuv.; Lower Jaw of a young individual.

Fossil Skeleton of Megaceras hibernicus (Irish Elk).

II. TO THE LIBRARY.


Henry Adams and Arthur Adams. The Genera of Recent Mollusca, arranged according to their organization. 3 vols. Royal 8vo. London, 1858.

III. BY COLLECTIONS MADE BY THE CURATOR.

I. TO THE ZOOLOGICAL DEPARTMENT.

Skull of Black Tailed Deer (*Cervus macrotis* Say).

Skull and portion of Skeleton of Buffalo (*Bos Americanus*).

Skeleton of Antelope (*Antilocapra Americana*).

Two large Skulls of Antelope.

Skull of Big Horn or Mountain Sheep (*Ovis montana*).

Living specimens of *Siredon lichenoides* Baird, an undeveloped form of *Amblystoma mavortium* Baird.

II. TO THE GEOLOGICAL AND PALÆONTOLOGICAL DEPARTMENT.

Collection of Rocks and Fossils of Metamorphic, Cretaceous and Tertiary Formations of the Rocky Mountain region.
PARTIAL LIST OF SHELLS FOUND NEAR TROY, NEW YORK.

By Truman H. Aldrich, of the Rensselaer Polytechnic Institute.

This list is the result of collections made during the summers of 1866 and 1867, within a radius of six miles around Troy, and is by no means complete.

Reference is made, as far as practicable, to De Kay’s Report on Mollusca, in the New York State Natural History.

UNIO, Bruguière.

Unio alatus, Say. De Kay, p. 195. De Kay speaks of Dr. Newcomb obtaining it from the Northern canal, near Waterford. In the spring of 1867, the canal was searched for it, both above and below Waterford, for several miles, without success. Mr. H. Rousseau, of this city, found a single valve in the canal at the weigh lock.

Unio nasutus, Say. De Kay, p. 191. Moderately abundant in the Mohawk basin. Specimens of medium size, and many deformed. Seldom found in the canals or Hudson River.

Unio complanatus, Solander. De Kay, p. 188. Very common. Fine varieties, with deep radiating lines outside, and beautiful nacre within are sometimes found.


Unio tappanianus, Lea. De Kay, p. 194. Many years ago Dr. Newcomb found this shell quite plentiful, but of late years the locality had been lost. In the spring of 1867, Mr. Rousseau and myself found it again. The precise locality only occupies a few rods of the Northern canal, between Cohoes and Waterford, just beyond the first lock, above the canal bridge, across the Mohawk.

De Kay’s description is taken from shells from this locality.

Unio pressus, Lea. De Kay, p. 191. Very rare. One specimen found in the Northern canal. It is said to be plentiful in Hoosic River, farther north.

**MARGARITANA, LEA.**

Margaritana rugosa, Lea. De Kay, p. 196. Moderately abundant in the canals, rare in the Mohawk basin, and not yet found in the Hudson River.


**ANODONTA, BRUGUIÈRE.**

Anodonta implicata, Say. De Kay, p. 202. Very large and ponderous specimens found in the basin, rarer in the canals, and seldom found in the Hudson River.


**SPHÆRIUM, SCOPOLLI.**

Sphærium sulcatum, Lam. De Kay, p. 222. Described by De Kay as Cyclas similis. Found of very large size in the Mohawk basin, on a sand bank, at low water; not common in the Hudson River or canals.


Sphærium securis, Prime. Mohawk basin. Rare.
Shells of Troy and Vicinity.

PISIDIIUM, Pfeiffer.

Pisidium virginicum, Bourg. Abundant in the canals and Hudson.

Pisidium compressum, Prime. Mohawk River and canals.

PALUDINA, Lamarck.

Paludina integra, Say. De Kay, p. 84. Very common. Reversed specimens found in proportion of 1 to 250.


Paludina rufa, Hold. Mohawk basin. Rare.

VALVATA, Müller.


LIMNÆA, Lamarck.

Limnæa elodes, Say. Very common.


Limnæa ampla, Mighels. Portland Society Natural History, Vol. I. In the summer of 1866, one dead shell was found in Dry River, West Troy. Mr. H. Rousseau says he has found it in a spring between Troy and Albany, near the H. R. R. R. track.


Limnæa desidiosa, Say. De Kay, p. 73. Mohawk basin. Rare.

Limnæa umbilicata, Adams. In the Mohawk River, and Hudson River, at Albany. De Kay, p. 69, describes this shell under the name of L. caperata, a different shell.

PHYSA, Draparnaud.

Physa heterostropha, Say. De Kay, p. 76. In brooks, and fine specimens in the Hudson River, near Albany.

Physa hypnorum, Linn. Pond near Bald Mountain. Rare.

**PLANORBIS, LAMARCK.**

**Planorbis trivolvis, Say.** De Kay, p. 59. Very common.

**Planorbis bicarinatus, Say.** De Kay, p. 60. Common in the Mohawk basin.

**Planorbis campanulatus, Say.** De Kay, p. 61. Common in the Mohawk basin and canals.

**Planorbis exacutus, Say.** De Kay, p. 63. In the Hudson River near Albany. Rare.

**Planorbis armigerus, Say.** De Kay, p. 62. In swamp, near Bald Mountain, and in the Mohawk basin, near Rensselaer and Saratoga R. R. bridge. Rare.


**MELANIA, LAMARCK.**


**ANCYLUS, GEOFFROY.**

**Ancylus** ———. Clinging to stones near Cohoes Falls.

**SOMATOXYRUS.**

**Somatogyrus integer, Say.** Not common. Mohawk basin, near railroad bridge.

**AMNICOLA, GOULD.**

Amnicola lustrica, Say. De Kay, p. 87. In the Hudson River near Albany. Rare.

Succinia, Draparnaud.


Succinea obliqua, Say. De Kay, p. 53. In the Hudson River, on low islands between Troy and Albany.


Helix, Linnaeus.


Helix concava, Say. De Kay, p. 33. Sometimes found at Lansingburgh.


Helix lineata, Say. De Kay, p. 44. Near Albany. Rare.


Helix multidentata, Binney. Near Albany. Locality destroyed. (Mr. Whitfield.)

Helix striatella, *Anthony*. De Kay, p. 43. Found on islands in the Hudson River, between Troy and Albany. Very common. Numbers were feeding on the common nettle.


Vitrina, Draparnauld.


Achatina, Lamarck.


Vertigo, Müller.


Carychium, Müller.

Carychium exiguum, *Say*. In dead stumps, &c., near Troy. Rare.

Pupa, Draparnauld.

Pupa ———. Low lands of the Mohawk River, near Troy. Rare.
SYNOPSIS.

**UNIONIDÆ.**

*Unio alatus*, Say.
*" nasutus*, Say.
*" complanatus*, Lea.
*" cariösus*, Say.
*" ochraceus*, Say.
*" tappanianus*, Lea.
*" radiatus*, Lam.
*" pressus*, Lea.

*Margaritana rugosa*, Lea.
*" undulata*, Lea.
*" marginata*, Say.

*Anodonta implicata*, Say.
*" fluviatilis*, Lea.
*" lewisi*, Lea.
*" benedictensis*, Lea.
*" edentula*, Say.

**CORBICULADÆ.**

*Sphærium sulcatum*, Lam.
*" striatinum*, Lam.
*" secursis*, Prime.

*Pisidium virginicum*, Bourg.
*" compressum*, Prime.

**VIVIPARIDÆ.**

*Paludina integra*, Say.
*" decisa*, Say.

**VALVATIDÆ.**

*Valvata tricarinata*, Say.

**LIMNÆIDÆ.**

*Limnea elodes*, Say.
*" ampla*, Mighels.
*" var. catascopium.
*" humilis*, Say.
*" reflexa*, Say.
*" desidiosa*, Say.
*" umblicata*, Adams.

*Physa heterostropha*, Say.
*" ancillaria*, Say.

*Physa hypnorum*, Linn.
*" bicarinatus*, Say.

*Planorbis trivolvis*, Say.
*" campanulatus*, Say.
*" exactus*, Say.
*" armigerus*, Say.
*" parvus*, Gould.
*" deflectus*, Say.

**ANCYLUS**

**MELANIADÆ.**

*Melania virginica*, Gmel.
*" elevata*, Say.

**AMNICOLIDÆ.**

*Amnicola limosa*, Say.

**HELICIDÆ.**

*Helix albolabris*, Say.
*" alternata*, Say.
*" arborea*, Say.
*" concava*, Say.
*" chersina*, Say.
*" striatella*, Anth.
*" tridentata*, Say.
*" thyroïdes*, Say.

*Vitrina limpida*, Gould.
PUPADÆ.

**Achatina lubrica, Müll.**

**Vertigo ovata, Say.**

**Auriculidæ;**

**Carychium exiguum, Say.**

<table>
<thead>
<tr>
<th>FAMILIES</th>
<th>Genera</th>
<th>No. in each Genera</th>
<th>No. in each Family</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unionidæ,</strong></td>
<td>Unio,</td>
<td>8</td>
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<tr>
<td></td>
<td>Margaritana,</td>
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<td>Anodonta,</td>
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<td><strong>Corbiculadæ,</strong></td>
<td>Sphærium,</td>
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<td></td>
<td>Pisidium,</td>
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<tr>
<td><strong>Viviparidæ,</strong></td>
<td>Paludina,</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Valvatidæ,</strong></td>
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<td>1</td>
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<td>18</td>
</tr>
<tr>
<td></td>
<td>Physa,</td>
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<tr>
<td></td>
<td>Planorbis,</td>
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</tr>
<tr>
<td></td>
<td>Ancylus,</td>
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<tr>
<td><strong>Melaniadæ,</strong></td>
<td>Melania,</td>
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<td>3</td>
</tr>
<tr>
<td><strong>Amnicolidæ,</strong></td>
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<td>3</td>
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<td></td>
<td>Somatogyrus,</td>
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</tr>
<tr>
<td><strong>Helicidæ,</strong></td>
<td>Succinia,</td>
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<tr>
<td></td>
<td>Helix,</td>
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</tr>
<tr>
<td></td>
<td>Vitrina,</td>
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<td></td>
</tr>
<tr>
<td><strong>Pupadæ,</strong></td>
<td>Achatina,</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Vertigo,</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pupa,</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Auriculidæ,</strong></td>
<td>Carychium,</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>10</strong></td>
<td><strong>21</strong></td>
</tr>
</tbody>
</table>

There are, undoubtedly, a number of other species occurring in this vicinity, but the above have actually been found, either by myself or others, perfectly to be relied upon.

The local distribution of the fresh water shells is especially noticeable, some being found in the Mohawk basin and not in the Hudson River, but a few rods away.

Again, one Unio is found only in the Champlain or Northern canal, while others are confined to the Erie canal alone.
REPORT OF THE BOTANIST.

Dr. S. B. Woolworth,

Secretary of the Regents:

Sir—The following report for 1868 is respectfully submitted:

The specimens of plants known as the "Beck Collection" have been taken from the folios, poisoned, and arranged in the cabinet case prepared for them. A few folios, containing the undistributed specimens of the collection, yet remain, there not being room for them in the case without too close pressing.

The unmounted duplicate specimens of the State Herbarium have been arranged, with their proper labels, in the empty folios.

The number of specimens* of the State collection that have been poisoned and mounted is about one thousand five hundred, representing four hundred and ten species, distributed as follows: Phcenogamia, or flowering plants, one hundred and seventy-eight; Cryptogamia, or flowerless plants, two hundred and thirty-two; of which nine species are ferns, one hundred and eighty mosses, and forty-three are liverworts. The names of the species are given in the accompanying list, marked A.

In mounting the specimens of mosses, the species, so far as possible, have been represented by series of specimens illustrating the different forms, variations in size, aspect, etc. In most instances a single plant has been separated from the tuft and placed by itself on the species sheet, that it may be seen individually as well as collectively. When the genus contains several or many species, the specimens of it have been prefaced by arranging a single plant of each species side by side on one sheet, thus giving, as it were, a synopsis of the genus. Great care has been taken to select the best specimens that could be obtained, and to mount only clear, unmixed ones; a very important matter, surely, since these diminutive plants often

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*The word specimen, when used in reference to the smaller Cryptogamia, denotes, not a single plant, but a moderate sized tuft or aggregation of individual plants.
grow so intermingled that a small tuft frequently contains several different species.

The time between May 12th and November 1st was spent in the field in making observations and collections. Specimens have been taken from the counties of Albany, Essex, Herkimer, Rensselaer, Greene, Richmond, Kings, Queens and Suffolk. The number of specimens collected is about four thousand, belonging to six hundred and ninety-seven species, of which three hundred and ninety species are new to the Herbarium; three hundred and seventy-eight new to the State flora, and three are new to science, and are now described for the first time. The distribution of these species among the classes and orders is given below in tabular form.

A list of the names is given in a paper marked B. The desiderata especially supplied in the Phænogamia is marked opposite the name in this list.

**TABULAR STATEMENT OF PLANTS COLLECTED.**

<table>
<thead>
<tr>
<th>Class</th>
<th>No. of specimens (Estimated)</th>
<th>Species represented</th>
<th>Species new to Herb'm.</th>
<th>Species new to State.</th>
<th>Species new to Science.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fungi, .........</td>
<td>700</td>
<td>173</td>
<td>173</td>
<td>173</td>
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<tr>
<td>Algae, ..........</td>
<td>400</td>
<td>69</td>
<td>51</td>
<td>69</td>
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<tr>
<td>Lichenes, ......</td>
<td>900</td>
<td>105</td>
<td>105</td>
<td>105</td>
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<tr>
<td>Hepaticè, ......</td>
<td>200</td>
<td>33</td>
<td>13</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Musci, ..........</td>
<td>800</td>
<td>98</td>
<td>23</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>Characeæ, ......</td>
<td>20</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Filices, ........</td>
<td>15</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cryptogamia, ..</td>
<td>3,035</td>
<td>488</td>
<td>372</td>
<td>371</td>
<td>1</td>
</tr>
<tr>
<td>Phænogamia, ...</td>
<td>1,000</td>
<td>209</td>
<td>18</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Total, ..........</td>
<td>4,035</td>
<td>697</td>
<td>390</td>
<td>378</td>
<td>3</td>
</tr>
</tbody>
</table>

Apart from the plants themselves, a small quantity of the seeds of two hundred and forty-two species has been collected. Seeds not only afford characters for comprehensive classification, but they also frequently furnish good marks for specific distinction; hence their presence in the Herbarium is quite important. With them it is possible, should a specimen, whose station is remote or exhausted, become lost, to replace it by raising a new plant. A list of the species of which seeds have been collected is marked C.
It is with pleasure that acknowledgment is made of the aid received from the botanists of the State. Several of them have contributed liberally and furnished specimens of some very rare and interesting plants. Though all are good, it seems but just to make special mention of the large contribution of fungi made by Dr. Howe, and numbering two hundred and sixty-seven species. The whole number of species represented by contributed specimens is three hundred and forty-six, of which two hundred and six were neither represented in the Herbarium nor among my collections of the past season. A list of the botanists with their contributions is given in a paper marked D.

It is an interesting fact that the past season appears to have been one prolific in white flowered varieties. Species which have been occasionally observed to produce white flowers appear to have manifested an unusual tendency in that way, while others have been found for the first time, so far as we know, with such flowers. Spiria tomentosa, L., Cirsium arvense, Scop., Malva moschata, L., Viola cucullata, Ait., Trifolium pratense, L., Statice limonium, L., Gentiana saponaria v. linearis, Gray, have been observed by me with white flowers, while Cypripedium arietinum, R. Br., Lobelia syphilitica, L., and Lobelia kalmii, L., have been reported to me; the last one, however, from Michigan. What natural causes or conditions produce this variation in the color of the flower, and how far may these causes be under human control?

People are desirous of knowing the uses of plants. "What is the use of these things" is almost the first question uttered by many in reference to the botanist's treasures. Mere boys have frequently propounded it to me, and indicated a willingness to look after "such things," could they be assured of any material benefit to be derived from them. All readily admit the value of our cultivated plants, but few consider the wild ones, and especially those of the lower orders, to be of any account or importance. But the cultivated ones have been brought into the service of man from Nature's broad field, and additions are occasionally made to their number. Doubtless plants are now to be found growing wild in our woods and waste places, which, by cultivation, might be made as valuable as those in our fields and gardens. Asclepias cornuti might rival the Asparagus plant, Apios tuberosa, the Potato, and several of the Leguminosae might come into equal value with Peas and Beans. But we may not look for useful plants among the higher orders alone. Mushrooms
have long been known to afford delicious and nutritious food. They
are largely used in some of the countries of Europe, and have begun
to be an article of commerce, and, preserved in cans, are brought to
this country and offered for sale. In view of these facts, and of the
increasing interest in the cultivation and use of these fungi in this
country, it has been thought best to add brief remarks to the more
important species of the Cryptogamia concerning their uses, and to
note particularly those that are edible. The number of species of
edible fungi already found in our State is thirty-three, a list of which
is given in a paper marked E.

Further remarks upon these and other plants both useful and inju-
rious, together with a record of those new to our State flora, descrip-
tions of new species, etc., are given in a paper marked F.

A.

LIST OF SPECIES OF WHICH SPECIMENS HAVE BEEN MOUNTED.

Clematis ochroleuca, Ait.
Ranunculus flammula v. reptans.
Trollius laxus, Salis.
Dentaria diphylla, L. 2 spms.
" maxima, Nutt.
Sinapis nigra, L.
Viola selkirkii, Pursh.
Aseyrum crux-andreee, L.
Hypericum canadense, L.
Arenaria greenlandica, Spreng.
Stellaria longifolia, Muh.
" borealis, Bigel.
Ceanothus ovalis, Bigel.
Acer spicatum, Lam.
" dasycarpum, Ehrh.
Lespedeza stuevi, Nutt.
Baptisia tinctoria, R. Br. 2 spms.
Geum album, Gmelin. 2 spms.
" virginianum, L.
Potentilla tridentata, Ait.
Parnassia caroliniana, Michae.
Circeea alpina, L.
Epilobium hirsutum, L.
Gaura biennis, L.
Ludwigia alternifolia, L.
Rhexia virginica, L.

Ammannia humilis, Michae.
Cuphea viscosissima, Jacq.
Thaspium trifoliatum, Gray.
Aralia trifolia, Gray.
" quinquefolia, Gray.
Cornus florida, L.
" sericea, L.
Lonicer a ciliata, Muhl.
Viburnum acerifolium, L.
Houstonia coerulea, L.
Eupatorium sessilifolium, L.
Aster ericoides, L.
" laevis, L. 2 spms.
" undulatus, L.
Solidago thyrsoida, E. Meyer.
" arguta, Ait.
" bicolor v. concolor, Gray.
" ulmifolia, Muhl.
" muhlenbergii, T. & G.
Xanthium spinosum, L.
Galinsoga parviflora, Cav. 2 spms
Anthemis arvensis, L.
Artemisia biennis, Willd.
Caesalpa suaveolens, L.
Senecio aureus, L.
Arnica mollis, Hook.
Sonchus oleraceus, L. 2 spms.  
" asper, Vill.  
" arvensis, L.
Gaylussacia resinosa, T. & G.
Vaccinium macrocarpon, Ait.
" oxyccoccus, L.  
" uliginosum, L.
Pyrola elliptica, Nutt.
Primula mistassinica, Michx.
Lysimachia lanceolata, Walt.
Samohus valerandi, L.
Utricularia intermedia, Hayne.
" gibba, L.
Catalpa bignonioides, Walt.
Veronica officinalis, L.
Gerardia pedicularia, L.
Pedicularis lanceolata, Michx.
Lycopeus europenes, L.
Origanum vulgare, L.
Lithospermum hirtum, Lehm.
Phlox subulata, L.
Gentiana saponaria v. linearis, G.
Chenopodium glaucum, L.
Atriplex rosea, L.
Polygnumnum acre, H. B. K.
Linderia benzoin, Meisner.
Dirca palustris, L.
Shepherdia canadensis, Nutt.
Callitrichie verna, L.
Acalypha virginica v. gracilens.
_Urtica urens_, L.  
" dioica, L.
Carya porcina, Nutt.
" alba, Nutt.
Abies canadensis, Michx.
Quercus liricifolia, Wang.
" obtusiloba, Michx.
Salix cordata, Muhl. 2 spms.  
" longifolia, Muhl. 3 spms.
Peltandra virginica, Raf.
Symposcarpus kottidus, Salish.
Leuma torreyi, Aust.
Sparganium simplex, Huds.
Hemis perennis, Scop.  
" flexilis, Rostk. 2 spms.  
" indica v. gracillima.
Ruppia maritima, L. 2 spms.
Zannichellia palustris, L.
Potamogeton pectinatus, L.  
" praelongus, Wolf.

Potamogeton perfoliatus, L.  
" punciflorus, Psh.  
" hybridus, Michx.  
" incens, L.
Triglochin maritimum v. elatum.
Habenaria dilatata, Gray.
" obtusata, Richardson.  
" orbiculata, Torr.
" hookeri, Torr.
" fimbriata, R. Br.
Goodyera pubescens, R. Br.
Listera cordata, R. Br.
Arethusa bullosa, L.
Pogonia verticillata, Nutt.
Corallorhiza multiflora, Nutt.
" innata, R. Br.
Cypripedium spectabile, Swartz.
Trillium sessile, L.
" grandiflorum, Salish.
Smilacina racemosa, Desf.
Erythronium americanum, Sm.
Ornithogalum umbellatum, L.
Luzula parviflora v. melanocarpa
Juncus trididus, L.
" nodosus, L. 2 spms.  
" articulatus, L.  
" scirpoides v. macrostemon.
Eleocharis intermedia, Schultes.
" rostellata, Torr.
" compressa, Sulliv.
Scirpus cespitosus, L.
" planifolius, L.
" sylvaticus, L.
Eriophorum vaginatum, L.
Rhynchospora alba, Vahl.
" fusea, R. & S.
Carex seirpoidea, Michx.
" tereferuscula v. major, K.
" alopecoidea, Tuck.
" cephalophora, Muhl.
" canescens v. vitilis, Gray.
" sychnocephala, Carey.
" bigelowi, Torr.
" torta, Booth.
" aperta, Booth.
" stricta v. strictior, Gray.
" lenticularis, Michx. 2 spms
" limosa, L.
" irrigua, Smith.
" platyphylla, Carey. 2 spms
Carex retrocurva, *Dew.* 2 spms.

" laxiflora v. bland. *Gray.*

" novae-angliae, *Schw.*


" richardsonii, *R. Br.*

" houghtonii, *Torr.*

" lupulina v. giganteoida, *G.*

" rostrata, *Michx.* 2 spms.

" hartii, *Dew.*

" utriculata, *Boott.* 2 spms.

" monile, *Tuck.*

" oligosperma, *Michx.*

Triticum caninuni, *Z.*

Alopecurus geniculatus, *L.*

" aristatus, *Michx.*

Aristida tuberculosa, *Nutt.*

Bouteloua curtipendula v. aristosa, *Gray.*

Leptochloa fascicularis, *Gray.*

Tricuspis purpurea, *Gray.*

Bromus secalinus, *L.*

" kalmii, *Gray.*

" ciliatus, *L.*

Aira flexuosa, *L.*

Panicum xanthophyllum, *Gray.*

Andropogon furcatus, *Muhl.*

Filices.

Woodsia glabella, *R. Br.*

" ilvensis, *R. Br.*

" obtusa, *Torr.*

Aspidium spinulosum v. boottii.

Asplenium ebenum, *Ait.*

Cheilanthes vestita, *Swartz.*

Ophioglossum vulgatum, *L.*

Bôtrychium lunarioides, *Swartz.*

" simplex, *Hitchcock.*

Musci.

Funaria flavigans, *Michx.*

" hygrometrica, *Hedw.*

Aphanorhegna serrata, *Sulliv.*

Physcomitrium pyriforme, *L.*

Schistostega osmundacea, *W. M.*

Tetraplodon mnioides, *L. fil.*

Splachnum ampullaceum, *L.*

Hedwigia ciliata, *Dicks.*

Racomitrium micropapillum, *B'd.*

" sudeticum, *Funk.*

" fasciculare, *Bridd.*

Racomitrium aciculare, *Bridd.*


" olneyi, *Sulliv.*

" leucopoda, *Grec.*

" pennsylvanica, *Sch'gr.*

Schistidium confertum, *Funk.*

" apocarpum, *Hedw.*

" agassizii, *S. & L.*

Timmia megapolitana, *Hedw.*

Aulacomnion turgidum, *Sch'gr.*

" palustre, *Grec.*


Mnium cinclidioïdes, *Hub.*

" punctatum, *Hedw.*

" hornum, *Hedw.*

" serratum, *Bridd.*

" lycopodioides, *Hook.*

" cuspidatum, *Hedw.*

" rostratum, *Schwaggr.*

" drummondii, *Br. & Sch.*

" affine, *Bland.*


Bryum pallescens, *Schwaggr.*

" pallens, *Swartz.*

" uliginosum, *Bridd.*

" elongatum, *Dicks*

" nutans, *Schreb.*

" crudum, *Schreb.*

" annotinum, *Hedw.*

" wahlenbergii, *Schwaggr.*

" pyriforme, *Hedw.*

" intermedium, *Bridd.*

" bimum, *Schreb.*

" pseudo-triquetrum, *Sc'gr gr.*

" roseum, *Schreb.*


" capillare, *Hedw.*

" caespiticium, *L.*

" atropurpureum, *W. & M.*

" argenteum, *L.*

Bartramia cederii, *Swartz.*

" pointiformis, *Hedw.*

" fontana, *Bridd.*

" mahunbergii, *Sch'gr.*

Conostomum boreale, *Swartz.*

Mesia uliginosa, *Hedw.*

" tristicha, *Funk.*

" longiseta, *Hedw.*

Atrichum undulatum, *Beauv.*

" angustatum, *Beauv.*
Pogonatum brevicanule, *Brid.*
" urnigerum, *Brid.*
" alpinum, *Brid.*
Polytrichum piliferum, *Schreb.*
" juniperium, *Hedw.*
" formosum, *Hedw.*
" commune, *L.*
Diphyseicum foliosum, *W. & M.*
Buxbaumia aphylla, *Haller.*
Fontinalis antipyretica v. gigantea, *Sulliv.*
Dichelyma capillaceum, *Dill.*
" falcatum, *Hedw.*
Ptenogynaendrum filiforme, *T.m.*
Leucodon brachypus, *Brid.*
Leptodon trichomtrichion, *Mohr.*
Anomodon viticulosus, *L.*
" obtusifolius, "
" attenuatus, *Schreb.*
" ? tristis, *Cesati.*
Leskea polycarpa, *Ehrh.*
" obscura, *Hedw.*
" nervosa, *Schwoegr.*
" rostrata, *Hedw.*
" denticulata, *Sulliv.*
Thelia hirtella, *Hedw.*
" asprella, *Schp.*
Myurella careyana, *Sulliv.*
Anacampodon splachnoides, *B.*
Pylaisae subdenticulata, *Schp.*
" intricata, *Hedw.*
" velutina, *Schp.*
Homalothecium subcapillatum.
Platygyrium repens, *Brid.*
Cylindrotheicum eladorhizans.
" sedectrix, *Hedw.*
" brevisetum, *S.p.*
Neckera pennata, *Hedw.*
Homalia gracilis, *James.*
Climaciun americanum, *Brid.*
" dendroides, *L.*
Hypnum tamariscinum, *Hedw.*
" delicatulum, *Mull.*
" minutulum, *Hedw.*
" seintum, *Beauv.*

Hypnum abietinum, *L.*
" blandowii, *W. & M.*
" paludosum, *Sulliv.*
" squarrosum, *L.*
" triquetrum, *L.*
" brevirostre, *Ehrh.*
" splendens, *Hedw.*
" umbratum, *Ehrh.*
" alleghaniense, *Mull.*
" hians, *Hedw.*
" piliferum, *Schreb.*
" sullivantii, *Spruce.*
" strigosum, *Hoffm.*
" diversifolium, *Bry. E.*
" boscii, *Schwoegr.*
" serrulatum, *Hedw.*
" demissum, *Wils.*
" cylindricarpum, *Mull.*
" recurvans, *Schwoegr.*
" molle, *Dicks.*
" ochraceum, *Turn.*
" montanum, *Wils.*
" cespitatum, *L.*
" schreberi, *Willa.*
" cordifolium, *Hedw.*
" giganteum, *Schp.*
" stramineum, *Schp.*
" sarmentosum, *Wahl.*
" uncinatum, *Hedw.*
" revolutens, *Swartz.*
" fluitans, *Hedw. 2 spms.*
" aduncum, *Hedw. 2 spm*
" sendtneri, *Schp.*
" filicinum, *L. 3 spms.*
" crista-castrensis, *L.*
" imponens, *Hedw.*
" reptile, *Michx.*
" fertile, *Sendt.*
" hamulosum, *Bry. Eur.*
" curvifolium, *Hedw.*
" haldanianum, *Grev.*
" pratense, *Koch.*
" rugosum, *Ehrh.*
" nitens, *Schreb.*
" salebrosum, *Hoffm.*
" lecetum, *Brid. 2 spms.*
" acuminatum, *Beauv.*
" rutabulum, *L.*
" plumosum, *L.*
Hypnum velutinum, L.
  " rivulare, Brch.
  " novae-angliae, S. & L.
  " stellatum, Schreb.
  " polymorphum, Brch.
  " hispidulum, Brid.
  " dinorphum, Brid.
  " minutissimum, S. & L.
  " subtile, Hoffm.
  " adnatum, Hedw.
  " radicale, Brid.
  " orthocladon, Beauv.
  " noterophilum, S. & L.
  " riparium, L.
  " polygamum, Bry.Eur.
  " lescurii, Sulliv.
  " denticulatum, L.
  " muhlenbeckii, Hartm.
  " sylvaticum, L.
  " pulchellum, Dicks.

Hepaticæ.
Riccia fluitans, L.
  " natae, L.
Anthoceros laevis, L.
Duvalia rupestris, Nees.
Reboulia hemisphaerica, Rad.ii.
Fegatella conica, Corda.
Preissia commutata, Nees.
Blasia pusilla, L.
Pellia epithylla, Nees.
Steetzia lyelli, Lehmb.
Chiloscyphus polyanthus, Corda.

Geocalyx graveolens, Nees.
Sphagnocetis communis, Nees.
Jungermannia trichophylla, L.
  " connivens, Dicks.
  " curvifolia, Dicks.
  " eatenulata, Hub.
  " peckii, Aust.
  " barbata, Schreb.
  " taylori, Hook.
  " schraderi, Mart.
  " inflata, Huds.
  " spicellata, Gies.
  " obtusifolia, Hook.
  " incisa, Schrad.
  " exsecta, Smith.
Scapania nemorosa, Nees.
Sarcoscyphus chhrarti, Corda.
Frullania grayana, Mont.
  " aolotis, Nees.
  " virginiaca, Gottsche.
  " eboracensis, Gottsche.
Lejunia serpyllifolia, Libert.
Radula complanata, Dumort.
  " obconica, Sulliv.
Madotheca platyphylla, Dumort.
  " porella, Nees.
Ptilidium ciliare, Nees.
Trichocolea tomentella, Nees.
Sendtnera juniperina, Nees.
Mastigobryum trilobatum, Nees.
  " deflexum, Nees.
Calypogeia trichomanis, Corda.
PLANTS COLLECTED.

(Flowering Plants—Phoenogamia.)

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anemone pennsylvanica, L. Fr.</td>
<td></td>
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<tr>
<td>Hepatica triloba, Chaix.</td>
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<tr>
<td>&quot; acutiloba, DC.</td>
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<tr>
<td>Coptis trifolia, Salisb.</td>
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<tr>
<td>Ranunculus recurvatus, Poir.</td>
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<tr>
<td>&quot; fascicularis, Muhl.</td>
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<tr>
<td>Trollius laxus, Salisb.</td>
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<tr>
<td>Thalictrum purpuraseens, L. Fls.</td>
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<tr>
<td>&quot; cornuti, L.</td>
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<tr>
<td>&quot; anemonoides, Me.</td>
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<tr>
<td>Sanguinaria canadensis, L.</td>
<td></td>
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<tr>
<td>Nymphaea minor, DC.</td>
<td></td>
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<tr>
<td>Sarracenia purpurea, L.</td>
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<tr>
<td>Dentaria laciniata, Muhl. Root.</td>
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<tr>
<td>Barbarea vulgaris, R. Br.</td>
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<tr>
<td>Arabis hirsuta, <em>Scop.</em></td>
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<tr>
<td>&quot; canadensis, L.</td>
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<tr>
<td>Lepidium campestre, L.</td>
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<tr>
<td>Nasturtium armoracia, Fr.</td>
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<tr>
<td>Viola canadensis, L.</td>
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<tr>
<td>&quot; pubescens, Ait.</td>
<td>Fr.</td>
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<tr>
<td>&quot; v. eriocarpa, <em>Nutt.</em></td>
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<tr>
<td>&quot; v. scabriuscula, <em>T. &amp; G.</em></td>
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<tr>
<td>&quot; cucculata, Ait. Whitish fls.</td>
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<tr>
<td>&quot; v. cordata, <em>Gr.</em></td>
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<tr>
<td>&quot; pedata, L.</td>
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<tr>
<td>Hypericum canadense v. major, *</td>
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<tr>
<td>Elatine clintoniana, <em>Peck.</em></td>
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<tr>
<td>Silene noctiflora, L.</td>
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<tr>
<td>&quot; stellata, Ait.</td>
<td>Fr.</td>
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<tr>
<td>Althea officinalis, L.</td>
<td>Fr.</td>
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<tr>
<td>Malva moschata, *L.</td>
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<tr>
<td>Ribis copallina, L.</td>
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<tr>
<td>Vitis cordifolia, <em>Michx.</em></td>
<td>Fr.</td>
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<tr>
<td>Rhamnus alnifolius, L’Her. Fr.</td>
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<tr>
<td>Acer spicatum, Lam. Fr.</td>
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<tr>
<td>Lupinus perennis, L. Fr.</td>
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<tr>
<td>Trifolium pratense, L. Wh. fls.</td>
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<tr>
<td>Robinia pseudacacia, L.</td>
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<tr>
<td>Lespedeza stuevi, <em>Nutt.</em> Fr.</td>
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<tr>
<td>Lathyrus palustris, L. Nar. lvs.</td>
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<tr>
<td>Cassia chamæcris, L.</td>
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<tr>
<td>&quot; nictitans, L.</td>
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<tr>
<td>Prunus maritima, <em>Wang.</em></td>
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<tr>
<td>&quot; pumila, L.</td>
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<tr>
<td>Spirea tomentosa, L. Wh. fls.</td>
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<tr>
<td>Fragaria vesca, L.</td>
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<tr>
<td>Rubus strigosus, <em>Michx.</em> Fr.</td>
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<tr>
<td>&quot; neglectus, <em>Peck.</em></td>
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<tr>
<td>&quot; occidentalis, L.</td>
<td>Fr.</td>
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<tr>
<td>&quot; hispidus, L.</td>
<td>Fr.</td>
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<tr>
<td>Rosa carolina, L.</td>
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<tr>
<td>Crataegus crus-galli, L.</td>
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<tr>
<td>Epilobium hirsutum, L.</td>
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<tr>
<td>&quot; palustre v. linearis.</td>
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<tr>
<td>Oenothera pumila, L.</td>
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<tr>
<td>Mitella nuda, L.</td>
<td>Fr.</td>
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<tr>
<td>Ribes lacustre, <em>Poir.</em> Fr.</td>
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<tr>
<td>&quot; floridum, L.</td>
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<tr>
<td>Sanicula canadensis, L.</td>
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<tr>
<td>&quot; marilandica, L.</td>
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<tr>
<td>Zizia integerrima, DC.</td>
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<tr>
<td>Cryptotenia canadensis, DC.</td>
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<tr>
<td>Apium graveolens, *L.</td>
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<tr>
<td>Lonicera oblongifolia, <em>Muhl.</em> Fr.</td>
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<tr>
<td>Cornus canadensis, L. Fr.</td>
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<tr>
<td>Viburnum opulus, L.</td>
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<tr>
<td>&quot; pubescens, <em>Pursh.</em></td>
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<tr>
<td>&quot; nudum, L. Nar. lvs.</td>
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<tr>
<td>Galium boreale, L.</td>
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<tr>
<td>&quot; triflorum, <em>Michx.</em></td>
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<tr>
<td>&quot; trifidum v. pusillum, <em>Gr.</em></td>
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<tr>
<td>Emporatorium lancifolium, <em>Wild.</em></td>
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<tr>
<td>&quot; linifolius, L.</td>
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<tr>
<td>&quot; philadelphicum, L.</td>
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<tr>
<td>Solidago caesia, L.</td>
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<tr>
<td>&quot; muhlenbergii, T. &amp; G.</td>
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<tr>
<td>&quot; thyrsoida, <em>E. Meyer.</em></td>
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<tr>
<td>&quot; virga-aurea, L.</td>
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<tr>
<td>Baccharis halimifolia, L.</td>
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<tr>
<td>Bidens cernua, L. Dwarf.</td>
<td></td>
</tr>
</tbody>
</table>

*Not before represented in the State Herbarium.*
Nabalus fraseri, DC.
  " altissimus, Hook.
Hieracium scabrum, Michx.
  " gronovii, L.
Helianthus annuus, L. Dwarf
Lactuca canadensis, L.
Lobelia kalmii, L. Simple form.
  " dortmanna, L. Dwarf.
Campanula aparionoides, Pursh.
Vaccinium stamineum, L. Fr.
  " caespitosum, * Michx.
  " canadense, Kalm.
  " uliginosum, Z. Fr.
Vaccinium pennsylvanicum v. angustifolium.* Gray.
Kalma angustifolia, L.
  " latifolia, L. Fr.
Gaultheria procumbens, Z.
Chiogenes hispidula, T. & G. Fr.
Ledum latifolium, Ait.
Pyrola secunda v. punxila." Gr.
Vaccinium stamineum, L. Fr.
Callicarpa petiolaris, var. angustifolia,* Gray.
Lithospermum officinale, L.
Gentiana saponaria v. linearis.
Menyanthes trifoliata, L. Fr.
Asclepias obtusifolia, L. Fr.
Hydrophyllum virginicum, L.
Atriplex arenaria, Nutt. Fr.
Chenopodium hybridum, L.
  " ambrosioides, L.
  " anthelminticum, L.
Suaeda maritima, Dumort.
Salicornia herbacea, L.
  " virginica, L.
  " ambiguа, Michx.
Ranunculus obtusifolius, L.
  " orbiculatus, * Gray.
Callitriche verna, L.
Limnanthemum lacunosum, Ge.
Juglans cinerea, L. Stam. fls.
Betula lenta, L.
  " papyracea, Ait.
  " alba v. populifolia, Sph.
Quercus ilicifolia, Wang.
Myrica cerifera, L.
Populus balsamifera,* L.
Salix candida, Willd.
  " humilis, Marshall.
  " tristis, Ait.
  " babylonica, Tourn.
  " longifolia, Muhl.
Arisema triphyllum, Torr.
Acorus calamus, L. Root.
Sparganium simplex, Hud. Fls.
  " v. nuttallii, Gr.
  " v. fluitans, Gr.
Naias flexilis, Rostk.
Potamogeton hybridus, Michx.
  " perfoliatus, L.
  " amplifolius, * Tuck.
  " clatonii, Tuck.*
  " oakesianus, * Rob's.
  " incens, L.
Vallisneria spiralis,* L.
Sagittaria graminea, Michx.
  " heterophyllа, * Pursh.
  " variabilis, Engelm.
Habenaria hookeri, Torr.
  " dilatata, Gray.
  " blephariglottis, Hook.
Goodyera, menziesii,* Lindl.
Spiranthes cernua, Richard.
  " latifolia, Torr.
  " romanzoviana,* Cham.
Xyris flexuosa v. pusilla,* Gr.
Sisyrinchium bermudiana, L.
Clintonia borealis, Raf.
Trillium cernuum, L.
  " erythrocarpum, Michx.
Smilacina stellata, Desf. Fr.
Polygonatum biflorum, Ell.
Erythronium americanum, Sm.
Streptopus amplexifolius, DC.
Smilax glanca, Walt.
Eriocaulon septangulare, With.
Juncus pelocarpus, E. Meyer.

* Not before represented in the State Herbarium.
Juncus nodosus, L.
" canadensis v. coarctatus,
" v. longicanadatus, Engm.
" articulatus, L.
" alpinus v. insignis,* Fr.
" maritimus,* Lam.
Rynchospora capillacea, Torr.
Carex sicca, Dev.
" gynocrates v. sub stamina-
" stellulata v. scirpoideas, Gr.
" laxiflora v. blanda, Gray.
" varia, Muhl.
" pensylvanica, Lam.
" aretata, Booth.
" tuckermanii,* Booth.
" straminea v. tenera,* Gr.

Carex scoparia, Schhk.
" emmonsii,* Dev.
" rosea v. radiata,* Dev.
" pauciflora, Lightf.
" vulpinoidea, Michx.
" lagopodioides, Schhk.
" tentaculata v. gracilis, Bt.
" scirpoidea, Michx.
Brizopyrum spicatum, H. Root.
Eragrostis reptaens, Nees.
" pectinacea, Gray.
" poeoides, Beav.
Panicum clandestinum, L.
" depauperatum, Muhl.
" latifolium, L.
Calamagrostis canadensis, Beavv
Triticum repens, L. Root.

(Flowerless Plants—Cryptogamia.)

Ferns—Filices.
Woodwardia angustifolia, Sm.
Phegopteris hexagonoptera, Fée.
Pellaea gracilis, H.

Mosses—Musci.
Sphagnum rigidum, Schp.
" sedoides, Brid.
" wulflanum,* Angst.
" girgensohni,* Russ.
" larieinum,* Lindbg.
" lindenbergi, Schp.
" subsecundum v. contort-
" um,* Nees.
" recurvum,* Beav.
" squarosum, Pers.
" cymbifolium v. congestum,
" Bry. Eur.*
" acutifolium, Ehrh.
Andreae crassinervia,* Brch.
" rupestris, Turn.
Weisia viridula, Brid.
Rhabdoweisia fugax, Bry. Eur.
" denticulata.
Gymnostomum rupestre, Schgr.
" curvirostrum.
Astomum sullivantii,* Bry. Eur.
Anodus donianus,*

Tetraphis pellucida, Hedw.
Diceranum montanum, Hedw.
" rufescens, Turn.
" heteromallum, Hedw.
" flagellare, Hedw.
" elongatum, Schwgr.
" longifolium, Hedw.
" spurium,* Hedw.
Paludella squarrosa,* L.
Fissidens osmundoides, Hedw.
Barbula fragilis,* Wils.
" mnerouifolia, Schgr.
Didymodon rubellus, Roth.
Blindia acuta, Dicks.
Encalypta ciliata,* Hedw.
Amphoridium lapponicum, Sch.
" mougeotii,* Schp.
" peckii,* Sulliv.
Racomitrium sudeticum, Funk.
Drummondia clavellata, Hook.
Orthotrichum obtusifolium, Sod.
" anomalum, Hedw.
" strangulatum, Beav.
" canadense, Schp.
" ludwigii, Brid.
" hutchinsiEe, H-T.
Coscinodon pulvinatus,* Br. Eu.
Pogonatum urnigerum, Brid.

*Not before represented in the State Herbarium.
Polytrichum commune, L.  
formosum, Hedw.

Mnium affine, Bland.  
stellare,* Hedw.  
medium,* Schp.  
cuspidatum, Hedw.  
drummondii, Br. & Sch.

Timmia megapolitana, Hedw.  
Amblyodon dealbatus,* Beauv.

Bryum pallens, Swartz.  
bimum, Schreb.  
pyriforme, Hedw.  
pseudo-triquetrum, Schgr.  
nutans, Schreb.

Aulacomnion palustre, Schweg.  
Buxbaumia aphylla, Holler.

Leucodon brachypus, Brid.

Myurella careyana, Schliv.

Pylaissea velutina, Schp.

Aplianorhega serrata, Sulliv.

Hypnum demissum, Wils.  
fluitans, Hedw.  
sendtneri, Schp.  
revolvens, Swartz.  
turfaceum,* Lindbg.  
pratense, Koch.  
radicale, Brid.  
orthoeadon, Beauv.  
delicatulum, Mull.  
giganteum, Schp.  
sullivantii, Spruce.  
plumosum, L.  
populeum v. rufescens.*  
stramineum, Dicks.  
stellatum, Schreb.  
gracile,* Bry. Eur.  
nitens, Schreb.  
schreberi v. montanum.*  
cuspidatum, L.  
scorpioides,* L.  
strigosum, Hoffm.

polymorphum, Brech.  
brevirostre, Ehrh.

splendens, Hedw.  
seitum, Beauv.  
blandowii, W. & M.  
serpens, L.

Homalia jamesii,* Schp.


LIVERWORTS—Hepaticae.

Riccia sullivantii,* Aust.

Anthiseeras laevis, L.

Marchantia polymorpha,* L.  
Preissia commutata, Nees.

Duvalia rupestris, Sulliv.

Pellia epiphylla, Nees.

Grimaldia barbifrons,* Raddd.  
Reboulia hemisphaerica, Raddd.

Anenra palmata,* Nees.

Metzgeria pubescens,* Raddd.  
" furcata,* Nees.

Geocalyx graveolens, Nees.

Plagiochila spinulosa,* N. & M.  
" asplenioideas,* Nees.

Sphagnoeetis commnis, Nees.

Jungermannia obtusifolia, Hk.

" trichophylla, L.  
" setiformis,* Ehrh.  
" curvifolia, Dicks.  
" connivens, Dicks.  
" catenulata, Hub.  
" inflata, Huds.  
" bicuspidata, L.  
" divaricata,* Sm.

Frullania grayana, Mont.  
" eboracensis, Lehnm.

" hutchinsiae,* Nees.

Lejunia serpyllifolia, Libert.

Radula complanata, Dumont.

" pallens,* Nees.

Ptilidium ciliare, Nees.

Trichocolea tomentella, Nees.

Lepidozia reptans, Nees.

(LICHENS—Lichenes.)

Usnea barbata, Fr.

" v. florida, Fr.

" v. hirta, Hoffm.

" v. dasypoga, Fr.

" longissima, Ach.

Alectoria jubata v. chalybeiformis, Ach.

" v. implexa, Fr.

* Not before represented in the State Herbarium.
Evernia prunastri, Ach.
" furfuracea, Mann.
" v. cladonia, Tk.
Ramalina calicaris v. fastigiata.
" v. farinacea.
" v. inflata.
Cetraria aculeata, Fr.
" islandica, Ach.
" ecumullata, Ach.
" ciliaris, Ach.
" lactunosa, Ach.
" oakesiana, Tuck.
Solorina saccata, Ach.
Nephriloma arcticum, Fr.
" tomentosum, Kær.!!
" tom. v. helveticum.
" laevigatum, Ach.
" laev. v. papyraceum.
Peltigera aphthosa, Hoffm.
" canina, Hoffm.
" polydactyla, Hoffm.
" horizontalis, Hoffm.
Sticta pulmonaria, Ach.
" glomerulifera, Delise.
" quercizans, Ach.
" sylvatica, Ach.
Parmelia perlata, Ach.
" v. olivetorum, Ach.
" crinita, Ach.
" tiliacea, Fr.
" saxatilis, Ach.
" conspersa, Ach.
" olivacea, Ach.
" stygia, Ach.
" physodes v. entemorpha, Tuck.
Physcia stellaris, Wallr.
" v. trbracia, Fr.
" caesia v. angustior, Fr.
" obscura, NyL.
" v. erythrocordia, Tk.
" aquila v. detonsa, Tk.
" pulverulenta, Fr.
" speciosa, Ach.
Physcia speciosa v. leveomela.
Pyxine ceces v. sorediata, Tk.
Theloschistes partietinus, Norm.
" par. v. polycarpus, Fr.
" chrysophthalinus.
Placodium rupestre, Tuck.

Placodium aurantiacum, Lightf.
" aur. v. flavovirescens, Fr.
Gyalecta lutea, Tuck.
Lecanora pallida, Schar.
" palleseens, Schar.
" tartarea, Ach.
" v. frigida, Ach.
" subfuscæ, Ach.
" varia, Ach.
" cinerea, Fr.
" altra, Ach.
" muralis, Schar.
" elatina v. ochrophæa.
Lecidea contigua, Fr.
" albocornulescens.
" enteroleuca, Fr.
" sanguinaria, Ach.
Buellia parasema, Kær.
" myriocarpa, Tuck.
" petrea, Tuck.
" lactea, Kær.
Biatora atropurpurea, Ach.
" sanguineoatra, Fr.
" rufonigra, Tuck.
" viridescens, Fr.
" vernalis, Fr.
" chlorantha, Tuck.
Bæomyces aeruginosus, DC.
Cladonia cespilticia, Flærk.
" pyxidata, Fr.
" v. symphicarpa, Fr.
" gracilis, Fr.
" v. hybrida, Fr.
" v. elongata, Fr.
Cladonia gracilis v. taurica.
" degenerans, v. cariosa.
" fimbriata, Fr.
" v. adpersa.
" squamosa, Hoffm.
" v. delicata.
" furcata, Flærk.
" v. racemosa, Flæk.
" v. subulata, Flæk.
" rangiferina, Hoffm.
" v. alpestris.
" amaurocrea, Flærk.
" uncialis, v. turgescens.
" mitrula, Tuck.
" cornucopioides, Fr.
" eristatella, Tuck.
Pilophorum fibula, *Tuck.*
Stereoecaulon tomentosum, *Fr.*
Urceolaria serpens, *Ach.*
Pannaria microphylla, *Mass.*
" lanuginosa, *Ach.*
Pertussaria pertusa, *Ach.*
" v. areolata.
" velata, *Nyl.*
" v. multipuncta.
" wulfenii, *Dec.*
" globularis, *Ach.*
Conotremus urceolatum, *Tuck.*
Pyrenula nitida, *Ach.*
Trypethelium vineum, *Tuck.*
Graphis scripta, *Ach.*
Umbilicaria millelbaria, *Tk.*
" pustulata, v. papulosa.
" proboscidea, *DC.*
" hirsuta, *Ach.*
" dillenii, *Ach.*
Collema flaccidum, *Ach.*
" ryssosellum, *Tuck.*
Leptogium tremelloides, *Fr.*
" lacerum, *Nyl.*
" chloromelum, *Nyl.*
" saturninum, *Nyl.*

Sea-weeds—Algae.
Chondria dasypylla, *Ag.*
" baileyana, *Mont.*
" tenissima, *Ag.*
Gelidium corneum, *Lamour.*
Polysiphonia subtilliussa, *Mont.*
" olenyi, *Harv.*
" harveyi, *Bail.*
" variegata, *Ag.*
" nigrescens, *Grev.*
Bostrychia rivicara, *Harv.*
Dasya elegans, *Ag.*
Champa parvula, *Harv.*
Corallina officinalis, *L.*
Grinnellia americana, *Harv.*
Delesseria sinuosa, *Lamour.*
Gracilaria multipartita, *J. Ag.*
Solieria chordalis, *J. Ag.*
Polyides rotundus, *Grev.*
Rhodymenia palmata, *Grev.*
Phyllophora brodiei, *J. Ag.*
Auhfelta plicata, *Fr.*
Chondrus crispus, *Lyngh.*
Chylocladia baileyana, *Harv.*
Spyridia filamentosa, *Harv.*
Ceraminium rubrum, *Ag.*
" rub. v. decurrens.
" diaphanum, *Roth.*
" fastigiatum, *Harv.*
" arachnoidea, *Ag.*
Callithannion baileyi, *Harv.*
" byssoidcum, *Arn.*
Sargassum vulgare, *Ag.*
" montagnei, *Bail.*
Fucus nodosus, *L.*
" vesiculosus, *L.*
" scorpioides, *Fl. Dan.*
Laminaria fascia, *Ag.*
" saccharina, *Lamour.*
Desmarestia viridis, *Lamour.*
Stilophora rhizodes, *J. Ag.*
Dictyosiphon fenculacens, *Grev.*
Chordaria flagelligormis, *Ag.*
" divaricata, *Ag.*
Leathesia tuberiformis, *Gray.*
Ectocarpus viridis, *Harv.*
" litoralis, *Lyngh.*
Chorda filum, *Stack.*
Punctaria latifolia, *Grev.*
" tenuissima, *Grev.*
Bryopsis plumosa, *Lamour.*
Porphyra vulgaris, *Ag.*
Enteromorpha intestinalis, *Linck.*
" compressa, *Grev.*
" clathrata, *Grev.*
Ulva latissima, *L.*
" linza, *L.*
Hormotrichium younganum, *Dew.*
Chaetomorpha tortuosa, *Dew.*
" linum, *Kutz.*
Cladophora arcta, *Dew.*
" glaucescens, *Griff.*
" refracta, *Roth.*
" fracta, *Fl. Dan.*
" glomerata, *L.*
Rhizoclonium riparium, *Roth.*
Chetophora piasiformis, *Ag.*
" endivisefolia, *Ag.*
Draparnaldia glomerata, *Ag.*
Batrachospermum moniliforme.
Nostoc commune, *Vauch.*
Characeae.
Nitella flexilis, Ag.
“ mucronata v. flabellata.
“ acuminata v. glomerulifera, A. Br.
Chara coronata, Ziz.
“ fragilis, Desv.
“ feotida, A. Br.
“ contraria, A. Br.

Mushrooms—Fungi.
Agaricus mappa, Batsch.
“ rachodes, Vit.
“ melless, Vahl.
“ nebularis, Batsch.
“ laeacatus, Scop.
“ radicatus, Bull.
“ oehropurpureus, Berk.
“ ostreatus, Jacq.
“ salignus, Pers.
“ petaloïdes, Bull.
“ atroceeruleus, Fr.
“ prunulus, Scop.
“ polychrous, Berk.
“ canepstriis, L.
“ epixanthus, Paul.
“ sphagnorum, Pers.
“ oreella, Bull.
“ curtisii, Berk.
Coprinus comatus, Fr.
“ atramentarius, Bull.
“ domesticus, Pers.
“ plicatilis, Œurt.
“ ephemerus, Fr.

Hygrophorus cinnarbinus, Fr.
“ conicus, Fr.

Lactarius torminosus, Fr.
“ piperatus, Fr.
“ indigo, Fr.
“ voelenus, Fr.
“ chrysorheus, Fr.
“ angustissimus.
Russula emetica, Fr.
“ alutacea, Fr.

Cantharellus tubaeformis, Bull.
“ crispus, Fr.

Marasmius planus, Fr.
“ rotula, Fr.

Lentinus lecontei, Fr.
Panus stypticus, Fr.

Panus dorsalis, Fr.
Schizephyllum commune, Fr.
Lenzites betulina, Fr.
“ sepiaria, Fr.
“ bicolor, Fr.
Boletus elegans, Fr.
“ bovinus, L.
“ seaber, Bull.
“ felleus, Bull.

Dœdalea cinerea, Fr.
“ confragosa, Bolt.

Gloeoporus nigropurpurascens.
Polyergus ovinus, Schæff.
“ tomentosus, Fr.
“ perennis, Fr.
“ boucheanaus, Fr.
“ elegans, Fr.
“ lucidus, Fr.
“ sulphureus, Fr.
“ lacteus, Fr.
“ gilvus, Fr.
“ adustus, Fr.
“ ceriflans, B. & C.
“ resinosus, Fr.
“ subfuscus, Fr.?
“ plananatus, Fr.
“ ignarius, Fr.
“ scutellatus, Fr.
“ carneus, Nees.
“ cinnarbinus, Fr.
“ biformis, KI.
“ hirsutus, Fr.
“ hirsutulus, Schw.
“ versicolor, Fr.
“ abietinus, Fr.
“ occidentalis, KI.
“ medulla-panis, Fr.
“ laceras, Berk.
“ luridus, B. & C.

Merulius tremellolus, Schrad.
Fistulina hepatica, Fr.
Craterellus cornucopoides, P.
Thelephora pallida, Schew.

Hydnus repandum, L.
“ suaveolens, Scop.
“ gelatinosum, Scop.
“ cirrhatum, Pers.
“ coralloïdes, Scop.
Irplex tulipifère, Schew.
“ deformis, Fr.
<table>
<thead>
<tr>
<th>Taxonomy</th>
<th>Description</th>
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<tbody>
<tr>
<td>Irpex cinnamomeus, <em>Fr.</em></td>
<td></td>
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<tr>
<td>Stereum fasciatum, <em>Fr.</em></td>
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<tr>
<td>&quot; complicatum, <em>Fr.</em></td>
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<tr>
<td>&quot; purpureum, <em>Pers.</em></td>
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<tr>
<td>&quot; spadiceum, <em>Fr.</em></td>
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<tr>
<td>&quot; ochraceo-flavum, <em>Schw.</em></td>
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<tr>
<td>&quot; bicolor, <em>Fr.</em></td>
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<tr>
<td>&quot; tabacinum, <em>Fr.</em></td>
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<tr>
<td>Corticum oakesii, <em>B. &amp; C.</em></td>
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<tr>
<td>Clavaria botrytis, <em>Pers.</em></td>
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<td>&quot; stricta, <em>Pers.</em></td>
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<tr>
<td>&quot; inaequalis, <em>Fr.</em></td>
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<td>Spathularia flavida, <em>Pers.</em></td>
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<td>Pistillaria musicola, <em>Fr.</em></td>
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<td>Tremella aurantiia, <em>Schw.</em></td>
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<tr>
<td>Exidia auricula-judae, <em>Fr.</em></td>
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<tr>
<td>&quot; glandulosa, <em>Fr.</em></td>
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<td>Lycopephalon gemmatum, <em>Batsch.</em></td>
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<tr>
<td>&quot; pyriforme, <em>Schweff.</em></td>
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<td>&quot; calycescens, <em>B. &amp; C.</em></td>
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<tr>
<td>&quot; wrightii, <em>B. &amp; C.</em></td>
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<td>Bovista plumbea, <em>Pers.</em></td>
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<td>Scleroderma vulgare, <em>Fr.</em></td>
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<td>Geaster hygrometricus, <em>Pers.</em></td>
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<td>Lyceogala epidendrum, <em>L.</em></td>
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<td>Aethalium septicum, <em>Fr.</em></td>
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<tr>
<td>Diderma globosum, <em>Pers.</em></td>
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<tr>
<td>&quot; citrinum, <em>Fr.</em></td>
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<tr>
<td>Didymium xanthopus, <em>Fr.</em></td>
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<tr>
<td>Stemonitis ferruginea, <em>Lyrh.</em></td>
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<td>Dictydiyum microcarpum, <em>Schd.</em></td>
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<tr>
<td>Cribaria purpurea, <em>Schrad.</em></td>
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<tr>
<td>&quot; intricata, <em>Schrad.</em></td>
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<tr>
<td>Acreyria einerea, <em>Fl. Dan.</em></td>
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<tr>
<td>Trichia rubiformis, <em>Pers.</em></td>
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<tr>
<td>&quot; clavata, <em>Pers.</em></td>
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<tr>
<td>Cyathus campanulatus, <em>Fr.</em></td>
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<tr>
<td>Diplodia viticola, <em>Desm.</em></td>
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<tr>
<td>Nemaspora crocea, <em>Pers.</em></td>
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<tr>
<td>Myxosporium nитidum, <em>B. &amp; C.</em></td>
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<tr>
<td>Uredo solidaginis, <em>Schw.</em></td>
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<tr>
<td>&quot; luminata, <em>Schw.</em></td>
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<tr>
<td>Uredo effusa, <em>Strauss.</em></td>
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<tr>
<td>&quot; leguminosarum, <em>Lk.</em></td>
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<tr>
<td>&quot; pyroxe, <em>Strauss.</em></td>
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<tr>
<td>Uromyes lepideae-violaceae</td>
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<tr>
<td>Ustilago maydis, <em>Cord.</em></td>
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<tr>
<td>&quot; urceolorum, <em>DC.</em></td>
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<tr>
<td>&quot; utriculosa, <em>Nees.</em></td>
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<tr>
<td>Rosteia lacerata, <em>Solv.</em></td>
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<tr>
<td>Aecidium grossulariae, <em>DC.</em></td>
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<tr>
<td>&quot; houstoniatum, <em>Schw.</em></td>
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<tr>
<td>&quot; sambucii, <em>Schw.</em></td>
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<tr>
<td>&quot; hydnoideum, <em>B. &amp; C.</em></td>
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<tr>
<td>Tubercularia vulgaris, <em>Tode.</em></td>
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<td>Polythriicium trifolii, <em>Kze.</em></td>
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<tr>
<td>Morchella esculenta, <em>Pers.</em></td>
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<tr>
<td>Geoglossum hiernum, <em>Pers.</em></td>
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<tr>
<td>&quot; scutellata, <em>L.</em></td>
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<tr>
<td>&quot; calycina, <em>Schw.</em></td>
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<tr>
<td>&quot; cyathoidea, <em>Bull.</em></td>
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<tr>
<td>&quot; agassizii, <em>B. &amp; C.</em></td>
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<tr>
<td>&quot; citrina, <em>Batsch.</em></td>
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<tr>
<td>Bulgaria sarcoides, <em>Fr.</em></td>
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<tr>
<td>Dictaemia faginea, <em>Fr.</em></td>
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<tr>
<td>Rhytisma solidaginis, <em>Schw.</em></td>
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<tr>
<td>&quot; acerinium, <em>Fr.</em></td>
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<tr>
<td>&quot; decolorans, <em>Fr.</em></td>
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<tr>
<td>&quot; prini, <em>Fr.</em></td>
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<tr>
<td>&quot; punctatum, <em>Fr.</em></td>
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<tr>
<td>Hysterium lineare, <em>Fr.</em></td>
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<tr>
<td>Xyalaria polymorpha, <em>Pers.</em></td>
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<tr>
<td>&quot; hypoxylon, <em>Lyrh.</em></td>
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<td>Hypoecia lactiflorum, <em>Schw.</em></td>
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<td>Hypoxylon ustulatum, <em>Bull.</em></td>
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<tr>
<td>&quot; coherens, <em>Pers.</em></td>
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<tr>
<td>&quot; fragiforme, <em>Pers.</em></td>
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<tr>
<td>Diatrype disciformis, <em>Fr.</em></td>
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<tr>
<td>Valsa nivea, <em>Fr.</em></td>
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<tr>
<td>Depaza brunnea, <em>B. &amp; C.</em></td>
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<tr>
<td>&quot; cruenta, <em>Fr.</em></td>
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<tr>
<td>Asterina gaultheriae, <em>Curt.</em></td>
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<tr>
<td>Eustilblum rehmanianum, <em>Rabenh.</em></td>
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</tbody>
</table>
LIST OF SPECIES OF WHICH SEEDS HAVE BEEN COLLECTED.

Clematis virginiana, L.
Hepatica acutiloba, Chaix.
Thalictrum dioicum, L.
  " cornuti, L.
  " purpurascens, L.
Ranunculus abortivus, L.
  " recurvatus, Poir.
  " fascicularis, Michx.
Aquilegia canadensis, L.
Caltha palustris, L.
Trollius laxus, Salisb.
Actaea spicata var. alba, Michx.
Corydalis glauca, Pursh.
Cardamine hirsuta, L.
Arabis hirsuta, Scop.
  " canadensis, L.
Polanisia graveolens, Raf.
Viola pedata, L.
  " pubescens v. seabirosula.
Helianthemum canadense, Max.
Parnassia caroliniana, Michx.
Hypericum ellipticum, Hook.
  " canadense, L.
  " strigosus, Michx.
  " occidentalis, L.
  " villosus, Ait.
  " canadensis, L.
Rosa rubiginosa, L.
Rhexia virginica, L.
Euphorbia biennis, L.
Epilobium hirsutum, L.
  " coloratum, Muhl.
Ribes cynosbati, L.
Penthorum sedoides, L.
Saxifraga virginiensis, Michx.
Mitella diphylla, L.
  " nuda, L.
Hamamelis virginica, L.
Daucus carota, L.
Pastinaca sativa, L.
Aralia nudicaulis, L.
Corus canadensis, L.
  " florida, L.
Lonicer oblongifolia, Muhl.
Viburnum opulus, L.
  " acerifolium, L.
Mitchella repens, L.
Valeriana sylvatica, Rich.
Vernonia noveboracensis, Willd.
Eupatorium ageratoides, L.
  " perfoliatum, L.
Diplopappus umbellatus, T.& G.
Iva frutescens, L.
Ambrosia trifida, L.
  " artemisifolia, L.
Xanthium strumarium, L.

[Sen. No. 87.]
Helianthus giganteus, L.
  " strumosus, L.
  " decapetalus, L.
  " divaricatus, L.
Bidens bipinnata, L.
Cirsium lanceolatum, Scop.
  " discolor, Spreng.
  " muticum, Michx.
Lappa major, Gaert.
Krigia virginica, Willd.
Galinsoga parviflora, Cav.
Hieracium venosum, L.
  " scabrum, Michx.
  " paniculatum, L.
Nabalus altissimus, Hook.
Taraxacum dens-leonis, Willd.
Lactuca canadensis, L.
Mulgedium leucophseum, Z.
Sonchus oleraceus, L.
Lobelia inflata, L.
Campanula rotundifolia, L.
Gaylussacea resinosa, T. & G.
Vaccinium uliginosum, L.
Chiogonias hispidula, T. & G.
Gaultheria procumbens, L.
Kalmia latifolia, L.
  " angustifolia, L.
  " glauca, Ait.
Azalea nudiflora, L.
Ledum latifolium, Ait.
Chimaphila umbellata, Nutt.
Plantago maritima v. juncoides.
Epiphegus virginiana, Bart.
Verbascum blattaria, L.
  " thapsus, L.
Linaria vulgaris, Mill.
Veronica officinalis, L.
Gerardia flava, L.
Pedicularis canadensis, L.
Mimulus ringens, L.
Verbena hastata, L.
Trichostema dichotomum, L.
Isanthus coerulens, Michx.
Collinsonia canadensis, L.
Brunella vulgaris, L.
Lithospermum officinale, L.
Cuscuta gronovii, Willd.
Solanum dulcamara, L.
Physalis viscosa, L.
Datura stramonium, L.
Sabbatia stellaris, Pursh.
Menyanthes trifoliata, L.
Aselepias cornuti, Decaisne.
Phytolacca decandra, L.
Chenopodium album, L.
  " glaucum, L.
  " hybriatum, L.
  " urbiicum, L.
Atriplex rosea, L.
  " arenaria, Nutt.
Amaranthus retroflexus, L.
Polygonum incarnatum, Ell.
  " tenne, Michx.
  " dumetorum, L.
  " sagittatum, L.
  " hydropiper, L.
  " aviculare, L.
  " persicaria, L.
Ramex verticillatus, L.
Lindera benzoin, Meisner.
Euphorbia polygonifolia, L.
Euphorbia platypylla, L.
Empetrum nigrum, L.
Urtica urens, L.
Behmeria cylindrica, Willd.
Myrica gale, L.
  " cerifera, L.
Comptonia asplenifolia, Ait.
Betula lenta, L.
  " papyacea, Ait.
  " alba v. populifolia, Sph.
Alnus viridis, DC.
  " serrulata, Ait.
Pinus rigida, Miller.
Abies nigra, Poir.
Sparganium simplex, Hudg.
Naias flexilis, Rostk.
Potamogeton claytonii, Tuck.
  " oakesianus, Robb.
Scheuchzeria palustris, L.
Sagittaria variabilis, Engelm.
Corellorhiza multiflora, Nutt.
Sisyrinchium bermindiana, L.
Smilax glanca, Watt.
Trillium erectum, L.
  " erythrocarpum, Michx.
Streptopus amplexifolius, DC.
Clintonia borealis, Raf.
Smilacina racemosa, Desf.
Asparagus officinalis, L.
Lilium canadense, L.
Juncus maritimus, Lam.
 " marginatus, Rostk.
 " bufonius, L.
 " tenuis, Wild.
 " articulatus, L.
 " alpinus v. insignis, Fr.
 " nodosus, L.
 " canadensis, J. Gay.
Cyperus michauxianus, Schultes.
 " grayii, Torr.
 " filiculnis, Vahl.
 " nuttallii, Torr.
Eleocharis obtusa, Schultes.
Scirpus pauciflorus, Light.
 " pungens, Vahl.
 " planifolius, Muhl.
Eriophorum alpinum, L.
 " polystachyon, L.
Rhynchospora glomerata, Vahl.
Carex pauciflora, Light.
 " sicatia, Dew.
 " teretinscula, Good.
 " vulpinoidea, Michx.
 " rosea var. radiata, Dew.
Carex chordohiza, Ehrh.
 " canescens, L.
 " deweyana, Schwein.
 " stellulata, L.
 " scoparia, Schk.
 " lagopodioides, Schk.
 " straminea, Schk.
 " aquatilis, Wahl.
 " stricta, Lam.
 " limosa, L.
 " irrigua, Smith
 " laxiflora v. blanda, Gray.
 " pedunculata, Muhl.
 " emmonsii, Dew.
 " pennsylvanica, Lam.
 " arcta, Boot.
 " extensa, Good.
 " filiforunis, L.
 " vestita, Willd.
 " tentaculata v. gracilis.
 " intumescent, Rudge.
 " foliiculata, L.
 " monile, Tuck.
 " lenticularis, Michx.
Panicum clandestinum, L.
Andropogon furcatus, Muhl.

D.

SPECIMENS OBTAINED BY CONTRIBUTION AND EXCHANGE.

From W. R. Gerard, Poughkeepsie.

Salsola kali, L.
Iris ochroleuca ?
Leucanthemum vulgare v. tubuliflorum, Tenney.
Linaria vulgaris v. peloria.
Viola tricolor v. arvensis, DC.

From G. T. Stevens, M. D., Albany.

Pinus inops, Ait.

From S. H. Wright, M. D., Penn Yan.

Sedum telephioideis, Michx.
Rosa rubiginosa, L.
Vallisneria spiralis, L.
Rumex orbiculatus, Gray.
Carex gynandra, Schw.
Carex extensa, Good.

" alata, Torr.
" intumescens, Rudge.
" retrorsa v. hartii, Gray.
" tuckermanii, Boott.
" retroflexa, Muhl.
" stricta v. xerocarpa, Gray.

From E. L. Hankenson, Newark.

Rosa setigera, Mickle.
Vaccaria vulgaris, Host.
Scirpus paniculatus, Lightf.

" smithii, Gray.
Nymphaea tuberosa, Paine.
Atriplex patula v. littoralis, Gray.
Polygonum incarnatum, Ell.
Potentilla paradoxa, Nutt.
Calendula officinalis, L.

From G. B. Brainerd, Brooklyn. (Algae mounted.)

Delesseria leprieurei, Harv.
Rhodomela rochei, Harv. 3 specimens.
Chylocladia baileyana v. divaricata, Harv.
Spyridia filamentosa, Harv.
Polysiphonia formosa, Suhr. 4 specimens.

" fastigiata, Grev.
" nigrescens, Grev.
Callithamnion corymbosum, Ag.

" byssoidenum, Arn.
" americanum, Harv. 2 specimens.
Griffithsia corallina v. tenuis, Harv.
Cystocladium purpurascens, Kutz.
Cladophora spongiosa, Ag.
Asperococcus echinatus, Grev.
Dictyosiphon foeniculaceus, Grev.
Mesogloia vermicularis, Ag.?
Fuens ceranoides, Ag.
Sargassum bacciferum, Ag.
Punctaria tenuissima, Grev. 2 specimens.
Chaetophora pisiformis, Ag.

From C. F. Austin, Closter, N. J.

Cynosurus cristatus, L.
Dianthus compressa, Aust.
Dieramnum schreberi, Hedw.
Barbula fallax, Bry. Eur.
Fissidens exiguis, Sulliv.
Homalia jamesii, Schwp.
Leskea nervosa, Schwagr.
From T. F. Allen, M.D., New York.

Wolffia columbiana, *Karsten*.

From V. Colvin, *Albany*.

Homalia gracilis, *James*.

From B. D. Gilbert, *Utica*. (By exchange.)

Habenaria rotundifolia, *Richardson*.

Calypso borealis, *Salisb*.

Lamium album, *L*.

Viola cucullata, var., *Ait*.

From Hon. G. W. Clinton, *Buffalo*.


From E. C. Howe, M.D., *Fort Edward*.

Carex tuckermani, *Boott*.

" sparganioides, *Muhl*.

" stellulata v. seirpoides, *Gray*.

" vulpinoidea, *Micha*.

" scoparia, *Schk*.

" lagopodioides, *Schk*.

" cephalophora, *Muhl*.

" hystriciana, *Willd*.

" lupulina, *Muhl*.

" retrocurva, *Dev*.

" irrigua, *Sm*.

Fimbristyris capillaris, *Gray*.

Cyperus grayii, *Torr*. Var.


Isoetes echinospora v. braunii, *Engelm*.

Anacampodon splachnoides, *Brid*.


Agaricus mappa, *Batsch*.

" procerus, *Scop*.

" rachodes, *Vitt*.

" eristatus, *Bolt*.

" melleus, *Vahl*.

" laccatus, *Scop*.

" radicatus, *Bull*.

" velutipes, *Curt*.

" ochropurpureus, *Berk*.

" epipterygus, *Scop*.

" ostreatus, *Jacq*.

" salignus, *Pers*.

" semiorsbiculatis, *Bull*.
Agaricus semicaptus, B. & C.
" atrocoeruleus, Fr.
" applicatus, Batsch.
" curtisi, Berk.
" polychrous, Berk.
" campestris, L.
" arvensis, Schaff.
" cretaceus, Fr.
" sublateritius, Schaff.
" epixanthus, Paul.
" orcella, Bull.
" subinvolutus, Batsch.
" clypeatus, L.
" campanella, Batsch.
" galericulatus, Pers.

Paxillus atrotomentosus, Fr.

Hygrophorus cinnabarinus, Fr.
" ceraceus, Fr.
" conicus, Fr.

Lactarius indigo, Fr.
" subtomentosus, B. & R.
" fuliginosus, Fr.

Russula emetica, Fr.

Cantharellus tubaeformis, Bull.
" albidus, Fr.
" crispus, Fr.

Marasmius plancus, Fr.
" rotula, Fr.

Panus stypticus, Fr.

Schizophyllum commune, Fr.

Lenzites betulina, Fr.
" sepiaria, Fr.
" crataegi, Berk.
" bicolor, Fr.

Polyporus brumalis, Fr.
" boucheanus, Fr.
" giganteus, Fr.
" labyrinthicus, Fr.
" resinosus, Fr.
" applanatus, Fr.
" fomentarius, Fr.
" igniarius, Fr.
" subfuscus, Fr.
" caroliniensis, B. & C.
" cinnabarinus, Fr.
" radiatus, Fr.
" hirsutus, Fr.
" versicolor, Fr.
" abietinus, Fr.
Polyporus sullivantii, *Mont.*

"  virginus, *Schw.*

"  medulla-panis.

"  vaporarius, *Fr.*

"  elegans, *Fr.*

"  lepideus, *Fr.*

"  scutellatus, *Schw.*

"  laceratus, *Berk.*

"  adustus, *Fr.*

Merulius tremellosus, *Schrad.*

Dædalea confragosa, *Boltt.*

Gloeoporus nigropurpurascens, *Schw.*

Fistulina hepatica, *Fr.*

Hydnum repandum, *L.*

"  ochraceum, *Pers.*

"  himantia, *Schw.*

"  mucidum, *Pers.*

"  adustum, *Schw.*

"  laeticolor, *B. & C.*

Irpex tulipiferae, *Schw.*

"  cinnamomium, *Fr.*

Thelephora terrestris, *Ehrh.*

"  pallida, *Schw.*

Stereum striatum, *Fr.*

"  complicatum, *Fr.*

"  purpureum, *Pers.*

"  hirsutum, *Fr.*

"  rubiginosum, *Schrad.*

"  imbricatum, *Schw.*

"  frustulosum, *Fr.*

"  acerinum, *Fr.*

Corticiun oakesii, *B. & C.*

"  ochroleucum, *Fr.*

"  cinereum, *Fr.*

"  scutellatum, *B. & C.*

Cyphella capula, *Fr.*

"  muscicola, *Fr.*

Clavaria inaequalis, *Fr.*

Pistillaria muscicola, *Fr.*

Tremella mesenterica, *Retz.*

"  sarcoides, *With.*

Exidia truncata, *Fr.*

"  cinnabarina, *B. & C.*

Dacrymyces stillatus, *Fr.*

"  tortus, *Fr.*

Ptychogaster albus, *Corda.*

Lycoperdon gemmatum, *Batsch.*

Bovista cyathiformis, *Bocc.*

Geaster hygrometricus, *Pers.*

Lycogala epidendrum, *L.*
Aethalium septicum, Fr.
Physarum nutans, Pers.
Stemonitis ferruginea, Ehrh.
Dictydium microcarpum, Schrad.
Trichia clavata, Pers.
  " turbinata, With.
Cyathus crucibulum, Pers.
Sphaerobolus stellatus, Tode.
Mycrothryrium microscopicum, Desm.
Diplodia viticola, Desm.
Sphaeropsis insignis, B. & C.
Vermicularia liliaceorum, Schw.
Septoria herbarum, B. & C.
Stilbospora ovata, Pers.
  " pyriformis, Hoffm.
Cytispora rubescens, Fr.
  " leuocosperma, Fr.
Nemaspora crocea, Pers.
Myxosporium nitidum, B. & C.
Torula herbarum, Pers.
Septonema spilomeum, Berk.
Puccinia aculeata, Schw.
  " graminis, DC.
  " solida, Schw.
  " waldsteiniae, Curt.
  " junci, Schw.
  " investita, Schw.
Uredo rubigo, DC.
  " caricina, DC.
  " epitea, Kze.
  " polygonorum, DC.
  " solidaginis, Schw.
  " cylindrica, Strauss.
  " potentillae, DC.
  " ruborum, DC.
  " luminata, Schw.
  " effusa, Strauss.
  " pyroæ, Strauss.
  " saliceti, Schl.
  " violarum, DC.
Uromyces lespedeza-violaceæ, Schw
  " lespedeza-procumbentis, Schw.
  " hyperici, Schw.
  " apiculosa, Lev.
Ustilago segetum, Pers.
  " junci, Schw.
Æcidium compositarum, Mart.
  " gnaphaliatm, Schw.
  " hydnoideum, B. & C.
Cystopus candidus, Lev.
Epicoccum micropus, *Corda.*
Tubercularia vulgaris, *Tode.*
Sporocybe calicioides, *Fr.*
Helminthosporium macrocarpon, *Grev.*
Podosporium rigidum, *Schw.*
Polythrinicum trifolii, *Kze.*
Cladosporium herbarum, *Lk.*
Penicillus crustaceum, *Fr.*
Helvella esculenta, *L.*
Geoglossum hirsutum, *Pers.*
“ difforme, *Fr.*
Peziza translucida, *B. & C.*
“ lenticularis, *Fr.*
“ citrina, *Batsch.*
“ compressa, *A. & S.*
“ flexella, *Fr.*
Solenia candida, *Pers.*
Ascobolus conglomeratus, *Schw.*
Bulgaria inquinans, *Fr.*
Sphinctrina turbinata, *Fr.*
Patellaria discolor, *Mont.*
“ rhabarbarina, *Berk.*
Urnula craterium, *Fr.*
Dermatea fascicularis, *Fr.*
Cenangium populinum, *Schw.*
“ ribis, *Fr.*
“ pinastri, *Fr.*
Dichaea faginea, *Fr.*
Rhytisma solidaginis, *Schw.*
“ vaccini, *Fr.*
“ acerinum, *Fr.*
“ punctatum, *Fr.*
“ salicina, *Fr.*
“ blakei, *Curt.*
Phacidium coronatum, *Fr.*
“ crustaceum, *B. & C.*
Hysterium elongatum, *Wahl.*
“ hiaseens, *B. & C.*
“ lineare, *Fr.*
“ pinastri, *Schrad.*
Xylaria polymorpha, *Pers.*
“ hypoxyylon, *Ehrh.*
Hypoerea lactifluorum, *Schw.*
“ richardsonii, *B. & M.*

[Sen. No. 87.]
Hypoxylon ustulatum, *Bull.*

" munmmularium, *Bull.*

" clypens, *Schw.*

" multiforme, *Fr.*

" cohærens, *Pers.*

" fuscum, *Pers.*

" rubiginosum, *Pers.*

" serpens, *Pers.*

Diatrype stigma, *Fr.*

Valsa stilbostoma, *Fr.*

" americana, *B. & C.*

" constellata, *B. & C.*

Nectria cinnabarina, *Fr.*

" cucurbitula, *Fr.*

Sphæria ovina, *Pers.*

" pulvis-pyris, *Pers.*

" myriocarpa, *Fr.*

" papilla, *Schw.*

" pertusa, *Pers.*

" fissurarum, *B. & C.*

" saubineti, *Mont.*

" picea, *Pers.*

" rostrata, *Fr.*

" ulmea, *Schw.*

" lespedeza, *Schw.*

" limæformis, *Schw.*

" aculeata, *Schw.*

" acuminata, *Schw.*

" nigrella, *Fr.*

" verbascicola, *Schw.*

" potentillæ, *Schw.*

" punctiformis, *Pers.*


" disciformis, *Hoffm.*

" coryli, *Batsch.*

" fimbriata, *Pers.*

" quereina, *Pers.*

" epidermidis v. microscopica, *Desm.*

" desmazieri, *B. & Br.*

" nivea, *Hoffm.*

" sordaria, *Fr.*

Dothidea omans, *Schw.*

Erysiphe communis, *Schl.*

" ceanothi, *Schw.*

Phyllactinia guttata, *Lev.*

Asterina gaultheriae, *Curt.*

Erineum fagineum, *Pers.*

" luteolum, *Kze.*

" alnigerum, *Kze.*

" aureum, *Pers.*
Erineum vitis, *DC.*
Sclerotium orobanches, *Schw.*
" varium, *Pers.*

**E.**

**EDIBLE FUNGI.**

Agaricus procerus, *Scop.*
" rachodes, *Vitt.*
" meillonis, *Vahl.*
" personatus, *Fr.*
" nebularis, *Batsch.*
" radicatus, *Bull.*
" ostreatus, *Jaeq.*
" salignus, *Pers.*
" prunulus, *Scop.*
" campestris, *L.*
" avensis, *Schaff.*
" orcella, *Bull.*

Coprinus comatus, *Fr.*
" atramentarius, *Bull.*

Lactarius piperatus, *Fr.*
" angustissimus, *Lasch.*
" volemus, *Fr.*

Russula alutacea, *Fr.*

Marasmius oreades, *Fr.*
Boletus bovinus, *L.*
" elegans, *Fr.*
" scaber, *Bull.*

Polyporus ovinus, *Schaff.*
" gigantens, *Fr.*
" sulphureus, *Fr.*

Fistulina hepatica, *Fr.*

Hydnum repandum, *L.*
" coralloides, *Scop.*

Clavaria botrytis, *Pers.*

Tremella mesenterica, *Retz.*
Bovista plumbea, *Pers.*

Morchella esculenta, *Pers.*

Helvella esculenta, *L.*
SPECIES GROWING SPONTANEOUSLY IN THE STATE AND NOT BEFORE REPORTED.

Elatine clintoniana, sp. nov.

Slender, erect; leaves cuneate oblong or narrowly obovate; flowers with conspicuous rose-red or purplish, spreading petals; seeds slightly curved, ribbed and pitted.

Stems cespitose, slender, simple, erect, abundantly rooting at the base, 3"-10" high; leaves sessile, varying from oblong to oblanceolate and narrowly obovate, obtuse, tapering to the base, rather fleshy, very obscurely nervèd, entire, minutely whitish glandular-dotted; flowers sessile, single in the axils of the leaves, dimerous; sepals oblong-ovate, obtuse, shorter than the petals and about one-third as broad; petals broadly ovate or suborbicular, obtuse, spreading, twice the length of the ovary, rose-red or purplish; stamens longer than the sepals, scarcely as long as the petals, with globose anthers; stigmas nearly sessile, contiguous, persistent; capsule subglobose often slightly depressed at the apex, usually four to eight seeded; seeds nearly straight, longitudinally ribbed, pitted in rows.

Rocky shores of Bowman's pond, Sandlake, Rensselaer county, July and August.

This plant forms quite extensive and rather, dense turfs or patches. The smaller forms have three or four pairs of leaves, narrow and nearly uniform in width, and one or two purplish red flowers, all clustered or closely placed at the top of the stem, the lower part of which is naked, or furnished with long, slender rootlets. The larger plants have the leaves broader, more distantly inserted, more tapering toward the base, the flowers more numerous and paler or rose-red. A cross section of the stem reveals eight tubes formed by thin dissepiments radiating from the center.

The distinctive characters of the species, when compared with E. americana, are found in its more dense, erect mode of growth, smaller size, more slender stems, more narrow leaves, and especially in its conspicuous, spreading, bright-colored petals. The seeds also furnish distinctive but microscopic characters. They are shorter, less curved, more distinctly ribbed longitudinally, less wrinkled transversely, the impressions shorter, more regular in outline and more distantly placed, the interspaces being usually almost as wide as the impressions. In the seeds of E. americana, the interspaces are narrow and more elevated, so that when viewed under the microscope by transmitted light, these elevations or wrinkles appear along the margins of the seed like rows of papillae.

It gives me great pleasure to dedicate this neat little species to my much esteemed friend and active co-laborer in botany, the Hon. G. W. Clinton.
Amorpha fruticosa, *L.*
Banks of the Hudson below Greenbush. Doubtless escaped from some garden.

Rubus neglectus, *sp. nov.*
Stems recurved, armed with numerous straight prickles; berries dark red, having a whitish bloom; calyx hispid.

Stems long, recurved, when young covered with a glaunous bloom, armed with numerous rather strong, straight prickles, those on the flowering branches and petioles sometimes recurved; leaves trifoliate, the leaflets ovate-acuminate, coarsely and doubly serrate, green above, white tomentose beneath, with rather prominent anastomosing veinlets, lateral ones sessile, terminal one often unequally two or three lobed and subcordate; flowers on ascending or erect branches, axillary and subcorymbose, the pedicels armed with unequal slender prickles, intermingled with stiff, glandular hairs; calyx hispid; fruit dark clouded red, with a whitish tomentose bloom. Flowers in June, fruit ripe in July. Sandlake. Not common.

This species is intermediate between *R. strigosus* and *R. occidentalis,* and combines to a considerable extent the characters of both. From the former it may be distinguished by its mode of growth (which is exactly like that of *R. occidentalis*), long recurved stems and stout prickles; from the latter by its more numerous, straight prickles, sessile lateral leaflets and hispid calyx; from both by the color and flavor of its berries. These have a peculiarly agreeable taste, which probably suggested the name "Cream Berries," by which the fruit is known to the inhabitants of the locality above mentioned.

It occurs sparingly in recently cleared lands, associated with its nearly allied species. It is recommended to the attention of gardeners and fruit growers as worthy of cultivation.

It seems to have been previously known to some of our botanists, but was probably considered a sportive form of one or another of its congeneres, in view of which a name has been given indicative of its supposed past treatment.

Calendula officinalis, *L.*

Vaccinium cespitosum, *Michx.*
Summit of Mt. Whiteface, Essex county.

Lamium album, *L.*

Mentha arvensis, *L.*
North Greenbush. Introduced.
Pinus inops, Ait.
Barren plains west of Keeseville; also, near Wadham’s Mills, Essex county. G. T. Stevens. New Jersey has been considered the northern limit of this species, and its occurrence two hundred and fifty miles farther north without intervening stations is truly remarkable, and affords another instance of remotely isolated stations. There are about a half dozen trees near Wadham’s Mills, from five to eight feet high, some larger ones having been recently cut down.

Potamogeton oakesianus, Robbins.
Bowman’s pond, Sandlake. The specimens referred to this species do not quite agree with the description. The stems are not much branched, but nearly or quite simple; yet the leaves and fruit agree so exactly with the characters ascribed to this species that our specimens are referred to it without hesitation.

Potamogeton amplifolius, Tuck.
North Elba, Essex county.

Fagopyrum tartaricum, Gert. (Fagotriticum sibiricum, L.)
Escaped from cultivation to road sides and waste places. North Elba.

Iris ochroleuca, (?)
The plant here noticed is a large, yellow flowered species; probably a garden scape. Essex county. Dr. Stevens. Near Poughkeepsie. W. R. Gerard.

Juncus maritimus, Lam.
Coney Island. The plant under consideration is believed to be the true J. maritimus, now found in this country for the first time, the J. maritimus of American authors having been shown by Dr. G. Engelmann, in Revision N. A. Junci, to be J. Ræmerianus, Scheele. Probably introduced.

Juncus alpinus var. insignis, Fries.
Shore of Lake Champlain, near Port Kent. The heads have more flowers than usual, there being 8–12 in each.

Carex alata, Torr.
Swamps, Junius, Seneca county. S. H. Wright.

Danthonia compressa, sp. nov.
“Stems compressed-trigonal, the narrowest side concave, the others convex, slender (one foot high), decumbent at the base, weak, smooth or minutely roughened below the joints. Leaves very long, narrow and flat, minutely roughened on the margins
and veins, the sheaths smooth. Ligule with long silky fringes. Spikelets racemose-paniculate, about ten. Glumes 4½"-5" long, acute, concave, smooth, 3-nerved, with broad white margins, equal. Florets with a tuft of silky hairs at base; lower palet ovate, bifid, the teeth very slender (1½" long), clothed with silky hairs in seven lines, and on the margins below (membranaceous and naked above on the margin), awn about twice as long as the palet, flat and twisted below but scarcely colored; inner palet membranaceous, nerveless, ciliate.” Austin MSS.


Compared with Danthonia spicata, this species differs in its longer leaves,—the upper ones overtopping the panicle,—its looser panicle and more numerous spikelets, the longer teeth of the lower palet and the tuft of hairs at the base of the florets.

CHARACEÆ.

Nitella flexilis, Ag.

Ponds and slow flowing streams. Sandlake and North Elba.

Nitella mucronata var. flabellata, Kutz.

Lower Saranac Lake.

Nitella acuminata var. glomerulifera, A. Braun.

Lower Saranac Lake. Rare.

Chara coronata, Ziz.

This species, with its semi-transparent stems and branches, destitute of cortical incrustation, might at first sight be mistaken for a Nitella. It grows in shallow water in Saranac lake, intermingled with the two preceding species.

Chara fragilis, Desv.

Mud Lake, Herkimer county. A small form with long bracts; sometimes cinerecent.

Chara fœtida, A. Braun.

(C. vulgaris of authors, in part.) Common, especially in limestone regions. Our specimens are from Albany, Schenectady and Herkimer counties.

Chara contraria, A. Braun.

Cedar Lake, Litchfield, Herkimer county. Much of the bottom of the lake is covered with this and the two preceding species, the plants ranging from a few inches to two or three feet in length. In no other part of the State have I seen the Chara so abundant as in the southern towns of Herkimer county.
**Sphagnum giegensohnii, Russow.**

Sphagnous swamps. Common. July. This moss resembles large forms of *S. acutifolium*. Its branches, however, are generally longer and more distant, the stems thicker, and, when moist, more brittle. When viewed from above in its native swamps it usually presents a more stellate appearance, its five-ranked branches being less condensed at the summit of the stem than they are in that species. I have seen no red specimens, which are so common in *S. acutifolium*. Its inflorescence is dioecious. A form occurs on the moist rocks of the Adirondack Mountains not unlike *S. teres* in general appearance.

**Sphagnum wulfianum, Girgen.**


A species easily recognized by its rigid red stems and numerous short branches, those at the summit of the stem being crowded into a dense subglobose head.

**Sphagnum recurvum, Beaux.**

Swamps and bogs. Common. July. This species has been considered by some to be only a variety of *S. cuspidatum*, but it will probably prove to be a good species. It is not difficult to separate it from the various forms of *S. cuspidatum*, its branches being more uniform in length and curvature, and the leaves evenly ranked and considerably recurved. The spores are yellow.

**Sphagnum laricinum, Lindby.**

Cranberry marsh, Sandlake; its only known locality in this country. August.

A variety closely resembling *S. cuspidatum*.

**Anodus donianus, Bryol. Europ.**

Shaded rocks. Little Falls. July. Not yet found elsewhere in this country, but collected by Drummond in British America. It is an extremely small species.

**Paludella squarrosa, L.**

Amphoridium peckii, *sp. nov.*

"Plantæ subunciales, compacte cæspitose, superne flavidulo-virides, inferne rufescentes, tomento radiculari arcte intertextæ. Caulis innovando fastigiato-ramosus. Folia conflerta humida erecto-patentia, sicca crispata, lineari-lanceolata sensim acutissima, supra basim perbrevem ovatam concavam subamplexantem leniter constricta dehinc carinato-subcomplicata, margine (ut folii utraque pagina) plus minus minute papilluloso, erecto; costa tereti valida subapici finiente; areolatione densa gutulata, cellulis basis mediei oblongis margines versus minoribus quadratis. Flores masculi numerosi, singuli vel aggregati, axillares; antheridiis 5-7, paraphysatis; perigonialibus internis superne serrulatis. Flores feminæ et fructus desideranter."—Sullivant MSS.

"In size and general aspect this moss resembles *A. lapponicum* and *A. mougeotii*, but is distinguished by its broader leaf differently areolatecl, and with a slight but evident constriction above its base." Sullivant.

Under overhanging rocks, Catskill Mountains, Greene county.

This moss was found growing in a single patch three or four feet in diameter. The growth is quite dense, the stems are simple or fastigiately branched, mostly about one inch high; the leaves are numerous, closely imbricating, the upper ones yellowish green, the lower ones dull reddish brown, intermingled with a short, close, radicular tomentum, all linear lanceolate, rather abruptly sharp pointed, slightly constricted above the base, more or less minutely papillose, densely areolated, the areolæ of the middle of the base oblong, towards the margins smaller and quadrate. The foliage is crisped when dry, erect-spreading when moist. It opens under the influence of moisture much more slowly than does that of *A. lapponicum* or of *A. mougeotii*. When moist the greater density of the foliage and the broader leaves give to the plant an appearance quite distinct from the two closely related species, which appearance enables it to be distinguished from them quite readily without a microscopic examination.

*Coscinodon pulvinatus,* Bryol Europ.

Exposed surfaces of rocks. Catskill Mountains. New to this country. The specimens are without fruit, and to that extent the species must remain in doubt.

*Amblyodon dealbatus,* Beauv.

Thin soil covering rocks, near Cedarville, Herkimer county.

*Bryum concinnatum,* Grev.

Crevices of rocks. Catskill Mountains. Sterile.


Stems slender, irregularly subpinnately branched, prostrate or ascending, bright shining green; branches unequal, more or less [Sen. No. 87.]
distantly placed, often long-attenuated; leaves unequal, loosely imbricating, ovate-oblong, very obtuse, subapiculate, minutely toothed toward the apex, the lower margin slightly excavated, incurved; areolation subrhomboidal, longer in the middle of the base of the leaf; costa obsolete or none. Fruit wanting.

Rocks. Helderberg Mountains. V. Colvin. Sandlake. The stems often appear interruptedly leafy, the leaves being in certain places greatly reduced in size. They are also minute on the attenuated part of the branches. The larger ones are subdistichously arranged, and the areolation is rather large. This plant was first discovered by Mr. T. F. James, who has given the very appropriate specific name under which it is here described.

**Hypnum scorioides, L.**

Marshes. Litchfield, Herkimer county. I believe the discovery of this species in our State belongs to Rev. J. A. Paine, Jr., by whom the locality was made known to me.

**Plagiothecium turfeaceum, Lindbg.**


A species closely resembling *P. mühlenbeckii*, and possibly running into it, though I have noticed no intermediate forms. It is distinguished by the more narrow elongated areolation of the leaves, and the less enlarged cells at their basal angles.

**Plagiothecium piliferum var. brevipilum, Bryol Eup.**

Under overhanging rocks and on thin soil in crevices. Catskill and Adirondack Mountains. Very rare. Sterile. It may prove to be a good species.

**HEPATICÆ.**

**Riccia sullivantii, Austin in lit. Sp. nov.**

Frond with air cavities, green both sides, orbicular, 5"-8" in diameter, repeatedly dichotomously divided, the laciniae oblong-linear, plane when moist, channeled above when dry, apices obtuse, bilobed; upper surface becoming many-pitted with age, especially toward the base; lower surface bearing copious, long filamentous rootlets; capsule single at or near the furcations, bursting from the lower surface of the frond; spores dark brown, reticulated, about \( \frac{1}{6} \) of an inch in diameter.

Low grounds in cultivated fields. New Lots, Long Island, September.

**Jungermannia setiformis, Ehrh.**

Rocks. Top of Mt. McIntyre.

**Jungermannia divaricata, Eng. Bot.**

On mosses. Catskill and Adirondack Mountains.
Rajdula pallens, Nees.

**Lichens.**

**Usnea barbata var. florida, Fr.**
Trees, especially in mountain woods. Common and fertile.

**Usnea barbata var. hirta, Fr.**
Old rail and board fences. Common, but sterile.

**Usnea barbata var. dasypoga, Fr.** Trees on mountains.

**Usnea longissima, Ach.**
Trees. Adirondack Mountains.
This and the preceding species are plentiful in low woods in North Elba, frequently giving a peculiar gray hue to whole tracts of balsam firs, which trees are especially subject to the attacks of these parasites. The opinion is prevalent among the inhabitants that the "gray moss" causes the death of the tree on which it grows. Certainly no thrifty tree can be found with an abundance of these lichens upon it. All thus infested are either dead or apparently dying, the leaves being limited to the mere extremities of the branches. The inference is that the lichens have induced the death or the diseased condition of the tree. It is probable that this is to some extent true, and yet, on the other hand, the death of the tree from other causes affords conditions favorable to the growth of the lichen. The shore of Lake Placid is in some places bordered by dead trees loaded with these same species of Usnea. These trees were killed by the inundation of their roots, the water of the lake having been raised by a dam at its outlet, and, so far as can be ascertained, they were destitute of these lichens while living.

**Alectoria jubata var. chalybeiformis, Ach.**
Trees, old fences, and sometimes on rocks. Common, but sterile.

**Alectoria jubata var. implexa, Fr.**

**Evernia prunastri, Ach.**
Trees and old fences. Fertile specimens were found on trees and on shrubs in a swamp, Catskill Mountains.

**Evernia furfuracea, Mann.**
Trees in woods. Common.
EvERNIA FUEFUEACEA Var. cladonia, Tuck.

Ramalina calcaris var. fastigiata, Fr.
Trunks and branches of trees, shrubs and old fences. Very common.

Ramalina calcaris var. farinacea, Schaer.
Rocks; sometimes on trees. Sterile.

Ramalina calcaris var. inflata, Tuck.
Trunks of pine trees. Saranac Lake.

Cetraria aculeata, Fr.
Summit of Mt. Whiteface. Sterile.

Cetraria islandica, Ach.
Tops of the high peaks of the Adirondack Mountains. Edible. This is the well-known "Iceland moss," a nutritious, and, in some northern regions, almost a necessary article of food for both man and beast.

Cetraria cucullata, Ach.
Summit of Mount Whiteface.

Cetraria ciliaris, Ach.
Trunks and branches of coniferous trees, old fences, etc. Very common.

Cetraria lacunosa, Ach.
Coniferous trees, dead branches and old rails. Common in mountainous regions.

Cetraria oakesiana, Tuck.
Trees. Catskill Mountains.

Nephrorna arcticum, Fr.
Rocks. Adirondack Mountains. A northern species, as its name implies, which will hardly be found south of the Adirondack region.

Nephrorna tomentosum, Kaarb.
Granite rocks and boulders. Sandlake.

Nephrorna helveticum, Ach.
Rocks. Sandlake and Catskill Mountains.
Nephroma levigatum, Ach.
Granite rocks. Sandlake and Adirondack Mountains.

Nephroma levigatum var. papyraceum, Schaer.

Solorina saccata, Ach.
Limestone rocks among mosses. Helderberg Mountains.

Peltigera aphthosa, Hoffm.
Shaded mossy banks, ground and old logs in woods. Extremely common, and easily known by the wart like spots on the thallus.

Peltigera canina, Hoffm.
Ground, rocks and old logs in woods. Very common. A small form occurs on the dry, sandy barrens between Albany and Schenectady.

Peltigera polydactyla, Hoffm.
Rocks and old logs in woods, especially in mountainous districts. Not rare.

Peltigera horizontalis, Hoffm.
Rocks and decaying wood in hilly or mountainous districts. Sandlake, Helderberg and Catskill Mountains.
A large form with crisped margins and under surface uniformly, dark brown, except toward the margin, which is whitish, occurs in mountain swamps. Summit Lake.

Sticta pulmonaria, Ach.
Trunks of deciduous trees and on rocks. Fertile specimens have been seen by me only on trees in the woods of the Catskill and the Adirondack Mountains. In the former locality specimens were found with a curiously morbid state of the apothecia. These were scattered abundantly over the upper surface of the thallus and sparingly over the under surface, and had a black disk.
The Lungwort lichen once was held in considerable repute as a remedy in pulmonary complaints, and is used to some extent at the present time. It is also said to have been used as food.

Sticta glomerulifera, Delise.
Trunks of deciduous trees, sometimes on rocks. Very common in woods, and fruits abundantly.

Sticta quercizans, Ach.
Granite rocks. Sandlake. Sterile.
Sicta sylvatica, Ach.
   An extremely rare species.

Parmelia perlata, Ach.
   Trunks of trees and granite rocks. Common.

Parmelia perlata var. olivetorum, Ach.
   Exposed granite rocks. Sterile.

Parmelia crinita, Ach.

Parmelia tiliacea, Ach.
   Trunks of trees, rarely on old fences. Common.

Parmelia saxatilis, Ach.
   Trees and old fences. Common.

Parmelia physodes var. enteromorpha, Tuck.
   Trunks of trees in mountain woods.

Parmelia pertusa, Schaer.

Parmelia olivacea, Ach.
   Trunks of trees. Common.

Parmelia stygia, Ach.
   Granite rocks. Top of Mount Whiteface.

Parmelia caperata, Ach.
   Trunks of trees. Common, but sterile.

Parmelia conspersa, Ach.
   Rocks and boulders. Common everywhere, and fruits abundantly.

Parmelia borreri, Turn. Fort Edward, Howe.

Theloschistes parietinus, Norm.
   Trunks of willow and ailanthus trees, also on old fences. Greenport, L. I.

Theloschistes parietinus var. polycarpus, Fr.
   Trunks and branches of trees in exposed places. Often associated with Physcia stellaris on apple and willow trees. Common.
Theoischistes chrysophthalimus, Th. Fr.
Trunks of trees. Greenport.

Physcia stellaris, Wallr.
Trunks and branches of trees, rocks, stone walls, etc. Very common and variable.

Physcia stellaris var. tribracta, Fr.
Trunks of juniper, also on stones. Not rare.

Physcia aquila var. detonsa, Tuck.
Mossy rocks and about the base of trees. Common.

Physcia pulverulenta, Fr.

Physcia speciosa, Ach.
Trunks of trees. Jordanville.

Physcia speciosa var. leucomela, Eschwe.
Trees, mostly in swamps and mountain woods. Sterile.

Physcia cespia var. angustior, Fr.
Rocks. Catskill Mountains.

Physcia obscura, Nyjl.
Trunks of trees in woods. Sandlake.

Physcia obscura var. erythrocordia, Tuck.
Rocks. Catskill Mountains.

Pyxine cocoec var. sorediata, Tuck.
Rocks and trunks of trees. Sandlake and Adirondack Mountains.

Pannaria lanuginosa, Ach.
Rocks. Common on mountains and rocky precipices. Without apothecia, and frequently a mere greyish pulverulent mass.

Pannaria microphylla, Mass.
Rocks. Bethlehem, Albany county.

Placodium aurantiacum, Lightf.
Old fences. Bethlehem.
Placodium aurantiacum var. flavovirescens, Fr.
   Rocks. Troy.

Placodium cinnabarimum, Anz.
   Fort Edward. Howe.

Placodium rupestre, Tuck.
   Rocks. Helderberg Mountains.

Lecanora pallescens, Scher.
   Trunks of trees. Common.

Lecanora pallida, Scher.
   Trunks of trees. Not rare.

Lecanora tartarea, Ach.
   Rocks and trunks of trees. Common in hilly and mountainous districts. The "Cudbear" of commerce, so freely used for coloring purposes.

Lecanora tartarea var. frigida, Ach.
   Incrusting mosses. Top of Mount McIntyre.

Lecanora subfuscua, Ach.
   Trunks of trees in woods. Very common and quite variable in appearance.

Lecanora varia, Ach.
   Trees and old fences. Common.

Lecanora elatina var. ochropilae, Tuck.
   Trunks of balsam firs in mountain woods. Mt. Whiteface.

Lecanora muralis, Scher. (L. saxicola, of authors.)
   Rocks. Catskill Mountains.

Lecanora cinerea, Fr.
   Rocks. At a little distance this lichen causes the surface of the rock, on which it grows plentifully, to appear as if bruised or indented by frequent blows of a large hammer.
   Specimens from the red sandstone of the Catskill Mountains have to some extent the color of those rocks.

Lecanora atra, Ach.
   Granite rocks. Poestenkill, Rensselaer county.
Urecfolaria scruposa, Ach.
Rocks. Common.

Gyaletea lutea, Tuck.

Lecidea contigua, Fr.
Rocks. Common.

Lecidea contigua var. albo-cæruleascens, Nyl.

Lecidea enteroleuca, Fr.
Trunks of trees. Catskill Mountains.

Lecidea sanguinaria, Ach.
Balsam firs. Mt. Whiteface.

Buellia paraesa, Kœrb.
Trunks of trees in woods. Very common.

Buellia lacteal, Kœrb.
Rocks. Bethlehem.

Buellia petrea, Tuck.
Rocks. With the preceding and apparently more common.

Buellia myriocarpa, Tuck.
Board fences. Bethlehem.

Biatora atropurpurea, Tuck.
Trunks of trees in mountain woods. Not rare.

Biatora rufo-nigra, Tuck.
Rocks. Bethlehem and Catskill Mountains.

Biatora sanguineo-atra, Fr.
Ground and mosses in mountainous districts. Helderberg Mountains.

Biatora chlorantha, Tuck.
Trunks of trees. Catskill Mountains.

Biatora viridescens, Fr.
Rotten wood and ground. Not rare.
Biatora vernalis, Fr.
Trunks of trees and incrusting mosses. Catskill Mountains and North Elba.

Biatora rubella, Tuck.

Bæomyces æruginosus, DC. (Biatora icmadophila, Auct.)
Rotten wood and earth in woods. Near Summit Lake, Otsego county.

Bæomyces ericetorum, DC.
Ground in woods. Sandlake.

Pilophoron fibula, Tuck.

Stereocaulon paschale, Ach.
Rocks on mountains. Catskill and Adirondack Mountains.

Stereocaulon tomentosum, Fr.
Rocks and thin soil in rocky places. Adirondack Mountains.

Cladonia cæspiticia, Fl.

Cladonia pyxidata, Fr.
Rocky ground. Very common.

Cladonia pyxidata var. symphicarpa, Fr.
Catskill Mountains.

Cladonia gracilis, Fr.
Rocky ground. Extremely common and variable.

Cladonia gracilis var. hybrida, Fr.
Rocks and old logs. Catskill and Helderberg Mountains.

Cladonia gracilis var. elongata, Fr.
Ground. High peaks of the Adirondack Mountains.

Cladonia gracilis var. taurica, Auct.
Summit of Mount Whiteface.

Cladonia degenerans var. cariosa, Fr.
Dry sandy soil, near West Albany.
Cladonia fimbriata, Fr.
Rocky soil. Saranac Lake.

Cladonia fimbriata var. adspersa, Tuck.
Ground. West Albany and Helderberg Mountains.

Cladonia squamosa, Hoffm.
Rocky, mossy ground. Very common.

Cladonia squamosa var. delicata, Fr.
Rotten logs. Sandlake.

Cladonia furcata, Fl.
Rocky ground. Common and variable.

Cladonia furcata var. racemosa, Fl.
Ground and old logs in woods.

Cladonia furcata var. subulata, Fl.
Rocky ground. Catskill Mountains.

Cladonia rangiferina, Hoffm.
Ground and thin soil covering rocks. Very common.

Cladonia rangiferina var. sylvatica, Fl.
With the typical form.

Cladonia rangiferina var. alpestris, Fl.
The "Reindeer moss" is one of the most useful of lichens, and has long been famous as the food of the animal whose name it bears.

Cladonia uncialis var. turgescens, Fr.
Ground. Top of Mount Whiteface.

Cladonia mitrula, Tuck.
Ground. Near Greenwood Cemetery, L. I.

Cladonia cornucopioides, Fr.
Rocky soil in exposed places. Adirondack and Catskill Mountains.

Cladonia cristatella, Tuck.
Ground, rotten logs and stumps. Common in hilly and mountainous districts.
Umbilicaria pustulata var. papulosa, *Tuck.*
Rocks. Not rare on mountains.

*Umbilicaria proboscidea, DC.*
Rocks. Mount Whiteface.

*Umbilicaria muhlenbergii, Tuck.*
Rocks. Sandlake and Catskill Mountains.

*Umbilicaria hirsuta, Ach.*
Rocks. Catskill Mountains.

*Umbilicaria dillenii, Tuck.*
Rocks in mountainous districts. Common but sterile.

*Graphis scripta, Ach.*
Bark of trees. Very common and variable.

*Opegrapha varia, Pers.*

*Coniocybe pallida, Fr.*
Bark of oak trees. Fort Edward. Howe. Very rare. To Dr. Howe belongs the discovery of this species in our State.

*Endocarpon miniatum var. muhlenbergii, Nyl.*
Fort Edward. Howe.

*Pertusaria pertusa, Ach.*
Trees. Common.

*Pertusaria pertusa var. areolata, Fr.*
Rocks, especially on mountains.

*Pertusaria velata, Nyl.*
Trees: sometimes on rocks. Common.

*Pertusaria velata var. multipuncta, Nyl.*
Trees in woods.

*Pertusaria wulfenii, Dec.*
Trees. Catskill Mountains.

*Pertusaria globularis, Ach.*
Incrusting twigs and mosses. Catskill Mountains.
Conotrema urceolatum, Tuck.
Trees in woods. Common.

Pyrenula nitida, Ach.
Trees in woods. Common.

Trypethelium vineae, Tuck.
Bark of trees. Catskill Mountains.

Collema flaccidum, Ach.
Rocks. Sandlake.

Collema nigrescens, Ach.
Trees. Catskill and Adirondack Mountains.

Collema ryssoleum, Tuck.
Rocks. Catskill Mountains.

Leptogium tremelloides, Fr.
Rocks. Catskill Mountains.

Leptogium lacerum, Fr.
Mossy rocks. Common.

Leptogium chloromeum, Nyl.
Rocks and trunks of trees. Catskill Mountains.

Leptogium saturninum, Nyl.
Rocks and trunks of trees. Common but sterile.

Algæ.

Sargassum vulgare, Ag.
Pebbles and small stones near low-water mark. Peconic Bay, at Greenport.

Sargassum montagnel, Bail.
With the preceding. Also near Orient.

Sargassum bacciferum, Ag.
Glencove, L. I. G. B. Brainerd. This is the famous "Gulf weed" of the ocean, and its occurrence in our waters is interesting.

Fucus nodosus, L.
Rocks between tide marks. Found on almost all the rocky shores of Long Island and Staten Island; especially abundant near College Point.
Fucus vesciculosus, L.

Same range as the preceding species, and quite as plentiful. These two species may be found on almost any part of our coast, growing freely on the rocky shores and cast up by the tide on the sandy ones. The inhabitants of some parts of Long Island use these plants, with Zostera and other rejectaments of the sea, as fertilizers of the soil.

Fucus ceranoides, L.


Fucus scorpioides, Fl. Dan.

Left by the tide. Fort Hamilton and Canarsie Bay.

Cladostephtus spongiosus, Ag.


Asperococcus echinatus, Grev.


Dictyosiphon foeniculaceus, Grev.


Stilophora rhizodes, J. Ag.

Thrown up by waves and tide. Greenport and Orient Point. September.

Desmarestia viridis, Lamour.

Low tide. College Point. June. This species has a peculiar property, causing the rapid decomposition of red algae that may be placed in a vessel with it.

Chordaria flagelliformis, Ag.

Thrown up by the tide. Orient Point. September.

Chordaria divaricata, Ag.


Mesogloia vermicularis, Ag?


Chorda filum, Stack.

Rocks near low-water mark and extending into deep water. Orient Point. September.
Leathesia tuberiformis, Gray.
Thrown up by the tide. Coney Island and Canarsie Bay. June.

Ectocarpus viridis, Harv.
Coney Island and Canarsie Bay. June.

Ectocarpus littoralis, Lyngb.
Fort Hamilton and Canarsie Bay. June.

Ectocarpus Durkeei, Harv.

Laminaria fascia, Ag.
Rocks, woodwork of docks, etc. Common.

Laminaria saccharina, Lamour.
Thrown up from deep water in great abundance at Orient Point. September. It varies exceedingly in size, some specimens having been reported to me as being thirty feet in length. A singular form was picked up at College Point in June. The frond, which is about three feet long and three inches broad, divides toward the apex into two equal branches, each about eight inches long and one and a half inches broad, slightly incurved and truncate at the apex.

Punctaria latifolia, Grev.
Floating in Canarsie Bay. June.

Punctaria tenuissima, Grev.
On wild grass, etc. Coney Island. Brainerd. April.

Chondria dasyphylla, Ag.

Chondria baileyana, Mont.
Stones near low-water mark. Fort Hamilton. September.

Chondria tenuissima, Ag.

Gelidium corneum, Lamour.

Polysiphonia formosa, Suhr.
Polysiphonia subtillissima, Mont.
    On Zostera, old shells, etc. Greenport. September.

Polysiphonia olneyi, Harv.

Polysiphonia harveyi, Bail.

Polysiphonia fibrillosa, Grev.

Polysiphonia variegata, Ag.
    Thrown up by the tide in many places. Bay Ridge, Astoria, College Point, Greenport, etc. Very common and variable. September.

Polysiphonia nigrescens, Grev

Polysiphonia fastigiata, Grev.

Botrychia rivularis, Harv.
    Rocks near high-water mark. College Point and Astoria. September.

Cystoclonium purpurascens, Kutz.

Dasya elegans, Ag.

Champia parvula, Harv.
    Floating and thrown up by the tide in many places. Coney Island, Canarsie Bay, Peconic Bay, etc. September.

Corallina officinalis, L.

Grinnellia americana, Harv. (Delesseria americana, Ag.)
    Floating. Bay Ridge, Fort Hamilton, College Point, etc. September.
Delesseria sinuosa, *Lamour.*  
Thrown up by the tide. Orient. September.

*Delesseria leprieurei, Mont.*  
McComb's Dam, Harlem River. Brainerd. September.

*Gracilaria multipartita, J. Ag.*  
Thrown up by the tide. Coney Island, Fort Hamilton, College Point, etc. September. An abundant and variable species. Edible.

*Solieria chordalis, J. Ag.*  
Thrown up on all the shores of Long Island. Dredged in Canarsie Bay (in water four to six feet deep), where it grows in great abundance. September.

*Polyides rotundus, Grev.*  
Thrown up by the tide. Orient. September.

*Rhodymenia palmata, Grev.*  
Orient. September.

*Phyllophora brodliei, J. Ag.*  
Orient. September.

*Anhfeltia plicata, Fr.*  
Among rejectamenta. Orient. September.

*Chondrus crispus, Lyngb.*  
Orient. September.  
This is the "Irish moss" of the shops. It is used by the inhabitants of Orient with no expense or trouble save that of collecting and preparing.

*Chylocladia baileyana, Harv.*  

*Spyridia filamentosa, Harv.*  

*Rhodomela rochei, Harv.*  

*Ceramium rubrum, Ag.*  

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Ceramium diaphanum, Roth.

Ceramium fastigiatum, Harv.

Ceramium arachnoideum, Ag.

Griffithsia corallina var. tenuis, Harv.

Callithamnion baileyi, Harv.

Callithamnion byssoides, Arn.

Callithamnion corymbosum, Ag.

Callithamnion americanum, Harv.

Callithamnion seirosporum, Griff. (Seirospora griffithsiana, Hrv.
Peconic Bay, Mrs. Bush.

Bryopsis plumosa, Lamour.

Porphyra vulgaris, Ag.

Ulva latissima, Lin.
Rocks. Extremely abundant on all our rocky coasts.

Ulva linza, L.
Floating. Coney Island.

Enteromorpha intestinalis, Lin.
Rocks. Fort Hamilton.
Enteromorpha compressa, Grev.

Enteromorpha clathrata, Grev.
Muddy or sandy shores. Canarsie Bay and Coney Island.

Hormotrichum younganum, Dillw.

Chiætomorpha tortuosa, Dillw.

Chiætomorpha linum, Kutz.
Dredged in water four to six feet deep. Canarsie Bay. September. Mr. Brainerd has found fronds of this plant in the same locality that were eleven feet in length, a fact truly remarkable, when we consider that the diameter of the frond is less than one line.

Cladophora glomerata, L.
Stones and rocks in rapid fresh water streams. A pretty and apparently common species. Buffalo. G. W. Clinton. North Greenbush, Helderberg Mountains, Van Hornesville, etc.

Cladophora fracta, Fl. Dan.
In quiet water, either fresh, brackish or salt. Albany, Canarsie Bay, Flushing and Greenport.

Cladophora refracta, Roth.
Coney Island and Canarsie Bay. A well-marked, beautiful species.

Cladophora arcta, Dillw.

Cladophora glaucescens, Griff.
Coney Island.

Rhizoclonium riparium, Roth.
Wood-work of docks. Greenport.

Chiætophoræ pisiformis, Ag.
Cætophora endivæfolia, Ag.

Draparnaldia glomerata, Ag.
Attached to sticks and grass in fresh water streams. Guilderland, Sandlake, Canarsie, Staten Island. June, July.

Batrachospermum moniliforme, Roth.

Lemanea fluviatilis, Ag.
On rocks in the Cauterskill, Catskill Mountains. Collected by the writer in 1864. This plant has not, to my knowledge, been found elsewhere in this country. It is not a rare species in Europe.

Nostoc commune, Vauch.
Ground. Appearing in wet weather, especially in spring and autumn. Troy, Howe. Bethlehem. Probably common. An allied species has been used as diet for invalids, and this species is recommended by Harvey for trial for the same purpose.

**Fungi.**

Agaricus mappa, Batsch.

Agaricus procerus, Scop.

Agaricus rachodes, Vitt.

Agaricus cristatus, Bolt.

Agaricus melleus, Vahl.
Woods and open fields, on the ground and about the base of stumps. Sept., Oct. Edible.

Writers differ in their estimate of the qualities of this species, some pronouncing it most delicious food, others calling it inferior.

Agaricus personatus, Fr.
Agaricus nebularis, Batsch.

Agaricus laccatus, Scop.

Agaricus radicatus, Bull.
This species is remarkable for the long, root-like extension of the stipe, which penetrates into the earth about as far as the proper stipe extends upwards in the air.

Agaricus velutipes, Curt.

Agaricus ochropurpureus, Berk.

Agaricus galericulatus, Scop.

Agaricus epipterygius, Scop.

Agaricus campanella, Batsch.

Agaricus ostreatus, Jacq.
A thick, firm species, quite variable in color but easily recognized after it has been once seen. Said to be excellent food.

Agaricus salignus, Pers.

Agaricus petaloides, Bull.

Agaricus atrocoeruleus, Fr.
Agaricus applicatus, Batsch.

Agaricus semi-captus, B. & C.

Agaricus curtish, Berk.

Agaricus prunulus, Scop.

Agaricus polychrous, Berk.

Agaricus semiorbiculatis, Bull.

Agaricus campestris, L.
Fields. Fort Edward. Howe. Albany. Summer and autumn. Edible. This species is the one usually cultivated, and, therefore, it is probably used to a greater extent than any other. It should not, however, be inferred from this that it is superior to all others for edible purposes. Several are said to surpass it in flavor, and even the wild ones of this same species, freshly gathered from the fields, are considered by many, superior to the cultivated ones. The young plants are called "Button mushrooms."

The species is quite variable, and, in some of its forms, approaches the following one quite closely. It does not appear to be abundant with us, though more plentiful some seasons than it is others.

Agaricus arvensis, Schaff.

Agaricus cretaceus, Fr.

Agaricus sublaceretius, Schaff.

Agaricus epixanthus, Paul.
Agaricus orcella, *Bull.*

Agaricus subinvolutus, *Batsch.*

Agaricus clypeatus, *L.*

Agaricus sphagnorum, *Pers.*
Among Sphagnum in marshes. Sandlake.

Coprinus comatus, *Fr.*

Coprinus atramentarius, *Bull.*
This and other allied species, by the deliquescence of the lamellae, furnish a fluid which may be used as ink.

Coprinus domesticus, *Pers.*
Streets and yards of Albany. Spring and summer.

Coprinus plicatilis, *Curt.*

Paxillus atro-tomentosus, *Fr.*

Hygrophorus cinnabarinus, *Fr.*

Hygrophorus conicus, *Fr.*

Hygrophorus ceraceus, *Fr.*

Lactarius torminosus, *Fr.*
Lactarius piperatus, Fr.

Lactarius indigo, Fr.

Lactarius angustissimus, Lasch.

Lactarius voilemus.

Lactarius subtomentosus, B. & R.


Russula emetica, Fr.

Russula alutacea, Fr.

Cantharellus tubiformis, Bull.

Cantharellus crispus, Fr.

Marasmius oreades, Fr.

Marasmius plananus, Fr.
Dead leaves and sticks in woods. Common. Summer.

Marasmius rotula, Fr.
Sticks and leaves in woods. Common. Summer.

Lentinus leonotii, Fr.
Old logs and stumps, mostly in open places. Common.
Panus stypticus, *Fr.*  
Dead wood. Common.

Panus dorsalis, *Fr.*  
Old logs. Catskill Mountains.

Schizophyllum commune, *Fr.*  
Dead wood. Very common.

Lenzites betulina, *Fr.*  
Old stumps and logs. Common.

Lenzites sepiaria, *Fr.*  

Lenzites cratægi, *Berk.*  

Lenzites bicolor, *Fr.*  

Boletus elegans, *Fr.*  

Boletus granulatus, *L.*  

Boletus bovinus, *L.*  
In or near pine woods. Center station, between Albany and Schenectady; also Sandlake. Summer. A large species. Edible.

Boletus scaber, *Bull.*  

Boletus felleus, *Bull.*  

Polyporus ovinus, *Schöfft.*  

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Polyporus brumalis, Fr.

Polyporus tomentosus, Fr.
Low ground in woods, North Elba, where it is quite abundant, but I have not seen it elsewhere.

Polyporus perennis, Fr.
Shaded ground and banks by roadsides in hilly districts. Common.

Polyporus boucheanus, Fr.
Dead sticks and branches lying on or near the ground. Common.

Polyporus luridus, B. & C.

Polyporus elegans, Fr.

Polyporus lucidus, Fr.
Old logs, stumps and roots. Common.

Polyporus giganteus, Fr.

Polyporus sulfureus, Fr.
Old logs in woods. Fort Edward. Howe. North Elba. Edible. Sometimes attains a very large size, and is also conspicuous by reason of its color, the upper surface being bright orange, the lower, clear sulphur yellow.

Polyporus lacteus, Fr.

Polyporus gilvus, Fr.
Trunks of trees. Sandlake.

Polyporus adustus, Fr.

Polyporus labyrinthicus, Fr.
Polyergus cerifluous, B. & C.
   Base of trees and old logs in woods. Adirondack Mountains.

Polyergus resinous, Fr.

Polyergus applanatus, Fr.
   Old logs and trees, mostly in woods. Common.

Polyergus fomentarius, Fr.
   Stumps, trunks and old logs. Common.

Polyergus igniarus, Fr.

Polyergus scutellatus, Schw.

Polyergus subfuscus, Fr.

Polyergus carolinensis, B. & C.

Polyergus carneus, Nees.
   Old logs in woods and open places. Common. Dr. Howe finds a resupinate form.

Polyergus cinnabarinus, Fr.
   Old logs, etc. Common. A highly colored and somewhat variable species.

Polyergus radiatus, Fr.

Polyergus bifrons, Kl.
   Old logs. Catskill Mountains.

Polyergus hirsutus, Fr.
   Trees, stumps, etc. Very common.

Polyergus hirsutulus, Schw.
   Dead branches and sticks. Catskill Mountains.
Polyporus laceratus, *Berk*.
Old logs and trees. Very common.

Polyporus versicolor, *Fr*.
Old logs, sticks and posts. Everywhere.

Polyporus abietinus, *Fr*.

Polyporus sullivantii, *Mont*.

Polyporus virgineus, *Schw*.

Polyporus occidentalis, *Kl*.
Old logs, Sandlake.

Polyporus medulla-panis, *Fr*.

Polyporus vaporarius, *Fr*.

Dædalea cinerea, *Fr*.

Dædalea confragosa, *Bolt*.

Glæoporus nigropurpurascens, *Schw*.

Merulius tremellosus, *Schrad*.

Fistulina hepatica, *Fr*.
Base of chestnut and oak trees. Fort Edward. Howe. Sandlake. Edible. This fungus is pronounced by some writers to be an excellent substitute for beef-steak, and the juice to be equal to beef gravy. It is stated by M. C. Cooke in his "British Fungi" that specimens sometimes attain a weight of thirty pounds. It is at once known by its liver-red color, red juice and yellow under surface. Unfortunately for those who would like to make use of it for food, it is rare with us.
Hydnum repandum, L.

Hydnum suaveolens, Scop.

Hydnum graveolens, Delast.

Hydnum adustum, Schw.

Hydnum coralloides, Scop.

Hydnum erinaceus, Bull.

Hydnum gelatinosum, Scop.
Rotten wood in woods. Catskill Mountains.

Hydnum cirrhatum, Pers.
Trunks of trees in woods. Adirondack Mountains. Sometimes grows very large—a foot or more in diameter.

Hydnum ochraceum, Pers.

Hydnum himantia, Schw.

Hydnum mucidum, Pers.

Hydnum laticolor, B. & C.

Irpex tulipiferae, Schw.

Irpex deformis, Fr.
Old stumps and trees. Helderberg Mountains.
IrpeX cinnaMOeUS, Fr.
Dead trees and branches lying on the ground. Common.

Craterellus cornucopioides, Pers.

Thelephora Pallida, Schw.
Fields and woods. Fort Edward. Howe. Port Kent

Thelephora Palmata, Fr.

Thelephora Terrestris, Ehrh.

Stereum Fasciatum, Fr.
Dead wood. North Greenbush.

Stereum striatum, Fr.

Stereum complicatum, Fr.
Trees, stumps and branches. Common.

Stereum purpureum, Pers.
Trunks and branches. Common.

Stereum spadiceum, Fr.
Old stumps and trees. Common.

Stereum hirsutum, Fr.

Stereum ochraceo-flavum, Schw.
Dead trees. Catskill Mountains.

Stereum bicolor, Fr.
Old logs. Catskill Mountains.

Stereum rubiginosum, Schrad.

Stereum tabacinum, Fr.
Dead trees and old logs. Catskill Mountains.
Stereum imbricatum, Schw.

Stereum frustulosum, Fr.

Stereum acerinum, Fr.

Corticium oakesii, B. & C.

Corticium cinereum, Fr.

Cyphella capula, Fr.

Cyphella muscicola, Fr.
Among mosses about the base of trees. Fort Edward. Howe, the first to detect it in this country.

Clavaria botrytis, Pers.

Clavaria aurea, Schaeff.

Clavaria juncea, Fr.
Dead leaves. Fort Edward. Howe, the first to find it in this country.

Clavaria stricta, Pers.

Clavaria inaequalis, Fr.

Spathularia flavida, Pers.
Woods in hilly and mountainous districts. Common.

Pistillaria muscicola, Fr.
Mosses, most often on Climacium americanum and Hypnum delicatulum.
Tremella aurantia, *Schwe.*
Old stumps. Sharon Springs.


Tremella sarcoides, *With.*

Exidia auricula-judæ, *Fr.*

Exidia glandulosa, *Fr.*

Exidia truncata, *Fr.*

Exidia cinnabarina, *B. & C.*

Dacrymyces stillatus, *Fr.*

Dacrymyces tortus, *Fr.*

Lycoperdon gemmatum, *Batsch.*
Ground and old stumps in woods and fields. Common.

Lycoperdon pyriforme, *Schaeff.*
Ground, old stumps and logs. Common. I have partaken of this species without any unpleasant results, but cannot recommend it as especially delicious, and forbear to class it among the edible species.

Lycoperdon calvescens, *B. & C.*
Ground in open woods. Bethlehem.

Lycoperdon wrightii, *B. & C.*
Helderberg Mountains.

Bovista plumbea, *Pers.*

Bovista cyathiformis, *Bosc.*
Geaster hygrometricus, Pers.
Sandy ground. Fort Edward. Howe. Center Station.

Scleroderma vulgare, Fr.
Ground and old logs. Common.

Lycogala epidendrum, L.
Rotten wood. Common.

Æthalium septicum, Fr.
Old logs and stumps. Common.

Diderma globosum, Pers.
On moss. Sandlake.

Diderma citrinum, Fr. Moss. Catskill Mountains.

Didymium xanthopus, Fr. On Sphagnum. Sandlake.

Didymium fulvipes, Fr.
On Hymnum triquetrum. Fort Edward. Howe, who first detected it in this country.

Physarum nutans, Pers.

Stemonitis ferruginea, Ehrh.
Dead and rotten wood. Common.

Dictydiun microcarpum, Schrad.

Cribraria purpurea, Schrad.
Rotten wood. Catskill Mountains. Rare.

Cribraria intricata, Schrad.
Rotten wood. Jordanville.

Arcyria cinerea, Fl. Dan.
Rotten wood in woods. Sandlake.

Trichia rubiformis, Pers.
Rotten wood. North Elba.

Trichia clavata, Pers.

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Trichia turbinata, *With.*

Cyathus campanulatus, *Fr.*
Dung in fields. Bethlehem.

Cyathus crucibulum, *Pers.*

Pttychogaster albus. *Corda.*
In rotten logs. Fort Edward. Howe.

Microthyrium microscopicum, *Desm.*
Dead stems of *Chelone glabra.* Poestenkill. Howe.

Sphäeronema consors, *B. & C.*

Diplodia viticola, *Desm.*

Sphæropsis insignis, *B. & C.*

Vermicularia liliaceaum, *Schw.*

Septoria herbarium, *B. & C.*

Stilbospora ovata, *Pers.*

Stilbospora pyriforme, *Hoffm.*

Cytaispora rubescens, *Fr.*
Dead bark of mountain ash. Poestenkill. Howe.

Cytaispora leucosperma, *Fr.*

Nemaspora crocea, *Pers.*

Myxosporium nitidum, *B. & C.*
TORKULA HERBARUM, Pers.

SEPTONEMA SPILOMEUM, Berk.

AREGMA SPECIOSUM, Fr.

PUCCINIA ACULEATA, Schw.

PUCCINIA SOLIDA, Schw.

PUCCINIA GRAMINIS, DC.

PUCCINIA WALDSTEINEAE, Curt.
Living leaves of Waldsteinia fragarioides. Fort Edward. Howe, by whom it was first discovered. Closely allied to Puccinia solida, from which it differs in color—giving a purple hue to the leaf tissues.

PUCCINIA JUNCI, Schw.

PUCCINIA INVESTITA, Schw.

UREDO RUBIGO, DC.
Living leaves of rye. Fort Edward. Howe. This and other species of Uredo are commonly called "Rust."

UREDO CARICINA, DC.

UREDO EPITEA, Kunze.

UREDO POLYGONORUM, DC.

UREDO SOLIDAGINIS, Schw.
Uredo potentille, *DC.*
Leaves of *Potentilla canadensis.* Poestenkill. Howe.

Uredo ruborum, *DC.*

Uredo luminata, *Schw.*
Leaves of Rubus. Common.

Uredo effusa, *Strauss.*

Uredo leguminosarum, *Link.*
Leaves of *Amphicarpaea monoica.* North Greenbush.

Uredo pyrolæ, *Strauss.*

Uredo saliceti, *Schlecht.*

Uredo violarum, *DC.*

Uromyces lespedeza-violaceæ, *Schw.*

Uromyces lespedeza-procumbentis, *Schw.*

Uromyces hyperici, *Schw.*

Uromyces apiculosa, *Lev.*

Ustilago segetum, *Pers.*
Heads of oats. Fort Edward. Howe. The species of Ustilago are popularly known by the name of "Smut." Those that attack the cultivated grains are detrimental to the interests of the farmer, often materially diminishing the quantity and quality of his crops.

Ustilago maydis, *Corda.* (*Ustilago zeae, Schw.*)
Flowers, fruit, etc., of Indian corn. Albany and Sandlake. The *Corn Smut* is sometimes a serious pest. A field of corn came under my observation the past season in which almost every hill
had been attacked, and at least one out of every four ears. This field of corn, just before flowering time, appeared as thrifty and promising as any in the county.

**Ustilago junct**, Schw.

**Ustilago urceolorum**, DC.
Seeds of *Carex pensylvanica*. Center Station.

**Ustilago utriculosa**, Nee.
Seeds of Polygonum. Albany.

**Roestelia lacerata**, Sow.
Leaves and twigs of the thorn,—*Crataegus crus-galli*. North Greenbush.

**Æcidium grossularie**, DC.

**Æcidium compositarum**, Mart.

**Æcidium Gnaphaliatum**, Schw.

**Æcidium houstoniatum**, Schw.
Leaves of Houstonia. Bethlehem.

**Æcidium sambuci**, Schw.
Petioles of elder,—*Sambucus canadensis*. West Albany and Sandlake.

**Æcidium hydnoideum**, B. & C.

**Cystopus candidus**, Lev.

**Epicoccum micropus**, Corda.

**Tubercularia granulata**, Pers.
Dead bark. Troy. Howe.

**Tubercularia vulgaris**, Tode.
Dead sticks and branches. Common.
Tubercularia confluens, *Pers.*
Dead bark of currant. Troy. Howe.

Sporocybe calicioides, *Fr.*
Dead bark. Troy. Howe.

*Helminthosporium macrocarpon*, *Grev.*

*Helminthosporium rectum*, *B. & C.*

*Podosporium rigidum*, *Schw.*

*Polythrinicum trifoli*, *Kunze.*
Living leaves of clover. Common.

*Cladosporium herbarum*, *Link.*
Dead leaves and stems of herbs. Fort Edward. Howe.

*Penicillium crustaceum*, *Fr.*

*Morchella esculenta*, *Pers.*

*Helvella esculenta*, *L.*

*Geoglossum hirsutum*, *Pers.*

*Geoglossum difforme*, *Fr.*

*Peziza macropus*, *Pers.*
Ground in woods. Bethlehem and Adirondack Mountains.

*Peziza scutellata*, *L.*

*Peziza calycina*, *Schum.*
Peziza viticola, *Pers.*
Dead grape vines in woods. Fort Edward. Howe. Rare.

Peziza lenticularis, *Bull.*
Bark of white oak. Fort Edward. Howe. Rare.

Peziza translucida, *B. & C.*
Fort Edward. Howe.

Peziza cyathoidea, *Bull.*

Peziza agassizii, *B. & C.*
Trunks of trees—balsam firs. Mt. McIntyre.

Peziza citrina, *Batsch.*

Peziza herbarum, *Pers.*

Peziza compressa, *A. & S.*

Peziza flexella, *Fr.*

Peziza turbinata, *Curt.*
Chestnut bark. Fort Edward. Howe, by whom it was first found in this country.

Solenia candida, *Pers.*

Ascobolus conglomeratus, *Schw.*

Bulgaria inquinans, *Fr.*

Bulgaria sarcoides, *Fr.*
Rotten wood. Catskill Mountains.

Sphinctrina turbinata, *Fr.*
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**Patellaria discolor, Mont.**

**Patellaria rhabarbarina, Berk.**

**Urnula craterium, Fr.**

**Dermatea fascicularis, Fr.**

**Cenangium seriatim, Fr.**
Dead bark of white birch. Fort Edward. Howe, the first to find it in this country.

**Cenangium pinastri, Fr.**

**Cenangium populinum, Schw.**

**Cenangium ribis, Fr.**

**Dichæna faginea, Fr.**
Bark of beech trees. Common.

**Rhytisma solidaginis, Schw.**
Leaves of Solidago. Common.

**Rhytisma acerinum, Fr.**
Leaves of red maple. Common.

**Rhytisma decolorans, Fr.**
Leaves of *Andromeda ligustrina*. Sandlake.

**Rhytisma vaccinii, Fr.**

**Rhytisma prini, Fr.**
Leaves of Prinos. Sandlake.

**Rhytisma punctatum, Fr.**
Rhytisma salicinum, Fr.

Rhytisma blakei, Curt.

Phacidium coronatum, Fr.

Phacidium crustaceum, B. & C.
Dead branches of pines. Fort Edward. Howe.

Hysterium elongatum, Wahl.

Hysterium hiascens, B. & C.

Hysterium lineare, Fr.

Hysterium pinastri, Schrad.

Xylaria polymorpha, Pers.
Rotten wood. Common and variable.

Xylaria hypoxylon, Ehrh.

Hypocrea lactifluorum, Schw.

Hypocrea citrina, Fr.

Hypocrea rufa, Pers.

Hypocrea richardsonii, B. & M.

Hypoxylon ustulatum, Bull.
Hypoxylon nummularium, *Bull.*

Hypoxylon clypeus, *Schw.*

Hypoxylon multiforme, *Fr.*

Hypoxylon coherens, *Pers.*

Hypoxylon fuscum, *Pers.*

Hypoxylon fragiforme, *Pers.*

Hypoxylon rubiginosum, *Pers.*

Hypoxylon serpens, *Pers.*

Diatrype stigma, *Fr.*

Diatrype disciformis, *Fr.*
Trunks of trees and dead sticks. North Greenbush and Catskill Mts.

Yalsa nivea, *Fr.*
Dead Populus. Catskill Mts.

Yalsa stilbostoma, *Fr.*

Yalsa americana, *B. & C.*

Yalsa constellata, *B. & C.*

Nectria cinnabarini, *Fr.*
Bark and dead branches of trees—also parasitic on *Tubercularia confluens.* Troy. Howe.
Nectria cucurbitula, Fr.

Sphæria ovinæ, Pers.

Sphæria pulvis-pyrius, Pers.

Sphæria myriocarpa, Fr.

Sphæria papilla, Schw.

Sphæria pertusa, Pers.

Sphæria fissurærum, B. & C.

Sphæria saubineti, Mont.

Sphæria picea, Pers.

Sphæria ulmea, Schw.

Sphæria lespezeæ, Schw.

Sphæria rostrata, Fr.

Sphæria limæformis, Schw.
Bark of oak and chestnut. Fort Edward. Howe.

Sphæria aculeata, Schw.

Sphæria acuminata, Sow.

Sphæria nigrella, Fr.
Sphēria verbascicolae, Schw.

Sphēria potentille, Schw.

Sphēria punctiformis, Pers.

Sphēria fusca, Pers.

Sphēria disciformis, Hoffm.

Sphēria coryli, Batsch.

Sphēria fimbriata, Pers.

Sphēria quercina, Pers.
Fort Edward. Howe.

Sphēria epidermidis var. microscopica, Desm.

Sphēria desmazieri, B. & Br.
Under side of branches lying on the ground. Fort Edward. Howe.

Sphēria sordaria, Fr.

Microsphēria penicillata, Lev.

Dothidea omans, Schw.

Dothidēa betulina, Fr.
Erysiphe communis, Schlect.

Erysiphe ceanothis, Schw.

Asterina gaultherie, Curt.

Erineum fagineum, Pers.

Erineum luteolum, Kunze.

Erineum alnigerum, Kunze.

Erineum aureum, Pers.

Erineum vitis, DC.

Sclerotium orobanches.
Dead stems of Epiphegus virginiana. Fort Edward. Howe. Rare.

Sclerotium varium.

Sclerotium populinum, Pers.

Eustilbum rehimianum, Rabenh.
Gum spots on bark of spruce trees. Catskill Mountains.

Depaeza brunea, B. & C.
Leaves of maple. Jordanville.

Depaeza cruenta, Fr.
Leaves of Solomon's seal—Smilacina racemosa. North Green-bush.
NEW STATIONS OF RARE PLANTS—REMARKABLE VARIETIES AND OBSERVATIONS.

**Thalictrum purpurascens, L.**
Plentiful on the sandy barrens between Albany and Schenectady.

**Dentaria maxima, Nutt.**
Angola, Erie county. G. W. Clinton.

**Viola cucullata var. cordata, Gray.**
North Greenbush.

**Viola cucullata var. longipes.**
Cedar swamps of South Herkimer county. Gilbert. In accordance with the suggestion of Mr. Gilbert I have ventured to give this variety a name. It is characterized by its very long scapes (8′–12′ in length) much surpassing the small, thick leathery leaves, and by its large flowers, nearly always white or variegated.

**Viola pubescens var. scabriuscula, T. & G.**

**Viola tricolor var. arvensis, DC.**
Mr. Gerard finds this plant on a hill near Poughkeepsie, apparently native there.

**Hypericum canadense var. major, Gray.**
Shore of Bowman’s pond, Sandlake.

**Malva moschata, L.**
Meadows. Sandlake. Roadsides, southern towns of Herkimer county; quite plentiful there, and oftener with white than with rose-colored flowers.

**Potentilla fruticosa, L.**
Newburgh. Gerard.

**Lonicera sempervirens, Ait.**
Bald Mountain, near Lansingburgh. Brainerd.

**Sedum telephioides, Michx.**
West shore of Seneca Lake. Wright. Not a new station but one previously involved in some doubt.

**Krigia virginica, Willd.**
Bethlehem.
Linaria vulgaris var. peloria.
   Poughkeepsie. Gerard.

Lobelia siphilitica, L.
   Poughkeepsie; with white flowers. Gerard.

Rhododendron maximum, L.
   White’s corners, Erie county. D. F. Day.

Physostegia virginiana, Benth.
   Shore of Lake Champlain, one mile south of Westport.

Echium vulgare, L.
   Becoming too common in the eastern part of the State. Farmers would do well to look upon this showy but rough plant as an unwelcome intruder on their lands.

Gentiana saponaria var. linearis, Gray.
   Common in the Adirondack region, where it occasionally bears white flowers.

Statice limonium, L.
   Astoria. A white-flowered variety.

 Wolffia columbiana, Karsten.
   Near Catskill. T. F. Allen.

Zannichellia palustris, L.
   Lake Champlain at Westport.

Goodyera menziesii, Lindl.

Cypripedium arietinum, R. Brown.
   Swamp near Summit Lake, bearing pure white flowers. Gilbert.

Juncus articulatus, L.
   Wet places, West Albany.

Xyris flexuosa var. pusilla, Gray.
   Cranberry marsh, Sandlake.

Cyperus grayii, Torr.
   Port Kent, on the farm of Hon. W. C. Watson. Dr. Howe sends from Fort Edward a variety without rays, the spikes being all in a single sessile head.
Carex gynocrates var. substaminata.

Cedar swamps, Jordanville. In this form a single perigynium occurs at the base of the staminate spike. Specimens were found with the spikes wholly staminate, but none were seen wholly pistillate.

Carex scirpoidea, Michx.

This rarely produces an additional small spike at the base of the principal one.

Carex siccata, Dew.

Plentiful on the top of Bald Mountain, Rensselaer county.

Calamagrostis canadensis, Beauv.

Specimens bearing ergot were found at the base of Mt. McIntyre, eight miles from any cleared land, from which it is probable that the production of ergot is independent of any influence from cultivation.

This grass grows abundantly in the low grounds and on the "beaver meadows" of Essex and Franklin counties, and is cut for hay to the extent of many tons.

Onoclea sensibilis var. obtusilobata, Torr.

A form closely approaching this rare variety was found in Sandlake by Dr. Howe. The pinnae of one side of the frond are more contracted than those of the other side; all are sinuate pinnatifid, but the pinnules are broadest at the base. The fruit is not well developed.

Asplenium ebenum var. incisum, Howe.

Poestenkill, Howe. In this form the pinnae are about one inch long, and all except the extreme upper and lower ones are deeply incised—pinnatifid; the pinnules are rather strongly 3–5 crenate toothed. I have thought best to give it the name suggested by its discoverer.

Isoetes echinospora var. braunii, Engelm.

Poestenkill, Howe.

Sphagnum cymbifolium var. congestum, Bryol Europ.

On all the high peaks of the Adirondack Mts. Its compact growth and numerous dense branches probably serve in some measure to protect it from the rude assaults of the violent winds to which it is exposed. The same mode of growth and dense ramification is also observed in S. acutifolium and other species growing in these elevated exposed situations.

Dicranum rufescens, Turn.

Banks by roadsides. Catskill Mts.
Dicranum Schreberi, Hedw.
  Banks near Little Falls. Austin.

Dicranum spurium, Hedw.
  Woods. Poestenkill.

Fissidens Exiguus, Suliv.
  Danube, Herkimer county. Austin.

Barbula fallax, Bryol Europ.
  Little Falls. Austin.

Orthotrichum obtusifolium, Schrad.
  Stone walls. Herkimer county.

Ptychomitrium incurvum, Schwgr.
  Peekskill. (M. Leroy legit.) Austin.

Hypnum nitens, Schreb.
  Fort Edward. Howe. A remarkable form with curved branches
  and secund-falcate leaves.

Duvalia rupestris, Nees.
  Rocks. Little Falls.

Grimaldia barbifrons, Radzi.
  Bethlehem.

Lunularia vulgaris, Mich.

Reboulia hemisphærica, Radzi.
  Ravines near Albany.

In concluding this report grateful acknowledgments are rendered to Profs. A. Braun, W. S. Sullivant, E. Tuckerman and Rev. M. A. Curtis for much aid in the determination, by duplicate specimens, of species belonging to the orders which they have respectively made a specialty. It is also added, by request of Dr. Howe, that the specimens of fungi contributed by him have all passed, by duplicate, under the inspection of Dr. Curtis.

It is desirable that any interesting observations on the flora of our State be promptly communicated, and that good specimens of any new species or marked varieties be forwarded for the Herbarium.

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In the preceding list, when no name is annexed to the station or stations, the plant has been found therein by the writer.

Dates given in the list of mosses signify the time of maturing the fruit; in the lists of algae and fungi, the time of collecting; and, to some extent, therefore, they indicate the time of the occurrence of the species. Much observation is yet necessary to enable us to determine their time of maturity fully and accurately. Most of the lichens, some algae and many fungi, may be found at all seasons.

Respectfully yours,

C. H. PECK.

Albany, Jan. 9th, 1869.
METEOROLOGICAL REPORT FOR THE YEAR 1868.

By Clinton L. Merriam, Leyden, N. Y.

**Thermometer.**

<table>
<thead>
<tr>
<th></th>
<th>6 and 7 A. M.</th>
<th>Meridian</th>
<th>6 and 7 P. M.</th>
<th>Average</th>
</tr>
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<tbody>
<tr>
<td>January,</td>
<td>14°56'</td>
<td>18°46'</td>
<td>19°07'</td>
<td>17°34'</td>
</tr>
<tr>
<td>February,</td>
<td>10 62</td>
<td>15 28</td>
<td>11</td>
<td>12 30</td>
</tr>
<tr>
<td>March,</td>
<td>29 03</td>
<td>37 36</td>
<td>30 80</td>
<td>32 39</td>
</tr>
<tr>
<td>April,</td>
<td>34 10</td>
<td>43 60</td>
<td>35 24</td>
<td>37 64</td>
</tr>
<tr>
<td>May,</td>
<td>50 46</td>
<td>61 50</td>
<td>53 40</td>
<td>55 12</td>
</tr>
<tr>
<td>June,</td>
<td>57 53</td>
<td>67 24</td>
<td>65 14</td>
<td>63 30</td>
</tr>
<tr>
<td>July,</td>
<td>67 48</td>
<td>81 06</td>
<td>72 25</td>
<td>73 59</td>
</tr>
<tr>
<td>August,</td>
<td>59 67</td>
<td>72 80</td>
<td>71 93</td>
<td>68 13</td>
</tr>
<tr>
<td>September,</td>
<td>51 86</td>
<td>57 19</td>
<td>53 68</td>
<td>54 27</td>
</tr>
<tr>
<td>October,</td>
<td>37 61</td>
<td>45 41</td>
<td>43 12</td>
<td>42 04</td>
</tr>
<tr>
<td>November,</td>
<td>31 10</td>
<td>35 13</td>
<td>33 36</td>
<td>33 19</td>
</tr>
<tr>
<td>December,</td>
<td>16 80</td>
<td>21 14</td>
<td>19 93</td>
<td>19 49</td>
</tr>
<tr>
<td>Mean,</td>
<td>38°40'</td>
<td>46°34'</td>
<td>42°41'</td>
<td>42°40'</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>January,</td>
<td>37 inches</td>
<td>None.</td>
<td>26°06'</td>
</tr>
<tr>
<td>February,</td>
<td>40 &quot;</td>
<td>&quot;</td>
<td>29 25</td>
</tr>
<tr>
<td>March,</td>
<td>25 &quot;</td>
<td>1 inch.</td>
<td>29 13</td>
</tr>
<tr>
<td>April,</td>
<td>21 &quot;</td>
<td>.55 &quot;</td>
<td>29 34</td>
</tr>
<tr>
<td>May,</td>
<td></td>
<td>4.15 &quot;</td>
<td>28 94</td>
</tr>
<tr>
<td>June,</td>
<td></td>
<td>3.57 &quot;</td>
<td>28 95</td>
</tr>
<tr>
<td>July,</td>
<td></td>
<td>2.20 &quot;</td>
<td>28 87</td>
</tr>
<tr>
<td>August,</td>
<td></td>
<td>3.68 &quot;</td>
<td>29 01</td>
</tr>
<tr>
<td>September,</td>
<td></td>
<td>5.50 &quot;</td>
<td>29 10</td>
</tr>
<tr>
<td>October,</td>
<td>2 &quot;</td>
<td>1.10 &quot;</td>
<td>29 35</td>
</tr>
<tr>
<td>November,</td>
<td>7 &quot;</td>
<td>8.40 &quot;</td>
<td>29 21</td>
</tr>
<tr>
<td>December,</td>
<td>98 &quot;</td>
<td>None.</td>
<td>29 20</td>
</tr>
<tr>
<td>Mean,</td>
<td>19 ft. 2 1/2 in.</td>
<td>30 35-100 in.</td>
<td>29°12'</td>
</tr>
</tbody>
</table>
Mean for entire year, 1868, Thermometer, 40°40'.
Mean for entire year, 1868, Barometer, 29°12'.
Warmest day, July 13th, Thermometer marking 96° in shade, 126° in sun.
Coldest day, February 3d, Thermometer marking 14 minus.
Range 110°. Range February 11th, in 12 hours, 44°.
Fall of snow, 19 feet 2½ inches.
Fall of rain, 30 35-100 inches.
Marked absence through the year of electricity—as compared with former years—both in north Polar lights and thunder storms.
A large body of snow lay over the country through January and February, measuring here, in the woods, at times, six feet.
March 2d, 3d and 6th, crown of winter storm days. Cars detained in snow drifts.
March 7th, thaw begins. Wind south. Snow settles 6 to 12 inches daily, until bare earth spots appear. One more fence board visible daily.
Birds, beguiled by our apparent Spring, come and sing sweetly as in June.
April 8th, 10 inches snow falls, covering earth food, and many birds starve and die—not "froze to death," as many suppose. By careful feeding, those here remained and survived to bless us in all summer song—generous payment!
Atmosphere heavy with smoke through July, from fires raging on timber lands in Canada and the "North woods."
Summer more than usually favorable to growth of fruit, vegetables and grass.
EARLY OBSERVATIONS UPON MAGNETIC VARIATIONS.

By Franklin B. Hough, of Lowville, N. Y.

Although the theory and laws of secular changes in the declination of the magnetic needle are receiving careful study at various special observatories, we cannot hope to arrive at precise results until our records have extended over a considerable period of time. Early observations will, therefore, when made with sufficient care, possess great interest, as affording subjects for comparison, besides the positive data which they afford in deciding disputed boundaries, where the decision may depend upon the actual amount of variation from the true meridian, at the time of survey.

With the view of aiding this study, and to place a class of facts upon this subject within reach of those interested in it, I have collected a number of records never before published, from surveys and observations made a little before the beginning of this century, and will here present them, with such prefatory remarks as the data allows.

Castorland Survey. 1794.

The "Castorland Tract," owned by a Parisian company, and coupled with a romantic but abortive scheme of settlement with common interests, was located on the east and north sides of Black River, in Lewis and Jefferson counties. It was surveyed in 1794-6, and in the beginning, under the direction of Pierre Pharoux, a competent engineer and practical astronomer, who perished by being carried over the falls of the Black River, in the present city of Watertown, in September, 1795. In the journal of this survey the necessity of running lines of lots by the true meridian, is strongly urged, on account of the uncertainty of the compass, from secular variations and local attractions. In their discussions with the proprietors this point is insisted upon, but was never carried out. Two valuable observations made by Pharoux deserve permanent record. The first was made at the house of Baron Steuben, in Herkimer, now Oneida Co., June 16th, 1794. The latitude was found to be 43° 16'; and the variation, as given by three different instruments, was 3° 58' west. The second was made a mile and a half below the head of the "Long Falls," now Carthage, Jefferson Co., August 5th-13th, 1794, at a locality then named, and often afterwards mentioned, as "Meridian Rock." The latitude was ascertained to be 44° 9' 26", and the variation, by
repeated observations, 2° 40' west. It was suspected that a slight local attraction was due to the rock, but this being a constant, would not affect the accuracy of subsequent comparative observations at that place.

**Holland Land Company's Purchase. 1798-9.**

The original field books of this survey are, by law, deposited in the Secretary's office at Albany for preservation, and afford about a hundred and forty observations of magnetic variations, with the dates of observation, names of surveyors, and place, as designated by ranges and lot lines. This survey was made under the general direction of Mr. Joseph Ellicott, an engineer of excellent reputation. We have no record of the methods by which the true meridian was ascertained, nor of the accuracy of the instruments or the care with which the variation was ascertained.

Concerning the uncertainties arising from this cause, Mr. Ellicott, in a semi-official document prepared as an explanation of his surveys, remarks:

"The difference that is discernable in the size of the several townships is occasioned by the variation of the needle, which, from certain occult causes, is found to differ essentially between any two stations that may be fixed on, and much more between some stations than others. Hence, in taking the magnetic courses of any two townships, it will follow that a disproportion in size of the several townships will necessarily arise, as the needle is seldom known to preserve a uniform position between places but a few hundred yards from each other; so that inaccuracies will arise though the greatest circumspection should be observed in correcting courses."

This survey was made by ranges and townships. The ranges were numbered from the east line of the tract towards the west, and were fifteen in number. The townships were numbered from the State line of Pennsylvania northward to Lake Ontario, and extended to sixteen in number. The accompanying map will exhibit the lines of the original townships and the corresponding divisions by towns and counties, as now organized.
## Observations upon Magnetic Variations.

### Magnetic Variation as Observed in the Survey of the Tract of the Holland Land Company, of Western New York, in 1798 and 1799.

<table>
<thead>
<tr>
<th>Place</th>
<th>Variation</th>
<th>Date</th>
<th>Observer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Range 1, Township 8-9</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>7-8</td>
<td>1799</td>
<td>James Dewey</td>
</tr>
<tr>
<td>2</td>
<td>8-9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>9-10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Range 2, Township 8-9</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>9-10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>10-11</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Range 3, Shore of Lake Ontario</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Township 15, Willink's Strip, E. line</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tonsawanda Reservation, N.W. cor.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>30 W.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>On Lake Erie, Monument, lat. 42° 16' 16&quot; W.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>25 W.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Buffalo Reservation, Lake shore</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>30 W.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Old Kana-anda (Canadadu)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>30 W.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gardeau Reservation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>35 W.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Squawkey Hill Reservation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>40 W.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Big Tree Reservation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>25 W.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Canawagus Reservation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>35 W.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>On Lake Erie, W. line of State</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>25 W.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>On Lake Ontario, 1 R., E. transit</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>20 W.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Range 2, Township 9-10</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-10</td>
<td></td>
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<td></td>
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<tr>
<td>9-10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Range 10, Township 9-10</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lake Erie, and line of Township 7-8</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7-8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Range 3-4, Township 7-8</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Range 1-2, Township 7-8</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Range 1-2, Township 1-2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-2</td>
<td></td>
<td></td>
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</table>

*Note: Variations are given in degrees and minutes, and the observers are listed in parenthetical form.*
### Magnetic Variations, &c.—Continued.

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<tr>
<th>PLACE</th>
<th>Variation</th>
<th>Date</th>
<th>Observer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range 1-2, Township 2</td>
<td>0°15' W.</td>
<td>1798,</td>
<td>Amzi Atwater,</td>
</tr>
<tr>
<td>&quot; 1-2, &quot; 3</td>
<td>0 25 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1-2, &quot; 1</td>
<td>0 55 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1-2, &quot; 1</td>
<td>1 10 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1, &quot; 5-6</td>
<td>1 50 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1-2, &quot; 5</td>
<td>1 25 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1-2, &quot; 6</td>
<td>0 30 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1-2, &quot; 6</td>
<td>0 45 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1-2, &quot; 9</td>
<td>0 50 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1-2, &quot; 10</td>
<td>0 00 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 2-3, &quot; 1</td>
<td>0 10 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 2-3, &quot; 11</td>
<td>2 45 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 7, &quot; 11-12</td>
<td>1 40 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 6, &quot; 11-12</td>
<td>1 35 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 12-13,</td>
<td>1 35 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 13-14,</td>
<td>0 50 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 13-14,</td>
<td>1 35 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 13-14,</td>
<td>1 25 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>On Lake Ontario, Range 5, Township 13-16, Pa. line, 12 miles from Win. Phelps' Transit meridian, 24th mile,</td>
<td>0 10 E.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
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<tr>
<td>Range 5, Township 13-16,</td>
<td>1 40 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 6, &quot; 15-16</td>
<td>1 35 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>Gorham Purchase, Range 1, Township 5,</td>
<td>0 15 W.</td>
<td>1798,</td>
<td>George Burges,</td>
</tr>
<tr>
<td>&quot; 1, &quot; 8, 43 m. from Pa.,</td>
<td>1 00 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1, &quot; 4, 7</td>
<td>0 10 E.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1, &quot; 5, 2</td>
<td>0 55 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1, &quot; 5, 5</td>
<td>1 35 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1, &quot; 11</td>
<td>1 45 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1, &quot; 12, (70 m. Pa.),</td>
<td>0 35 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1, &quot; 12-13, 72</td>
<td>0 45 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1, &quot; 73</td>
<td>0 00</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1, &quot; 74</td>
<td>0 5 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1, &quot; 13, 76</td>
<td>0 35 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1, &quot; 13, 78</td>
<td>0 40 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1, &quot; 14, 83</td>
<td>1 20 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1, &quot; 14, 84</td>
<td>2 5 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1, &quot; 15, 86</td>
<td>1 55 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1, &quot; 15, 88</td>
<td>1 50 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1, &quot; 16</td>
<td>1 00 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>N. Line, Tp. 2, Range 3</td>
<td>1 9 W.</td>
<td>1799,</td>
<td>Augustus Porter,</td>
</tr>
<tr>
<td>Range 8, Township 15,</td>
<td>0 15 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 1, &quot; 15</td>
<td>0 30 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 6, &quot; 16</td>
<td>0 45 W.</td>
<td>&quot; &quot;</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot; 4-3, &quot; 1, Pa. line,</td>
<td>1 00 W.</td>
<td>1798,</td>
<td>James Smedley,</td>
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<tr>
<td>&quot; 4-5, &quot; 4-5</td>
<td>1 02 W.</td>
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<td>&quot; 3, &quot; 2-3</td>
<td>0 40 W.</td>
<td>1799,</td>
<td>Stph. Benton, Jr.</td>
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<td>&quot; 1, &quot; 3-4</td>
<td>0 55 W.</td>
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<td>Transit meridian, 24th mile, Range 1, Township 3,</td>
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MAP
OF THE
WESTERN PART
of the State of
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SHOWING THE TOWNSHIP SURVEYS OF THE
Holland Land Company's Purchase,
and their Relation with the
PRESENT SUBDIVISION BY TOWNS & COUNTIES.
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PRESENT SUBDIVISION BY TOWNS & COUNTIES.

Drawn to accompany Mr. E. L. D. Hoare's Article upon the Boundaries of the
State of New York.
Observations upon Magnetic Variations.

MAGNETIC VARIATIONS, &c.—Continued.

<table>
<thead>
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<th>PLACE</th>
<th>Variation</th>
<th>Date</th>
<th>Observer</th>
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River St. Lawrence.—In addition to the foregoing, from manuscript records, I find upon the official survey of the River St. Lawrence, from Lake Ontario to the Galop Rapid, by Captain W. F. W. Owen, R. N., published in 1818 in five sheets, the following variations indicated:

Point Yeo, at the southwestern end of Wolf Island, or Grand Island as called on some maps: var. 2° 30’ W.

Quebec Head, at the N. E. or lower extremity of the same island: var. 2° 45’ W.

Barthrust Island, or Grenadier Island, upper end: var. 2° 50’ W.

Mouth of Chippewa Creek: var. 3° W.

Point two Miles above Ogdensburg: var. 3° 30’ W.

Upon the British official chart of Lake Ontario, by the same author, in 1817, corrected to 1863, it is said, “variation in 1861 increasing 4’ annually.”