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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.

STATE OF NEW YORK.

No. 87.

IN SENATE,

April 10, 1869.

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.

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-Officiis.

JOHN T. HOFFMAN, *Governor.*
ALLEN C. BEACH, *Lieutenant-Governor.*
HOMER A. NELSON, *Secretary of State.*
ABRAM B. WEAVER, *Superintendent of Public Instruction.*

ERASTUS CORNING,
PROSPER M. WETMORE,
GIDEON HAWLEY, LL.D.,
ROBERT CAMPBELL,
SAMUEL LUCKEY, D. D.,
ROBERT G. RANKIN,
ERASTUS C. BENEDICT, LL.D.,
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ISAAC PARKS, D. D.,
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ELIAS W. LEAVENWORTH,
J. CARSON BREVOORT,
GEORGE R. PERKINS, LL.D.,
ALEXANDER S. JOHNSON, LL.D.,
GEORGE W. CURTIS, LL.D.,
WILLIAM H. GOODWIN, D. D.
SAMUEL B. WOOLWORTH, LL.D., *Secretary.*
DANIEL J. PRATT, *Assistant Secretary.*

STANDING COMMITTEE OF THE REGENTS,

Specially charged with the care of the State Cabinet.

1869.

(THE GOVERNOR) Mr. HOFFMAN,
THE SECRETARY OF STATE,
Mr. CLINTON,
Mr. CORNING,
Mr. JOHNSON,
Mr. BREVOORT,
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	
		$3,585 95

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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(A.)

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 (*Megaceras*

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 tusk 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 of procuring 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 specimens, 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 satisfactory return has been made in a collection of New York fossils, numbering one hundred species, of which a record has been preserved.

The *Echinoderms* of the Pickett collection have been arranged and labeled, and offer a tolerable representation of this class of organisms, 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 desirable 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 specimens were obscured. Fresh alcohol had been added during successive 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 contained 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 considerable 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 larvæ 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 annuul 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.

(B.)

ADDITIONS TO THE STATE CABINET DURING THE YEAR 1868.

I. BY DONATION.

I. TO THE ZOÖLOGICAL 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 $1\frac{1}{4}$ inches in its diameters; the other weighing five ounces, and of the diameters of $2\frac{1}{4}$ and $3\frac{1}{4}$ 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 (*Phyctolophius 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 ALGÆ, 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.

From Major-Gen. BARNUM, *Inspector of State Prisons.*

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 (SLIKENSIDES), 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.

A. H. Worthen, and others. Geological Survey of Illinois. 2 vols. I. Geology; II. Palæontology. 4to.

From — KERR.

E. Emmons. North Carolina Geological Survey. Raleigh, 1856 and 1858. 2 vols. 8vo.

From the AUTHOR.

James Hall. Report of the Geological Survey of Wisconsin. Madison, 1861. Pam. 12mo.

From the AUTHORS.

Grote & Robinson. Descriptions of American Lepidoptera. Philadelphia, 1867, 1868. Nos. 1, 2, 3. Pam. 8vo.

Grote & Robinson. Notes on the North American Lepidoptera contained in the British Museum. Philadelphia, 1868. Pam. 8vo.

From the AUTHOR.

H. W. Schmidt. Catalog. des Antiquarischen Bücherlagers. Halle, 1867. Pam. 8vo.

From the AUTHOR.

H. Siebke. Entomologiske Undersogelser. Christiania, 1866. Pam. 8vo.

From the AUTHOR.

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

From the AUTHOR.

L. T. Kjerulf. Veiviser Ved Geologiske Excursioner. I. Christiania Omegn. Christiania, 1865. Pam. 4to.

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. Seventy-ninth Annual Report. Albany, 1866. Pam. 8vo.

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.

H. Muhlenberg. Catalogue of Plants of North America. Phila delphia, 1818. 8vo.

Isaac Lea and others. Check Lists of Shells of North America. Washington, 1860. Pam. 8vo.

Report of the Select Committee on the Completion of the Natural History of the State of New York. Albany, 1856. Pam. 8vo.

Spencer F. Baird. Revision of the North American Batrachia. Philadelphia, 1849. 8vo.

From the SMITHSONIAN INSTITUTION.

Brantz Mayer. Observations on Mexican History and Archæology. Washington, 1856. Pam. 4to.

J. P. Kimball. Flora from the Apalachian Coal-field. Göttingen, 1857. Pam. 8vo.

From the AUTHOR.

James Hall. Palæontology of New York. Vol. II. Descriptive text. Albany, 1852. Pam. 4to.

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 ZOÖLOGICAL 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.

4 *Trachinus vipera.* River Mersey, England.
3 *Murœnoides guttata.* River Mersey, England.
2 *Cottus bulbalus.* River Mersey, England.
11 *Pimelodus* ———*?* (with yolk-sac attached). Panama.
2 *Perca fluviatalis.*
2 *Leuciscus rutilis.*
12 *Gasterosteous occidentalis.*
1 *Echeneis remora.* New York Harbor.
4 *Aspidophorus Europans.* River Mersey, England.
1 *Hippocampus* ———*?* Panama.
24 specimens of several species not determined.

REPTILES.

1 *Ancistrodon contortrix.*
2 Ophidians. Martinique, W. I.
17 " Localities not stated.
3 Coluberidæ. Mississippi river.
3 " Indiana.
27 Salamandridæ and Scincidæ. Localities not stated.
12 " New York.
2 " Japan.
3 Saurians. Osage river, Missouri.
11 Ranidæ. Localities not stated.
2 " England.

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 macroserus* (Gigantic Locust). Panama.
1 *Attacus Cecropia* larva.
1 *Ceratomia quadricornis* larva.

CRUSTACEANS.

7 *Astacus Bartonii.*
3 *Anatifa* ———*?* New York Harbor (very fine).
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.

Hugh Falconer: Palæontological Memoirs. London, 1868. 2 vols. 8vo.

American Naturalist. Salem, Mass. 8vo. Vol. I, 1867; of Vol. II, 1868, Nos. 1 to 10.

American Entomologist. St. Louis, Mo. 8vo. Vol. 1, 1868, Nos. 1 to 4.

American Journal of Science and Arts. 8vo. New Haven. Vols. XLIII and XLIV for 1867; Vol. XLV, 1868, Nos. 133 and 134; Vol. XLVI, 1868, Nos. 137 and 138.

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 ZOÖLOGICAL 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.

(C.)

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, Bruguiere.

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 cariosus, *Say*. De Kay, p. 193. Moderately abundant. Fine specimens found in the Mohawk basin, Erie canal and Hudson River.

Unio ochraceus, *Say*. De Kay, p. 193. Mohawk basin and canals. Not abundant.

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 RADIATUS, *Lam.* DE KAY, p. 189. Very abundant.

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.

MARGARITANA UNDULATA, *Lea.* DE KAY, p. 198. Common in the Northern canal near Waterford; not yet found in the Hudson River.

MARGARITANA MARGINATA? *Say.* DE KAY, 196. Rare. Northern canal.

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.

ANODONTA FLUVIATILIS, *Lea.* DE KAY, p. 203. Moderately abundant in the canals and river.

ANODONTA LEWISII, *Lea.* Proc. Acad. Nat. Sci. Phila., 1857, p. 84. Mohawk basin. Not common.

ANODONTA BENEDICTENSIS, *Lea.* DE KAY, p. 204. Common in the Hudson River and Mohawk basin.

ANODONTA EDENTULA, *Say.* DE KAY, p. 201. Not common. Northern canal.

SPHÆRIUM, SCOPOLI.

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 STRIATINUM, *Lam.* De KAY, p. 223. Mohawk River and canals. Common. De Kay describes this shell under the name of *Cyclas dubia?* Say.

SPHÆRIUM SECURIS, *Prime.* Mohawk basin. Rare.

PISIDIUM, 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 decisa, *Say.* De Kay, p. 84. Not common. Mohawk basin.

Paludina rufa, *Hald.* Mohawk basin. Rare.

VALVATA, Müller.

Valvata tricarinata, *Say.* De Kay, p. 118. Very common in all places in the vicinity.

LIMNÆA, Lamarck.

Limnæa elodes, *Say.* Very common.

Limnæa elodes, var. catascopium, *Say.* De Kay, p. 67. 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 humilis, *Say.* De Kay, p. 71. Mohawk basin. Common.

Limnæa reflexa, *Say.* De Kay, p. 71. Mohawk River and canals. Not common.

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, Draparnauld.

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

Physa ancillaria, *Say.* De Kay, p. 79. Common in the Hudson River and Mohawk basin.

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.

PLANORBIS PARVUS, *Gould.* DE KAY, p. 63. Not common. Probably young of *P. elevatus.* Mohawk River, near Cohoes.

PLANORBIS DEFLECTUS, *Say.* DE KAY, p. 65. Common. Mohawk basin.

MELANIA, LAMARCK.

MELANIA VIRGINICA. *Gmel.* DE KAY, p. 90. Mohawk River and basin. Not common.

MELANIA ELEVATA, *Say.* Jour. Acad. Nat. Sci. Phila., Vol. II, p. 176. Very common in the canals.

MELANIA SUBULARIS? *Lea.* DE KAY, p. 92. Not common. Mohawk River and basin.

ANCYLUS, GEOFFROY.

ANCYLUS ———. Clinging to stones near Cohoes Falls.

SOMATOGYRUS.

SOMATOGYRUS INTEGER, *Say.* Not common. Mohawk basin, near railroad bridge.

AMNICOLA, GOULD.

AMNICOLA LIMOSA, *Say.* Jour. Acad. Nat. Sci. Phila., Vol. I, p. 125. In the Hudson River near Albany, according to Mr. Whitfield. I have not succeeded in finding it in the vicinity of Troy.

AMNICOLA LUSTRICA, *Say.* DE KAY, p. 87. In the Hudson River near Albany. Rare.

SUCCINIA, DRAPARNAULD.

SUCCINIA OVALIS, *Say.* DE KAY, p. 53. Common in the Mohawk basin.

SUCCINIA OBLIQUA, *Say.* DE KAY, p. 53. In the Hudson River, on low islands between Troy and Albany.

SUCCINIA TOTTENIANA, *Lea.* Tryon's Monog. Terr. Moll., p. 18. Not common.

HELIX, LINNÆUS.

HELIX ALBOLABRIS, *Say.* DE KAY, p. 26. Not common. Bald Mountain, near Troy.

HELIX ALTERNATA, *Say.* DE KAY, p. 29. Found in decomposing shale, at the foot of Pine Ledges, near Troy. Common.

HELIX ARBOREA, *Say.* De Kay, p. 30. Very common on the low islands in the Hudson River, between Troy and Albany.

HELIX CONCAVA, *Say.* DE KAY, p. 33. Sometimes found at Lansingburgh.

HELIX CHERSINA, *Say.* DE KAY, p. 45. Flats of the Mohawk River and its outlets. Rare.

HELIX EXOLETA, *Binney.* DE KAY, p. 27. Near Albany. Locality destroyed.

HELIX FULIGINOSA, *Binney.* DE KAY, p. 37. Low lands between Albany and Troy. Rare.

HELIX LINEATA, *Say.* DE KAY, p. 44. Near Albany. Rare.

HELIX MONODON, *Racket.* DE KAY, p. 35. In shale, at the foot of Pine Ledge, near Troy. Common.

HELIX MINUTA, *Say.* DE KAY, p. 40. Flats of Mohawk. Common.

HELIX MULTIDENTATA, *Binney.* Near Albany. Locality destroyed. (Mr. Whitfield.)

HELIX PALLIATA, *Say.* DE KAY, p. 33. Near Troy. Rare.

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.

HELIX TRIDENTATA, *Say*. DE KAY, p. 28. Common in many localities.

HELIX THYROIDUS, *Say*. DE KAY, p. 29. Rare. Near Bald Mountain.

VITRINA, DRAPARNAULD.

VITRINA LIMPIDA, *Gould*. DE KAY, p. 25. Near Lansingburgh, in low lands. Rare.

ACHATINA, LAMARCK.

ACHATINA LUBRICA, *Müller*. DE KAY, p. 55. Flats of the Mohawk River, opposite Troy. Rare.

VERTIGO, MÜLLER.

VERTIGO OVATA, *Say*. In dead stumps, &c., near Troy. Common.

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.*
" cariosus, *Say.*
" ochraceus, *Say.*
" tappanianus, *Lea.*
" radiatus, *Lam.*
" pressus, *Lea.*

MARGARITANA rugosa, *Lea.*
" undulata, *Lea.*
" marginata, *Say.*
ANODONTA implicata, *Say.*
" fluviatilis, *Lea.*
" lewisii, *Lea.*
" benedictensis, *Lea.*
" edentula, *Say.*

CORBICULADÆ.

SPHÆRIUM sulcatum, *Lam.*
" striatinum, *Lam.*
" securis, *Prime.*

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

VIVIPARIDÆ.

PALUDINA integra, *Say.*
" decisa, *Say.*

PALUDINA rufa, *Hald.*

VALVATIDÆ.

VALVATA tricarinata, *Say.*

LIMNÆIDÆ.

LIMNÆA elodes, *Say.*
" ampla, *Mighels.*
" " var. catascopium.
" humilis, *Say.*
" reflexa, *Say.*
" desidiosa, *Say.*
" umbilicata, *Adams.*
PHYSA heterostropha, *Say.*
" ancillaria, *Say.*

PHYSA hypnorum, *Linn.*
" bicarinatus, *Say.*
PLANORBIS trivolvis, *Say.*
" campanulatus, *Say.*
" exacutus, *Say.*
" armigerus, *Say.*
" parvus, *Gould.*
" deflectus, *Say.*
ANCYLUS ———.

MELANIADÆ.

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

MELANIA subularis? *Lea.*

AMNICOLIDÆ.

SOMATOGYRUS integer, *Say.*
AMNICOLA limosa, *Say.*

AMNICOLA lustrica, *Say.*

HELICIDÆ.

SUCCINIA ovalis, *Say.*
" obliqua, *Say.*
" totteniana, *Lea.*
HELIX exoleta, *Binney.*
" fuliginosa, "
" lineata, *Say.*
" monodon, *Racket.*
" minuta, *Say.*
" multidentata, *Binn.*
" palliata, *Say.*

HELIX albolabris, *Say.*
" alternata, *Say.*
" arborea, *Say.*
" concava, *Say.*
" chersina, *Say.*
" striatella, *Anth.*
" tridentata, *Say.*
" thyroidus, *Say.*
VITRINA limpida, *Gould.*

PUPADÆ.

ACHATINA lubrica, *Müll.* PUPA ———.
VERTIGO ovata, *Say.*

AURICULIDÆ;

CARYCHIUM exiguum, *Say.*

FAMILIES.	Genera.	No. in each Genera.	No. in each Family.
UNIONIDÆ,	Unio,	8	16
	Margaritana,	3	
	Anodonta,	5	
CORBICULADÆ,	Sphærium,	3	5
	Pisidium,	2	
VIVIPARIDÆ,	Paludina,	3	3
VALVATIDÆ,	Valvata,	1	1
LIMNÆIDÆ,	Limnæa,	7	18
	Physa,	3	
	Planorbis,	7	
	Ancylus,	1	
MELANIADÆ,	Melania,	3	3
AMNICOLIDÆ,	Amnicola,	2	3
	Somatogyrus,	1	
HELICIDÆ,	Succinia,	3	19
	Helix,	15	
	Vitrina,	1	
PUPADÆ,	Achatina,	1	3
	Vertigo,	1	
	Pupa,	1	
AURICULIDÆ,	Carychium,	1	1
10	21	72	72

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.

(D.)

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 spec i mens 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: Phœnogamia, 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

* 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 Phœnogamia is marked opposite the name in this list.

TABULAR STATEMENT OF PLANTS COLLECTED.

	No. of specimens. (Estimated.)	Species represented.	Species new to Herb'm.	Species new to State.	Species new to Science.
Fungi,	700	173	173	173	
Algæ,	400	69	51	69	
Lichenes,	900	105	105	105	
Hepaticæ,	200	33	13	4	
Musci,	800	98	23	13	1
Characeæ,	20	7	7	7	
Filices,	15	3			
Cryptogamia,	3,035	488	372	371	1
Phœnogamia,	1,000	209	18	7	2
Total,	4,035	697	390	378	3

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 Leguminosæ 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 injurious, together with a record of those new to our State flora, descriptions 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, *Salisb.*
Dentaria diphylla, *L.* 2 spms.
" maxima, *Nutt.*
Sinapis nigra, *L.*
Viola selkirkii, *Pursh.*
Ascyrum crux-andreæ, *L.*
Hypericum canadense, *L.*
Arenaria grœnlandica, *Spreng.*
Stellaria longifolia, *Muhl.*
" borealis, *Bigel.*
Ceanothus ovalis, *Bigel.*
Acer spicatum, *Lam.*
" dasycarpum, *Ehrh.*
Lespedeza stuvei, *Nutt.*
Baptisia tinctoria, *R. Br.* 2 spms.
Geum album, *Gmelin.* 2 spms.
" virginianum, *L.*
Potentilla tridentata, *Ait.*
Parnassia caroliniana, *Michx.*
Circæa alpina, *L.*
Epilobium hirsutum, *L.*
Gaura biennis, *L.*
Ludwigia alternifolia, *L.*
Rhexia virginica, *L.*
Ammannia humilis, *Michx.*
Cuphea viscosissima, *Jacq.*
Thaspium trifoliatum, *Gray.*
Aralia trifolia, *Gray.*
" quinquefolia, *Gray.*
Cornus florida, *L.*
" sericea, *L.*
Lonicera ciliata, *Muhl.*
Viburnum acerifolium, *L.*
Houstonia cœrulea, *L.*
Eupatorium sessilifolium, *L.*
Aster ericoides, *L.*
" lævis, *L.* 2 spms.
" undulatus, *L.*
Solidago thyrsoidea, *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.*
Cacalia suaveolens, *L.*
Senecio aureus, *L.*
Arnica mollis, *Hook.*

Sonchus oleraceus, *L.* 2 spms.
" asper, *Vill.*
" arvensis, *L.*
Gaylussacia resinosa, *T. & G.*
Vaccinium macrocarpon, *Ait.*
" oxycoccus, *L.*
" uliginosum, *L.*
Pyrola elliptica, *Nutt.*
Primula mistassinica, *Michx.*
Lysimachia lanceolata, *Walt.*
Samolus valerandi, *L.*
Utricularia intermedia, *Hayne.*
" gibba, *L.*
Catalpa bignonioides, *Walt.*
Veronica officinalis, *L.*
Gerardia pedicularia, *L.*
Pedicularis lanceolata, *Michx.*
Lycopus europæus, *L.*
Origanum vulgare, *L.*
Lithospermum hirtum, *Lehm.*
Phlox subulata, *L.*
Gentiana saponaria v. linearis, *G.*
Chenopodium glaucum, *L.*
Atriplex rosea, *L.*
Polygonum acre, *H. B. K.*
Lindera benzoin, *Meisner.*
Dirca palustris, *L.*
Shepherdia canadensis, *Nutt.*
Callitriche verna, *L.*
Acalypha virginica v. gracilens.
Urtica urens, *L.*
" dioica, *L.*
Carya porcina, *Nutt.*
" alba, *Nutt.*
Abies canadensis, *Michx.*
Quercus ilicifolia, *Wang.*
" obtusiloba, *Michx.*
Salix cordata, *Muhl.* 2 spms.
" longifolia, *Muhl.* 3 spms.
Peltandra virginica, *Raf.*
Symplocarpus fœtidus, *Salisb.*
Lemna torreyi, *Aust.*
Sparganium simplex, *Huds.*
Naias major, *All.*
" flexilis, *Rostk.* 2 spms.
" indica v. gracillima.
Ruppia maritima, *L.* 2 spms.
Zannichellia palustris, *L.*
Potamogeton pectinatus, *L.*
" prælongus, *Wolf.*
Potamogeton perfoliatus, *L.*
" pauciflorus, *P'sh.*
" hybridus, *Michx.*
" lucens, *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 bulbosa, *L.*
Pogonia verticillata, *Nutt.*
Corallorhiza multiflora, *Nutt.*
" innata, *R. Br.*
Cypripedium spectabile, *Swartz.*
Trillium sessile, *L.*
" grandiflorum, *Salisb.*
Smilacina racemosa, *Desf.*
Erythronium americanum, *Sm.*
Ornithogalum umbellatum, *L.*
Luzula parviflora v. melanocarpa
Juncus trifidus, *L.*
" nodosus, *L.* 2 spms.
" articulatus, *L.*
" scirpoides v. macrostemon.
Eleocharis intermedia, *Schultes.*
" rostellata, *Torr.*
" compressa, *Sulliv.*
Scripus cæspitosus, *L.*
" planifolius, *L.*
" sylvaticus, *L.*
Eriophorum vaginatum, *L.*
Rhynchospora alba, *Vahl.*
" fusca, *R. & S.*
Carex scirpoidea, *Michx.*
" teretiuscula v. major, *K.*
" alopecoidea, *Tuck.*
" cephalophora, *Muhl.*
" canescens v. vitilis, *Gray.*
" sychnocephala, *Carey.*
" bigelovii, *Torr.*
" torta, *Boott.*
" aperta, *Boott.*
" stricta v. strictior, *Gray.*
" lenticularis, *Michx.* 2 spms
" limosa, *L.*
" irrigua, *Smith.*
" platyphylla, *Carey.* 2 spms

Carex retrocurva, *Dew.* 2 spms.
" laxiflora v. blanda. *Gray.*
" novæ-angliæ, *Schw.*
" varia, *Muhl.* 3 spms.
" richardsonii, *R. Br.*
" houghtonii, *Torr.*
" lupulina v. gigantoidea, *G.*
" rostrata, *Michx.* 2 spms.
" hartii, *Dew.*
" utriculata, *Boott.* 2 spms.
" monile, *Tuck.*
" oligosperma, *Michx.*
Triticum caninum, *L.*
Alopecurus geniculatus, *L.*
" aristulatus, *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 xanthophysum, *Gray.*
Andropogon furcatus, *Muhl.*

FILICES.

Woodsia glabella, *R. Br.*
" ilvensis, *R. Br.*
" obtusa, *Torr.*
Aspidium spinulosum v. boottii.
Asplenium ebeneum, *Ait.*
Cheilanthes vestita, *Swartz.*
Ophioglossum vulgatum, *L.*
Botrychium lunarioides, *Swartz.*
" simplex, *Hitchcock.*

MUSCI.

Funaria flavicans, *Michx.*
" hygrometrica, *Hedw.*
Aphanorhegma serrata, *Sulliv.*
Physcomitrium pyriforme, *L.*
Schistostega osmundacea, *W. M.*
Tetraplodon mnioides, *L. fil.*
Splachnum ampullaceum, *L.*
Hedwigia ciliata, *Dicks.*
Racomitrium microcarpum, *B'd*
" sudeticum, *Funk.*
" fasciculare, *Brid.*
Racomitrium aciculare, *Brid.*
Grimmia ovata, *Web. & Mohr.*
" olneyi, *Sulliv.*
" leucophœa, *Grev.*
" pennsylvanica, *Sch'gr.*
Schistidium confertum, *Funk.*
" apocarpum, *Hedw.*
" agassizii, *S. & L.*
Timmia megapolitana, *Hedw.*
Aulacomnion turgidum, *Sch'gr.*
" palustre, "
" heterostichum, *Bry. Eur.*
Mnium cinclidioides, *Hub.*
" punctatum, *Hedw.*
" hornum, *Hedw.*
" serratum, *Brid.*
" lycopodioides, *Hook.*
" cuspidatum, *Hedw.*
" rostratum, *Schwægr.*
" drummondi, *Br. & Sch.*
" affine, *Bland.*
" spinulosum, *Bry. Eur.*
Bryum pallescens, *Schwægr.*
" pallens, *Swartz.*
" uliginosum, *Brid.*
" elongatum, *Dicks*
" nutans, *Schreb.*
" crudum, *Schreb.*
" annotinum, *Hedw.*
" wahlenbergii, *Schwægr.*
" pyriforme, *Hedw.*
" intermedium, *Brid.*
" bimum, *Schreb.*
" pseudo-triquetrum, *Sc'gr*
" roseum, *Schreb.*
" cyclophyllum, *Bry. Eur.*
" capillare, *Hedw.*
" cæspiticium, *L.*
" atropurpureum, *W. & M.*
" argenteum, *L.*
Bartramia œderi, *Swartz.*
" pomiformis, *Hedw.*
" fontana, *Brid.*
" muhlenbergii, *Sch'gr.*
Conostomum boreale, *Swartz.*
Meesia uliginosa, *Hedw.*
" tristicha, *Funk.*
" longiseta, *Hedw.*
Atrichum undulatum, *Beauv.*
" angustatum, *Beauv.*

Pogonatum brevicaule, *Brid.*
" urnigerum, *Brid.*
" alpinum, *Brid.*
Polytrichum piliferum, *Schreb.*
" juniperinum, *H'w.*
" formosum, *Hedw.*
" commune, *L.*
Diphyscium foliosum, *W. & M.*
Buxbaumia aphylla, *Haller.*
Fontinalis antipyretica v. gigantea, *Sulliv.*, 2 spms.
Fontinalis novæ-angliæ, *Sulliv.*
" dalecarlica, *Bry. Eur.*
Dichelyma capillaceum, *Dill.*
" falcatum, *Hedw.*
Pterigynandrum filiforme, *T'm.*
Leucodon brachypus, *Brid.*
Leptodon trichomitrion, *Mohr.*
Anomodon viticulosus, *L.*
" apiculatus, *Bry. Eur.*
" obtusifolius, "
" attenuatus, *Schreb.*
" ? tristis, *Cesati.*
Leskea polycarpa, *Ehrh.*
" obscura, *Hedw.*
" nervosa, *Schwægr.*
" rostrata, *Hedw.*
" denticulata, *Sulliv.*
Thelia hirtella, *Hedw.*
" asprella, *Schp.*
Myurella careyana, *Sulliv.*
" julacea, *Bry. Eur.*
Anacamptodon splachnoides, *B.*
Pylaisæa subdenticulata, *Schp.*
" intricata, *Hedw.*
" velutina, *Schp.*
Homalothecium subcapillatum.
Platygyrium repens, *Brid.*
Cylindrothecium cladorrhizans.
" seductrix, *Hedw.*
" brevisetum, *S'p.*
Neckera pennata, *Hedw.*
Homalia gracilis, *James.*
Climacium americanum, *Brid.*
" dendroides, *L.*
Hypnum tamariscinum, *Hedw.*
" delicatulum, *Mull.*
" minutulum, *Hedw.*
" pygmæum, *Bry. Eur.*
" scitum, *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, *Schwægr.*
" serrulatum, *Hedw.*
" demissum, *Wils.*
" cylindricarpum, *Mull.*
" recurvans, *Schwægr.*
" molle, *Dicks.*
" eugyrium, *Bry. Eur.*
" ochraceum, *Turn.*
" montanum, *Wils.*
" cuspidatum, *L.*
" schreberi, *Willd.*
" cordifolium, *Hedw.*
" giganteum, *Schp.*
" stramineum, *Dicks.*
" sarmentosum, *Wahl.*
" uncinatum, *Hedw.*
" revolvens, *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.*
" lætum, *Brid.* 2 spms.
" acuminatum, *Beauv.*
" rutabulum, *L.*
" plumosum, *L.*

Hypnum velutinum, *L.*
" rivulare, *Brch.*
" novæ-angliæ, *S. & L.*
" stellatum, *Schreb.*
" polymorphum, *Brch.*
" hispidulum, *Brid.*
" dimorphum, *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.*
" natans, *L.*
Anthoceros lævis, *L.*
Duvalia rupestris, *Nees.*
Reboulia hemisphærica, *Raddi.*
Fegatella conica, *Corda.*
Preissia commutata, *Nees.*
Blasia pusilla, *L.*
Pellia epiphylla, *Nees.*
Steetzia lyellii, *Lehm.*
Chiloscyphus polyanthus, *Corda.*
Geocalyx graveolens, *Nees.*
Sphagnœcetis communis, *Nees.*
Jungermannia trichophylla, *L.*
" connivens, *Dicks.*
" curvifolia, *Dicks.*
" catenulata, *Hub.*
" peckii, *Aust.*
" barbata, *Schreb.*
" taylori, *Hook.*
" schraderi, *Mart.*
" inflata, *Huds.*
" spacellata, *Gies.*
" obtusifolia, *Hook.*
" incisa, *Schrad.*
" exsecta, *Smith.*
Scapania nemorosa, *Nees.*
Sarcoscyphus ehrharti, *Corda.*
Frullania grayana, *Mont.*
" æolotis, *Nees.*
" virginica, *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.*

B.

PLANTS COLLECTED.

(Flowering Plants—Phœnogamia.)

Anemone pennsylvanica, *L.* Fr.
Hepatica triloba, *Chaix.*
" acutiloba, *DC.*
Coptis trifolia, *Salisb.*
Ranunculus recurvatus, *Poir.*
" fascicularis, *Muhl.*
Trollius laxus, *Salisb.* Fr.
Thalictrum purpurascens, *L.* Fls.
" cornuti, *L.* Fr.
" anemonoides, *Mx.*
Sanguinaria canadensis, *L.*
Nymphæa minor,* *DC.*
Sarracenia purpurea, *L.*
Dentaria laciniata, *Muhl.* Root.
Barbarea vulgaris, *R. Br.*
Arabis hirsuta,* *Scop.*
" canadensis, *L.*
Lepidium campestre, *L.*
Nasturtium armoracia, *Fr.*
Viola canadensis, *L.*
" pubescens, *Ait.* Fr.
" " v. eriocarpa,* *Nutt.*
" " v. scabriuscula,* *T. & G.*
" cucullata, *Ait.* Whitish fls.
" " v. cordata,* *Gr.*
" pedata, *L.*
Hypericum canadense v. major.*
Elatine clintoniana,* *Peck.*
Silene noctiflora, *L.*
" stellata, *Ait.* Fr.
Althæa officinalis, *L.* Fr.
Malva moschata,* *L.*
Rhus copallina, *L.*
Vitis cordifolia, *Michx.* Fr.
Rhamnus alnifolius, *L'Her.* Fr.
Acer spicatum, *Lam.* Fr.
Lupinus perennis, *L.* Fr.
Trifolium pratense, *L.* Wh. fls.
Robinia pseudacacia, *L.*
Lespedeza stuvei, *Nutt.* Fr.
Lathyrus palustris, *L.* Nar. lvs.
Apios tuberosa, *Mœnch.* Tubers.
Cassia chamæcrista, *L.*
" nictitans, *L.*
Prunus maritima, *Wang.*
" pumila, *L.*
Spiræa tomentosa, *L.* Wh. fls.
Fragaria vesca, *L.*
Rubus strigosus, *Michx.* Fr.
" neglectus,* *Peck.*
" occidentalis, *L.* Fr.
" hispidus, *L.* Fr.
Rosa carolina, *L.*
Cratægus crus-galli, *L.*
Epilobium hirsutum, *L.*
" palustre v. linearis.
Œnothera pumila, *L.*
Mitella nuda, *L.* Fr.
Ribes lacustre, *Poir.* Fr.
" floridum, *L.*
Sanicula canadensis, *L.*
" marilandica, *L.*
Zizia integerrima, *DC.*
Cryptotænia canadensis, *DC.*
Apium graveolens,* *L.*
Lonicera oblongifolia, *Muhl.* Fr.
Cornus canadensis, *L.* Fr.
Viburnum opulus, *L.*
" pubescens, *Pursh.*
" nudum, *L.* Nar. lvs.
Galium boreale, *L.*
" triflorum, *Michx.*
" trifidum v. pusillum,* *Gr.*
Eupatorium teucrifolium, *Willd.*
Aster flexuosus, *Nutt.* Dwarf.
" linifolius, *L.*
Erigeron annuum, *Pers.*
" philadelphicum, *L.*
Solidago cæsia, *L.*
" muhlenbergii, *T. & G.*
" thyrsoidea, *E. Meyer.*
" virga-aurea, *L.*
Baccharis halimifolia, *L.*
Bidens cernua, *L.* Dwarf.

* 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 aparinoides, *Pursh.*
Vaccinium stamineum, *L.* Fr.
" cæspitosum,* *Michx.*
" canadense, *Kalm.* Fr.
" uliginosum, *L.* Fr.
Vaccinium pennsylvanicum v. angustifolium.* *Gray.*
Kalmia angustifolia, *L.*
" latifolia, *L.* Fr.
Gaultheria procumbens, *L.*
Chiogenes hispidula, *T. & G.* Fr.
Ledum latifolium, *Ait.*
Pyrola secunda v. pumila.*
Monotropa hypopitys, *L.*
Lysimachia thyrsiflora, *L.* Fr.
Veronica scutellata, *L.*
Utricularia intermedia, *Hayne.*
Scrophularia nodosa, *L.*
Pedicularis canadensis, *L.*
Physostegia virginiana, *Benth.*
Collinsonia canadensis, *L.* Root.
Epiphegus virginiana, *Bart.*
Lysimachia stricta, *Ait.*
Monarda didyma, *L.*
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.*
Suæda maritima, *Dumort.*
Salicornia herbacea, *L.*
" virginica, *L.*
" ambigua, *Michx.*
Rumex obtusifolius, *L.*
" orbiculatus,* *Gray.*
Callitriche verna, *L.*
Limnanthemum lacunosum, *Gs.*
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.*
Arisæma triphyllum, *Torr.*
Acorus calamus, *L.* Root.
Sparganium simplex, *Huds.* Fls.
" " v. nuttallii, *Gr.*
" " v. fluitans, *Gr.*
Naias flexilis, *Rostk.*
Potamogeton hybridus, *Michx.*
" perfoliatus, *L.*
" amplifolius,* *Tuck.*
" claytonii, *Tuck.*
" oakesianus,* *Rob's.*
" lucens, *L.*
Vallisneria spiralis,* *L.*
Sagittaria graminea, *Michx.*
" heterophylla,* *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.* Fr.
" erythrocarpum, *Michx.*
Smilacina stellata, *Desf.* Fr.
Polygonatum biflorum, *Ell.*
Erythronium americanum, *Sm.*
Streptopus amplexifolius, *DC.*
Smilax glauca, *Walt.*
Eriocaulon septangulare, *With.*
Juncus pelocarpus, *E. Meyer.*

* Not before represented in the State Herbarium.

Juncus nodosus, *L.*
" canadensis v. coarctatus.
" " v. longicaudatus, *Engm.*
" articulatus, *L.*
" alpinus v. insignis,* *Fr.*
" maritimus,* *Lam.*
Cladium mariscoides, *Torr.* Root.
Rhynchospora capillacea, *Torr.*
Carex siccata, *Dew.* [ta.*
" gynocrates v. substamina-
" stellulata v. scirpoides, *Gr.*
" laxiflora v. blanda, *Gray.*
" varia, *Muhl.*
" pennsylvanica, *Lam.*
" arctata, *Boott.*
" tuckermani,* *Boott.*
" straminea v. tenera,* *Gr.*
Carex scoparia, *Schk.*
" emmonsii,* *Dew.*
" rosea v. radiata,* *Dew.*
" pauciflora, *Lightf.*
" vulpinoidea, *Michx.*
" lagopodioides, *Schk.*
" tentaculata v. gracilis, *Bt.*
" scirpoidea, *Michx.*
Brizopyrum spicatum, *H.* Root.
Eragrostis reptans, *Nees.*
" pectinacea, *Gray.*
" poæoides, *Beauv.*
Panicum clandestinum, *L.*
" depauperatum, *Muhl.*
" latifolium, *L.*
Calamagrostis canadensis, *Beauv*
Triticum repens, *L.* Root.

(Flowerless Plants — Cryptogamia.)

FERNS—*Filices.*

Woodwardia angustifolia. *Sm.*
Phegopteris hexagonoptera, *Fee.*
Pellæa gracilis, *H.*

MOSSES—*Musci.*

Sphagnum rigidum, *Schp.*
" sedoides, *Brid.*
" wulfianum,* *Angst.*
" girgensohnii,* *Russ.*
" laricinum,* *Lindbg.*
" lindenbergii, *Schp.*
" subsecundum v. contortum,* *Nees.*
" recurvum,* *Beauv.*
" squarrosum, *Pers.*
" cymbifolium v. congestum, *Bry. Eur.**
" acutifolium, *Ehrh.*
Andræa 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.*
Dicranum montanum, *Hedw.*
" rufescens, *Turn.*
" heteromallum, *Hedw.*
" flagellare, *Hedw.*
" elongatum, *Schwœgr.*
" longifolium, *Hedw.*
" spurium,* *Hedw.*
Paludella squarrosa,* *L.*
Fissidens osmundioides, *Hedw.*
Barbula fragilis,* *Wils.*
" mucronifolia, *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, *Scd.*
" anomalum, *Hedw.*
" strangulatum, *Beauv.*
" canadense, *Schp.*
" ludwigii, *Brid.*
" hutchinsiæ, *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.*
" drummondi, *Br. & Sch.*
Timmia megapolitana, *Hedw.*
Amblyodon dealbatus,* *Beauv.*
Bryum pallens, *Swartz.*
" bimum, *Schreb.*
" pyriforme, *Hedw.*
" pseudo-triquetrum, *Schgr.*
" nutans, *Schreb.*
Aulacomnion palustre, *Schwægr.*
Buxbaumia aphylla, *Haller.*
Fontinalis novæ-angliæ, *Sulliv.*
Leucodon brachypus, *Brid.*
Myurella careyana, *Sulliv.*
Pylaisæa velutina, *Schp.*
Aphanorhegma serrata, *Sulliv.*
Hypnum demissum, *Wils.*
" fluitans, *Hedw.*
" sendtneri, *Schp.*
" revolvens, *Swartz.*
" turfaceum,* *Lindbg.*
" pratense, *Koch.*
" radicale, *Brid.*
" orthocladon, *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, *Brch.*
" brevirostre, *Ehrh.*
" splendens, *Hedw.*
" scitum, *Beauv.*
" blandowii, *W. & M.*
" serpens, *L.*
Homalia jamesii,* *Schp.*
Plagiothecium piliferum v. brevipilum,* *Bry. Eur.*

LIVERWORTS—*Hepaticæ.*

Riccia sullivantii,* *Aust.*
Anthoceros lævis, *L.*
Marchantia polymorpha,* *L.*
Preissia commutata, *Nees.*
Duvalia rupestris, *Sulliv.*
Pellia epiphylla, *Nees.*
Grimaldia barbifrons,* *Raddi.*
Reboulia hemisphærica, *Raddi.*
Aneura palmata,* *Nees.*
Metzgeria pubescens,* *Raddi.*
" furcata,* *Nees.*
Geocalyx graveolens, *Nees.*
Plagiochila spinulosa,* *N. & M.*
" asplenioides,* "
Sphagnœcetis communis, *Nees.*
Jungermannia obtusifolia, *Hk.*
" trichophylla, *L.*
" setiformis,* *Ehrh.*
" curvifolia, *Dicks.*
" connivens, *Dicks.*
" catenulata, *Hub.*
" inflata, *Huds.*
" bicuspidata, *L.*
" divaricata,* *Sm.*
Frullania grayana, *Mont.*
" eboracensis, *Lehm.*
" hutchinsiæ,* *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.*
" cucullata, *Ach.*
" ciliaris, *Ach.*
" lacunosa, *Ach.*
" oakesiana, *Tuck.*
Solorina saccata, *Ach.*
Nephroma arcticum, *Fr.*
" tomentosum, *Kœrb.*
" tom. v. helveticum.
" lævigatum, *Ach.*
" læv. 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. entermorpha, *Tuck.*
Physcia stellaris, *Wallr.*
" " v. tribracia, *Fr.*
" cæsia v. angustior, *Fr.*
" obscura, *Nyl.*
" " v. erythrocordia, *Tk.*
" aquila v. detonsa, *Tk.*
" pulverulenta, *Fr.*
" speciosa, *Ach.*
Physcia speciosa v. leucomela.
Pyxine cocoes v. sorediata, *Tk.*
Theloschistes parietinus, *Norm.*
" par. v. polycarpus, *Fr.*
" chrysophthalmus.
Placodium rupestre, *Tuck.*
Placodium aurantiacum, *Lightf.*
" aur. v. flavovirescens, *Fr.*
Gyalecta lutea, *Tuck.*
Lecanora pallida, *Schær.*
" pallescens, *Schær.*
" tartarea, *Ach.*
" " v. frigida, *Ach.*
" subfusca, *Ach.*
" varia, *Ach.*
" cinerea, *Fr.*
" atra, *Ach.*
" muralis, *Schær.*
" elatina v. ochrophæa.
Lecidea contigua, *Fr.*
" " albocœrulescens.
" enteroleuca, *Fr.*
" sanguinaria, *Ach.*
Buellia parasema, *Kœrb.*
" myriocarpa, *Tuck.*
" petræa, *Tuck.*
" lactea, *Kœrb.*
Biatora atropurpurea, *Ach.*
" sanguineoatra, *Fr.*
" rufonigra, *Tuck.*
" viridescens, *Fr.*
" vernalis, *Fr.*
" chlorantha, *Tuck.*
Bæomyces æruginosus, *DC.*
Cladonia cæspiticia, *Flœrk.*
" pyxidata, *Fr.*
" " v. symphicarpa, *Fr.*
" gracilis, *Fr.*
" " v. hybrida, *Fr.*
" " v. elongata, *Fr.*
Cladonia gracilis v. taurica.
" degenerans, v. cariosa.
" fimbriata, *Fr.*
" " v. adspersa.
" squamosa, *Hoffm.*
" " v. delicata.
" furcata, *Flœrk.*
" " v. racemosa, *Flk.*
" " v. subulata, *Flk.*
" rangiferina, *Hoffm.*
" " v. alpestris.
" amaurocrea, *Flœrk.*
" uncialis, v. turgescens.
" mitrula, *Tuck.*
" cornucopioides, *Fr.*
" cristatella, *Tuck.*

Pilophorum fibula, *Tuck.*
Stereocaulon tomentosum, *Fr.*
" paschale, *Ach.*
Urceolaria scruposa, *Ach.*
Pannaria microphylla, *Mass.*
" lanuginosa, *Ach.*
Pertusaria pertusa, *Ach.*
" " v. areolata.
" velata, *Nyl.*
" " v. multipuncta.
" wulfenii, *Dec.*
" globularis, *Ach.*
Conotrema urceolatum, *Tuck.*
Pyrenula nitida, *Ach.*
Trypethelium virens, *Tuck.*
Graphis scripta, *Ach.*
Umbilicaria muhlenbergii, *Tk.*
" pustulata, v. papulosa.
" proboscidea, *DC.*
" hirsuta, *Ach.*
" dillenii, *Tuck.*
Collema flaccidum, *Ach.*
" ryssoleum, *Tuck.*
Leptogium tremelloides, *Fr.*
" lacerum, *Fr.*
" chloromelum, *Nyl.*
" saturninum, *Nyl.*

SEA-WEEDS—*Algæ.*

Chondria dasyphylla, *Ag.*
" baileyana, *Mont.*
" tenuissima, *Ag.*
Gelidium corneum, *Lamour.*
Polysiphonia subtilissima, *Mont.*
" olneyi, *Harv.*
" harveyi, *Bail.*
" variegata, *Ag.*
" nigrescens, *Grev.*
Bostrychia rivularis, *Harv.*
Dasya elegans, *Ag.*
Champia 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 brodiæi, *J. Ag.*
Anhfeltia plicata, *Fr.*
Chondrus crispus, *Lyngb.*
Chylocladia baileyana, *Harv.*
Spyridia filamentosa, *Harv.*
Ceramium rubrum, *Ag.*
" rub. v. decurrens.
" diaphanum, *Roth.*
" fastigiatum, *Harv.*
" arachnoideum, *Ag.*
Callithamnion baileyi, *Harv.*
" byssoideum, *Arn.*
Sargassum vulgare, *Ag.*
" montagnei, *Bail.*
Fucus nodosus, *L.*
" vesciculosus, *L.*
" scorpioides, *Fl. Dan.*
Laminaria fascia, *Ag.*
" saccharina, *Lamour.*
Desmarestia viridis, *Lamour.*
Stilophora rhizodes, *J. Ag.*
Dictyosiphon fœniculaceus, *Grv.*
Chordaria flagelliformis, *Ag.*
" divaricata, *Ag.*
Leathesia tuberiformis, *Gray.*
Ectocarpus viridis, *Harv.*
" littoralis, *Lyngb.*
Chorda filum, *Stack.*
Punctaria latifolia, *Grev.*
" tenuissima, *Grev.*
Bryopsis plumosa, *Lamour.*
Porphyra vulgaris, *Ag.*
Enteromorpha intestinalis, *Link.*
" compressa, *Grev.*
" clathrata, *Grev.*
Ulva latissima, *L.*
" linza, *L.*
Hormotrichum younganum, *Dw.*
Chætomorpha tortuosa, *Dw.*
" linum, *Kutz.*
Cladophora arcta, *Dw.*
" glaucescens, *Griff.*
" refracta, *Roth.*
" fracta, *Fl. Dan.*
" glomerata, *L.*
Rhizoclonium riparium, *Roth.*
Chætophora pisiformis, *Ag.*
" endiviæfolia, *Ag.*
Draparnaldia glomerata, *Ag.*
Batrachospermum moniliforme.
Nostoc commune, *Vauch.*

CHARACEÆ.

Nitella flexilis, *Ag.*
" mucronata v. flabellata.
" acuminata v. glomerulifera, *A. Br.*
Chara coronata, *Ziz.*
" fragilis, *Desv.*
" fœtida, *A. Br.*
" contraria, *A. Br.*

MUSHROOMS—*Fungi.*

Agaricus mappa, *Batsch.*
" rachodes, *Vitt.*
" melleus, *Vahl.*
" nebularis, *Batsch.*
" laccatus, *Scop.*
" radicatus, *Bull.*
" ochropurpureus, *Berk.*
" ostreatus, *Jacq.*
" salignus, *Pers.*
" petaloides, *Bull.*
" atrocœruleus, *Fr.*
" prunulus, *Scop.*
" polychrous, *Berk.*
" campestris, *L.*
" epixanthus, *Paul.*
" sphagnorum, *Pers.*
" orcella, *Bull.*
" curtisii, *Berk.*
Coprinus comatus, *Fr.*
" atramentarius, *Bull.*
" domesticus, *Pers.*
" plicatilis, *Curt.*
" ephemerus, *Fr.*
Hygrophorus cinnabarinus, *Fr.*
" conicus, *Fr.*
Lactarius torminosus, *Fr.*
" piperatus, *Fr.*
" indigo, *Fr.*
" volemus, *Fr.*
" chrysorheus, *Fr.*
" angustissimus.
Russula emetica, *Fr.*
" alutacea, *Fr.*
Cantharellus tubæformis, *Bull.*
" crispus, *Fr.*
Marasmius plancus, *Fr.*
" rotula, *Fr.*
Lentinus lecontei, *Fr.*
Panus stypticus, *Fr.*
Panus dorsalis, *Fr.*
Schizophyllum commune, *Fr.*
Lenzites betulina, *Fr.*
" sepiaria, *Fr.*
" bicolor, *Fr.*
Boletus elegans, *Fr.*
" bovinus, *L.*
" scaber, *Bull.*
" felleus, *Bull.*
Dædalea cinerea, *Fr.*
" confragosa, *Bolt.*
Glœoporus nigropurpurascens.
Polyporus ovinus, *Schæff.*
" tomentosus, *Fr.*
" perennis, *Fr.*
" boucheanus, *Fr.*
" elegans, *Fr.*
" lucidus, *Fr.*
" sulphureus, *Fr.*
" lacteus, *Fr.*
" gilvus, *Fr.*
" adustus, *Fr.*
" cerifluus, *B. & C.*
" resinosus, *Fr.*
" subfuscus, *Fr.?*
" applanatus, *Fr.*
" igniarius, *Fr.*
" scutellatus, *Fr.*
" carneus, *Nees.*
" cinnabarinus, *Fr.*
" biformis, *Kl.*
" hirsutus, *Fr.*
" hirsutulus, *Schw.*
" versicolor, *Fr.*
" abietinus, *Fr.*
" occidentalis, *Kl.*
" medulla-panis, *Fr.*
" laceratus, *Berk.*
" luridus, *B. & C.*
Merulius tremellosus, *Schrad.*
Fistulina hepatica, *Fr.*
Craterellus cornucopioides, *P.*
Thelephora pallida, *Schw.*
Hydnum repandum, *L.*
" suaveolens, *Scop.*
" gelatinosum, *Scop.*
" cirrhatum, *Pers.*
" coralloides, *Scop.*
Irpex tulipiferæ, *Schw.*
" deformis, *Fr.*

Irpex cinnamomeus, *Fr.*
Stereum fasciatum, *Fr.*
" complicatum, *Fr.*
" purpureum, *Pers.*
" spadiceum, *Fr.*
" ochraceo-flavum, *Schw.*
" bicolor, *Fr.*
" tabacinum, *Fr.*
Corticium oakesii, *B. & C.*
Clavaria botrytis, *Pers.*
" stricta, *Pers.*
" inæqualis, *Fr.*
Spathularia flavida, *Pers.*
Pistillaria muscicola, *Fr.*
Tremella aurantia, *Schw.*
Exidia auricula-judæ, *Fr.*
" glandulosa, *Fr.*
Lycoperdon gemmatum, *Batsch.*
" pyriforme, *Schæff.*
" calvescens, *B. & C.*
" wrightii, *B. & C.*
Bovista plumbea, *Pers.*
Scleroderma vulgare, *Fr.*
Geaster hygrometricus, *Pers.*
Lycogala epidendrum, *L.*
Æthalium septicum, *Fr.*
Diderma globosum, *Pers.*
" citrinum, *Fr.*
Didymium xanthopus, *Fr.*
Stemonitis ferruginea, *Ehrh.*
Dictydium microcarpum, *Shd.*
Cribraria purpurea, *Schrad.*
" intricata, *Schrad.*
Arcyria cinerea, *Fl. Dan.*
Trichia rubiformis, *Pers.*
" clavata, *Pers.*
Cyathus campanulatus, *Fr.*
Diplodia viticola, *Desm.*
Nemaspora crocea, *Pers.*
Myxosporium nitidum, *B. & C.*
Uredo solidaginis, *Schw.*
" luminata, *Schw.*
Uredo effusa, *Strauss.*
" leguminosarum, *Lk.*
" pyrolæ, *Strauss.*
Uromyces lespedezæ-violaceæ.
Ustilago maydis, *Corda.*
" urceolorum, *DC.*
" utriculosa, *Nees.*
Rœstelia lacerata, *Sow.*
Æcidium grossulariæ, *DC.*
" houstoniatum, *Schw.*
" sambuci, *Schw.*
" hydnoideum, *B. & C.*
Tubercularia vulgaris, *Tode.*
Polythrincium trifolii, *Kze.*
Morchella esculenta, *Pers.*
Geoglossum hirsutum, *Pers.*
Peziza macropus, *Pers.*
" scutellata, *L.*
" calycina, *Schum.*
" cyathoidea, *Bull.*
" agassizii, *B. & C.*
" citrina, *Batsch.*
Bulgaria sarcoides, *Fr.*
Dichæna faginea, *Fr.*
Rhytisma solidaginis, *Schw.*
" acerinum, *Fr.*
" decolorans, *Fr.*
" prini, *Fr.*
" punctatum, *Fr.*
Hysterium lineare, *Fr.*
Xylaria polymorpha, *Pers.*
" hypoxylon, *Ehrh.*
Hypocrea lactifluorum, *Schw.*
Hypoxylon ustulatum, *Bull.*
" cohærens, *Pers.*
" fragiforme, *Pers.*
Diatrype disciformis, *Fr.*
Valsa nivea, *Fr.*
Dèpazea brunnea, *B. & C.*
" cruenta, *Fr.*
Asterina gaultheriæ, *Curt.*
Eustilbum rehmianum, *Rabenh.*

C.

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.*
Actæa spicata var. alba, *Michx.*
Corydalis glauca, *Pursh.*
Cardamine hirsuta, *L.*
Arabis hirsuta, *Scop.*
" canadensis, *L.*
Polanisia graveolens, *Raf.*
Viola pedata, *L.*
" pubescens v. scabriuscula.
Helianthemum canadense, *Mx.*
Parnassia caroliniana, *Michx.*
Hypericum ellipticum, *Hook.*
" canadense, *L.*
" sarothra, *Michx.*
Elodea virginica, *Nutt.*
Silene stellata, *Ait.*
" noctiflora, *L.*
Lychnis githago, *Lam.*
Arenaria grœnlandica, *Spreng.*
" serpyllifolia, *L.*
Lechea major, *Michx.*
Lechea minor, *Lam.*
" thymifolia, *Pursh.*
Drosera rotundifolia, *L.*
Mollugo verticillata, *L.*
Portulaca oleracea, *L.*
Malva rotundifolia, *L.*
Abutilon avicennæ, *Gært.*
Linum usitatissimum, *L.*
Geranium maculatum, *L.*
Rhus toxicodendron, *L.*
Vitis cordifolia, *Michx.*
Rhamnus alnifolius, *L'Her.*
Ceanothus americanus, *L.*
Lupinus perennis, *L.*
Melilotus officinalis, *Willd.*
" alba, *Lam.*
Robinia pseudacacia, *L.*
Lespedeza violacea, *Pers.*
Lathyris palustris, *L.*
Amphicarpæa monoica, *Nutt.*
Medicago lupulina, *L.*
Baptisia tinctoria, *R. Br.*
Geum virginianum, *L.*
Prunus virginiana, *L.*
Agrimonia eupatoria, *L.*
Rubus odoratus, *L.*
" strigosus, *Michx.*
" occidentalis, *L.*
" villosus, *Ait.*
" canadensis, *L.*
Rosa rubiginosa, *L.*
Rhexia virginica, *L.*
Œnothera 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.*
Cornus canadensis, *L.*
" florida, *L.*
Lonicera 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.*
" artemisiæfolia, *L.*
Xanthium strumarium, *L.*

Helianthus giganteus, *L.*
" strumosus, *L.*
" decapetalus, *L.*
" divaricatus, *L.*
Bidens bipinnata, *L.*
Cirsium lanceolatum, *Scop.*
" discolor, *Spreng.*
" muticum, *Michx.*
Lappa major, *Gært.*
Krigia virginica, *Willd.*
Galinsoga parviflora, *Cav.*
Hieracium venosum, *L.*
" scabrum, *Michx.*
" gronovii, *L.*
" paniculatum, *L.*
Nabalus altissimus, *Hook.*
Taraxacum dens-leonis, *Desf.*
Lactuca canadensis, *L.*
Mulgedium leucophæum, *DC.*
Sonchus oleraceus, *L.*
Lobelia inflata, *L.*
Campanula rotundifolia, *L.*
Gaylussaccia resinosa, *T. & G.*
Vaccinium uliginosum, *L.*
Chiogenes 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 cœruleus, *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.*
Asclepias cornuti, *Decaisne.*
Phytolacca decandra, *L.*
Chenopodium album, *L.*
" glaucum, *L.*
" hybridum, *L.*
" urbicum, *L.*
Atriplex rosea, *L.*
" arenaria, *Nutt.*
Amarantus retroflexus, *L.*
Polygonum incarnatum, *Ell.*
" tenue, *Michx.*
" dumetorum, *L.*
" sagittatum, *L.*
" hydropiper, *L.*
" aviculare, *L.*
" persicaria, *L.*
Rumex verticillatus, *L.*
Lindera benzoin, *Meisner.*
Euphorbia polygonifolia, *L.*
Euphorbia platyphylla, *L.*
Empetrum nigrum, *L.*
Urtica urens, *L.*
Bœhmeria cylindrica, *Willd.*
Myrica gale, *L.*
" cerifera, *L.*
Comptonia asplenifolia, *Ait.*
Betula lenta, *L.*
" papyracea, *Ait.*
" alba v. populifolia, *Sph.*
Alnus viridis, *DC.*
" serrulata, *Ait.*
Pinus rigida, *Miller.*
Abies nigra, *Poir.*
Sparganium simplex, *Huds.*
Naias flexilis, *Rostk.*
Potamogeton claytonii, *Tuck.*
" oakesianus, *Robb.*
Scheuchzeria palustris, *L.*
Sagittaria variabilis, *Engelm.*
Corallorhiza multiflora, *Nutt.*
Sisyrinchium bermudiana, *L.*
Smilax glauca, *Walt.*
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, *Willd.*
" articulatus, *L.*
" alpinus v. insignis, *Fr.*
" nodosus, *L.*
" canadensis, *J. Gay.*
Cyperus michauxianus, *Schultes.*
" grayii, *Torr.*
" filiculmis, *Vahl.*
" nuttallii, *Torr.*
Eleocharis obtusa, *Schultes.*
Scirpus pauciflorus, *Light.*
" pungens, *Vahl.*
" planifolius, *Muhl.*
Eriophorum alpinum, *L.*
" polystachyon, *L.*
Rhynchospora glomerata, *Vahl.*
Carex pauciflora, *Light.*
" siccata, *Dew.*
" teretiuscula, *Good.*
" vulpinoidea, *Michx.*
" rosea var. radiata, *Dew.*
Carex chordorhiza, *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.*
" arctata, *Boott.*
" extensa, *Good.*
" filiformis, *L.*
" vestita, *Willd*
" tentaculata v. gracilis.
" intumescens, *Rudge.*
" folliculata, *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 telephioides, *Michx.*
Rosa rubiginosa, *L.*
Vallisneria spiralis, *L.*
Rumex orbiculatus, *Gray.*
Carex gynandra, *Schw.*

Carex extensa, *Good.*
" alata, *Torr.*
" intumescens, *Rudge.*
" retrorsa v. hartii, *Gray.*
" tuckermani, *Boott.*
" retroflexa, *Muhl.*
" stricta v. xerocarpa, *Gray.*

From E. L. HANKENSON, *Newark.*

Rosa setigera, *Michx.*
Vaccaria vulgaris, *Host.*
Scirpus pauciflorus, *Lightf.*
" smithii, *Gray.*
Nymphæa tuberosa, *Paine.*
Atriplex patula v. littoralis, *Gray.*
Polygonum incarnatum, *Ell.*
Potentilla paradoxa, *Nutt.*
Calendula officinalis, *L.*

From G. B. BRAINERD, *Brooklyn.* (Algæ 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.*
" byssoideum, *Arn.*
" americanum, *Harv.* 2 specimens.
Griffithsia corallina v. tenuis, *Harv.*
Cystoclonium purpurascens, *Kutz.*
Cladostephus spongiosus, *Ag.*
Asperococcus echinatus, *Grev.*
Dictyosiphon foeniculaceus, *Grev.*
Mesogloia vermicularis, *Ag.* ?
Fucus ceranoides, *Ag.*
Sargassum bacciferum, *Ag.*
Punctaria tenuissima, *Grev.* 2 specimens.
Chætophora pisiformis, *Ag.*

From C. F. AUSTIN, *Closter, N. J.*

Cynosurus cristatus, *L.*
Danthonia compressa, *Aust.*
Dicranum schreberi, *Hedw.*
Barbula fallax, *Bry. Eur.*
Fissidens exiguus, *Sulliv.*
Homalia jamesii, *Schp.*
Leskea nervosa, *Schwægr.*

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.*

Lunularia vulgaris, *Mich.*

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

Carex tuckermani, *Boott.*
" sparganioides, *Muhl.*
" stellulata v. scirpoides, *Gray.*
" vulpinoidea, *Michx.*
" scoparia, *Schk.*
" lagopodioides, *Schk.*
" cephalophora, *Muhl.*
" hystricina, *Willd.*
" lupulina, *Muhl.*
" retrocurva, *Dew.*
" irrigua, *Sm.*
Fimbristylis capillaris, *Gray.*
Cyperus grayii, *Torr.* Var.
Asplenium ebeneum, *Ait.* Var.
Onoclea sensibilis, *L.* Var. near obtusilobata, *Torr.*
Isoetes echinospora v. braunii, *Engelm.*
Anacamptodon splachnoides, *Brid.*
Hypnum nitens, *Schreb.* Var.
Agaricus mappa, *Batsch.*
" procerus, *Scop.*
" rachodes, *Vitt.*
" cristatus, *Bolt.*
" melleus, *Vahl.*
" laccatus, *Scop.*
" radicatus, *Bull.*
" velutipes, *Curt.*
" ochropurpureus, *Berk.*
" epipterygius, *Scop.*
" ostreatus, *Jacq.*
" salignus, *Pers.*
" semiorbicularis, *Bull.*

Agaricus semicaptus, *B. & C.*
" atrocœruleus, *Fr.*
" applicatus, *Batsch.*
" curtisii, *Berk.*
" polychrous, *Berk.*
" campestris, *L.*
" arvensis, *Schæff.*
" cretaceus, *Fr.*
" sublateritius, *Schæff.*
" 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 tubæformis, *Bull.*
" albidus, *Fr. ?*
" crispus, *Fr.*
Marasmius plancus, *Fr.*
" rotula, *Fr.*
Panus stypticus, *Fr.*
Schizophyllum commune, *Fr.*
Lenzites betulina, *Fr.*
" sepiaria, *Fr.*
" cratægi, *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.*
" carneus, *Nees.*
" cinnabarinus, *Fr.*
" radiatus, *Fr.*
" hirsutus, *Fr.*
" versicolor, *Fr.*
" abietinus, *Fr.*

Polyporus sullivantii, *Mont.*
" virgineus, *Schw.*
" medulla-panis.
" vaporarius, *Fr.*
" elegans, *Fr.*
" lepideus, *Fr.*
" scutellatus, *Schw.*
" laceratus, *Berk.*
" adustus, *Fr.*
Merulius tremellosus, *Schrad.*
Dædalea confragosa, *Bolt.*
Glœoporus nigropurpurascens, *Schw.*
Fistulina hepatica, *Fr.*
Hydnum repandum, *L.*
" ochraceum, *Pers.*
" himantia, *Schw.*
" mucidum, *Pers.*
" adustum, *Schw.*
" læticolor, *B. & C.*
Irpex tulipiferæ, *Schw.*
" cinnamomeus, *Fr.*
Thelephora terrestris, *Ehrh.*
" pallida, *Schw.*
Stereum striatum, *Fr.*
" complicatum, *Fr.*
" purpureum, *Pers.*
" hirsutum, *Fr.*
" rubiginosum, *Schrad.*
" imbricatulum, *Schw.*
" frustulosum, *Fr.*
" acerinum, *Fr.*
Corticium oakesii, *B. & C.*
" ochroleucum, *Fr.*
" cinereum, *Fr.*
" scutellatum. *B. & C.*
Cyphella capula, *Fr.*
" muscicola, *Fr.*
Clavaria inæqualis, *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, *Bosc.*
Geaster hygrometricus, *Pers.*
Lycogala epidendrum, *L.*

Æthalium septicum, *Fr.*
Physarum nutans, *Pers.*
Stemonitis ferruginea, *Ehrh.*
Dictydium microcarpum, *Schrad.*
Trichia clavata, *Pers.*
" turbinata, *With.*
Cyathus crucibulum, *Pers.*
Sphærobolus stellatus, *Tode.*
Mycrothyrium microscopicum, *Desm.*
Diplodia viticola, *Desm.*
Sphæropsis insignis, *B. & C.*
Vermicularia liliaceorum, *Schw.*
Septoria herbarum, *B. & C.*
Stilbospora ovata, *Pers.*
" pyriformis, *Hoffm.*
Cytispora rubescens, *Fr.*
" leucosperma, *Fr.*
Nemaspora crocea, *Pers.*
Myxosporium nitidum, *B. & C.*
Torula herbarum, *Pers.*
Septonema spilomeum, *Berk.*
Puccinia aculeata, *Schw.*
" graminis, *DC.*
" solida, *Schw.*
" waldsteiniæ, *Curt.*
" junci, *Schw.*
" investita, *Schw.*
Uredo rubigo, *DC.*
" caricina, *DC.*
" epitea, *Kze,*
" polygonorum, *DC.*
" solidaginis, *Schw.*
" cylindriça, *Strauss.*
" potentillæ, *DC.*
" ruborum, *DC.*
" luminata, *Schw.*
" effusa, *Strauss.*
" pyrolæ, *Strauss.*
" saliceti, *Schl.*
" violarum, *DC.*
Uromyces lespedezæ-violaceæ, *Schw*
" lespedezæ-procumbentis, *Schw.*
" hyperici, *Schw.*
" apiculosa, *Lev.*
Ustilago segetum, *Pers.*
" junci, *Schw.*
Æcidium compositarum, *Mart.*
" gnaphaliatum, *Schw.*
" hydnoideum, *B. & C.*
Cystopus candidus, *Lev.*

Epicoccum micropus, *Corda.*
Tubercularia vulgaris, *Tode.*
" granulata, *Pers.*
Sporocybe calicioides, *Fr.*
Helminthosporium macrocarpon, *Grev.*
Podosporium rigidum, *Schw.*
Polythrincium trifolii, *Kze.*
Cladosporium herbarum, *Lk.*
Penicillium crustaceum, *Fr.*
Helvella esculenta, *L.*
Geoglossum hirsutum, *Pers.*
" difforme, *Fr.*
Peziza translucida, *B. & C.*
" viticola, *Pers.*
" sanguinea, *Pers.*
" lenticularis, *Fr.*
" citrina, *Batsch.*
" herbarum, *Pers.*
" 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.*
Dichæna faginea, *Fr.*
Rhytisma solidaginis, *Schw.*
" vaccinii, *Fr.*
" acerinum, *Fr.*
" punctatum, *Fr.*
" salicinum, *Fr.*
" blakei, *Curt.*
Phacidium coronatum, *Fr.*
" crustaceum, *B. & C.*
Hysterium elongatum, *Wahl.*
" hiascens, *B. & C.*
" lineare, *Fr.*
" pinastri, *Schrad.*
Xylaria polymorpha, *Pers.*
" hypoxylon, *Ehrh.*
Hypocrea lactifluorum, *Schw.*
" citrina, *Pers.*
" rufa, *Pers.*
" richardsonii, *B. & M.*

Hypoxylon ustulatum, *Bull.*
" mummularium, *Bull.*
" clypeus, *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-pyrius, *Pers.*
" myriocarpa, *Fr.*
" papilla, *Schw.*
" pertusa, *Pers.*
" fissurarum, *B. & C.*
" saubineti, *Mont.*
" picea, *Pers.*
" rostrata, *Fr.*
" ulmea, *Schw.*
" lespedezæ, *Schw.*
" limæformis, *Schw.*
" aculeata, *Schw.*
" acuminata, *Sow.*
" nigrella, *Fr.*
" verbascicola, *Schw.*
" potentillæ, *Schw.*
" punctiformis, *Pers.*
" fusca, *Pers.* Var.
" disciformis, *Hoffm.*
" coryli, *Batsch.*
" fimbriata, *Pers.*
" quercina, *Pers.*
" epidermidis v. microscopica, *Desm.*
" desmazierii, *B. & Br.*
" nivea, *Hoffm.*
" sordaria, *Fr.*
Dothidea omans, *Schw.*
Erysiphe communis, *Schl.*
" ceanothi, *Schw.*
Phyllactinia guttata, *Lev.*
Asterina gaultheriæ, *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.*
" melleus, *Vahl.*
" personatus, *Fr.*
" nebularis, *Batsch.*
" radicatus, *Bull.*
" ostreatus, *Jacq.*
" salignus, *Pers.*
" prunulus, *Scop.*
" campestris, *L.*
" arvensis, *Schæff.*
" 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, *Schæff.*
" giganteus, *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.*

F.

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 cæspitose, 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 nerved, 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 papillæ.

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 glaucous 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 congeners, in view of which a name has been given indicative of its supposed past treatment.

Calendula officinalis, *L.*

Newark, Wayne county. E. L. Hankenson. A garden scape.

Vaccinium cæspitosum, *Michx.*

Summit of Mt. Whiteface, Essex county.

Lamium album, *L.*

Roadsides, Herkimer county. B. D. Gilbert. Introduced.

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, *Gært.* (*Fagotriticum sibiricum, L.*)

Escaped from cultivation to roadsides 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. Rœmerianus*, 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.*

Woods. Danube, Herkimer county, July, 1868. C. F. Austin. Rare.

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 cinerescent.

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 Charæ so abundant as in the southern towns of Herkimer county.

MUSCI.

SPHAGNUM GIRGENSOHNII, *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 dicœcious. A form occurs on the moist rocks of the Adirondack Mountains not unlike *S. teres* in general appearance.

SPHAGNUM WULFIANUM, *Girgen.*

Knolls and slight elevations in sphagnous swamps. Moreau, Saratoga county. E. C. Howe. Sandlake. Sterile.

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, *Beauv.*

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, *Lindbg.*

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.*

Swamps. Arcadia, Wayne county. Hankenson. Warren, Herkimer county. Sterile. Found in British America by Drummond. A very pretty moss—the bright green, recurved-squarrose leaves contrasting beautifully with the dense reddish brown radicular tomentum.

AMPHORIDIUM PECKII, *sp. nov.*

"Plantæ subunciales, compacte cæspitosæ, superne flavidulo-virides, inferne rufescentes, tomento radiculari arcte intertextæ. Caulis innovando fastigiato-ramosus. Folia conferta 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 subapicem finiente; areolatione densa guttulata, cellulis basis mediæ oblongis margines versus minoribus quadratis. Flores masculi numerosi, singuli vel aggregati, axillares; antheridiis 5–7, paraphysatis; perigonialibus interioribus superne serrulatis. Flores feminei 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 areolated, 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 th 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.

HOMALIA GRACILIS, *James in lit. Sp. nov.*

Stems slender, irregularly subpinnately branched, prostrate or ascending, bright shining green; branches unequal, more or less

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. P. James, who has given the very appropriate specific name under which it is here described.

HYPNUM SCORPIOIDES, *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 TURFACEUM, *Lindbg.*

Ground and old logs in woods. Fort Edward, E. C. Howe. Warwick Mountains, C. F. Austin. Helderberg Mountains.

A species closely resembling *P. muhlenbeckii*, 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 Europ.*

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 laciniæ 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 $\frac{1}{500}$ of an inch in diameter.

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

JUNGERMANNIA SETIFORMIS, *Ehrh.*

Rocks. Top of Mt. McIntyre.

JUNGERMANIA DIVARICATA, *Eng. Bot.*

On mosses. Catskill and Adirondack Mountains.

Radula pallens, *Nees.*

Shaded rocks. Catskill Mountains. Sterile. Not common.

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.*

Trees in mountain woods. Adirondack Mountains. Sterile.

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 FURFURACEA var. CLADONIA, *Tuck.*

Trees. Catskill and Adirondack Mountains. Sterile.

RAMALINA CALICARIS var. FASTIGIATA, *Fr.*

Trunks and branches of trees, shrubs and old fences. Very common.

RAMALINA CALICARIS 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.

NEPHROMA ARCTICUM, *Fr.*

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

NEPHROMA TOMENTOSUM, *Kœrb.*

Granite rocks and boulders. Sandlake.

NEPHROMA HELVETICUM, *Ach.*

Rocks. Sandlake and Catskill Mountains.

NEPHROMA LÆVIGATUM, *Ach.*

Granite rocks. Sandlake and Adirondack Mountains.

NEPHROMA LÆVIGATUM var. PAPYRACEUM, *Schaer.*

Trees in swamps. Near Jordanville, Herkimer county.

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.

STICTA SYLVATICA, *Ach.*

Red sandstone rocks among mosses. Catskill Mountains. Sterile. 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.*

Trees. Sandlake. Sterile.

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.*

Trees. Sandlake. Sterile.

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.

Theloschistes chrysophthalmus, *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. tribracia, *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.*
Rocks. Catskill Mountains. Sterile.

Physcia speciosa, *Ach.*
Trunks of trees. Jordanville.

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

Physcia cæsia var. angustior, *Fr.*
Rocks. Catskill Mountains.

Physcia obscura, *Nyl.*
Trunks of trees in woods. Sandlake.

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

Pyxine cocoes 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 CINNABARINUM, *Anz.*
Fort Edward. Howe.

PLACODIUM RUPESTRE, *Tuck.*
Rocks. Helderberg Mountains.

LECANORA PALLESCENS, *Schær.*
Trunks of trees. Common.

LECANORA PALLIDA, *Schær.*
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 SUBFUSCA, *Ach.*
Trunks of trees in woods. Very common and quite variable in appearance.

LECANORA VARIA, *Ach.*
Trees and old fences. Common.

LECANORA ELATINA var. OCHROPHÆA, *Tuck.*
Trunks of balsam firs in mountain woods. Mt. Whiteface.

LECANORA MURALIS, *Schær.* (*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.

URCEOLARIA SCRUPOSA, *Ach.*
Rocks. Common.

GYALECTA LUTEA, *Tuck.*
Trees. Jordanville.

LECIDEA CONTIGUA, *Fr.*
Rocks. Common.

LECIDEA CONTIGUA var. ALBO-CŒRULESCENS, *Nyl.*
Rocks. Bethlehem. Less common.

LECIDEA ENTEROLEUCA, *Fr.*
Trunks of trees. Catskill Mountains.

LECIDEA SANGUINARIA, *Ach.*
Balsam firs. Mt. Whiteface.

BUELLIA PARASEMA, *Kœrb.*
Trunks of trees in woods. Very common.

BUELLIA LACTEA, *Kœrb.*
Rocks. Bethlehem.

BUELLIA PETRÆA, *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.*

Trees. Fort Edward. Howe.

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.*

Rocks. North Elba.

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.*

Rocks. North Greenbush.

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.*
Ground. Bethlehem and Adirondack Mountains.
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.*
Trees. Fort Edward. Howe.

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 VIRENS, *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 CHLOROMELUM, *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 MONTAGNEI, *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 rejectamenta of the sea, as fertilizers of the soil.

FUCUS CERANOIDES, *L.*

Bay Ridge, L. Is. Brainerd. The specimens are sterile, and the species must remain, to some extent, in doubt.

FUCUS SCORPIOIDES, *Fl. Dan.*

Left by the tide. Fort Hamilton and Canarsie Bay.

CLADOSTEPHUS SPONGIOSUS, *Ag.*

Floating. Orient Point. Brainerd. October.

ASPEROCOCCUS ECHINATUS, *Grev.*

Stones between tide marks. Flushing. Brainerd. May.

DICTYOSIPHON FŒNICULACEUS, *Grev.*

Canarsie Bay. Brainerd. June.

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 algæ that may be placed in a vessel with it.

CHORDARIA FLAGELLIFORMIS, *Ag.*

Thrown up by the tide. Orient Point. September.

CHORDARIA DIVARICATA, *Ag.*

On *Leathesia tuberiformis* and other seaweeds. Coney Island. June.

MESOGLOIA VERMICULARIS, *Ag.?*

Ground between tide marks. Canarsie Bay. Brainerd. July. Though apparently this species, a cross section of the frond reveals the structure of Chordaria.

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.*

Peconic Bay. Greenport. Mrs. M. A. Bush. September.

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.*

Floating. Greenport. September.

CHONDRIA BAILEYANA, *Mont.*

Stones near low-water mark. Fort Hamilton. September.

CHONDRIA TENUISSIMA, *Ag.*

Floating. College Point. September. Fort Hamilton. F. Lowry.

GELIDIUM CORNEUM, *Lamour.*

Rocks. Fort Hamilton. September.

POLYSIPHONIA FORMOSA, *Suhr.*

Floating. Flushing, Bay Ridge and Red Hook. Brainerd. February, April and May.

POLYSIPHONIA SUBTILISSIMA, *Mont.*

On Zostera, old shells, etc. Greenport. September.

POLYSIPHONIA OLNEYI, *Harv.*

Floating. Bay Ridge. September. Greenport. Mrs. Bush.

POLYSIPHONIA HARVEYI, *Bail.*

Floating. Abundant at Greenport. September.

POLYSIPHONIA FIBRILLOSA, *Grev.*

Greenport. Mrs. Bush. September.

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*

Rockaway Inlet and New York Harbor. Brainerd. College Point. June. A variable species.

POLYSIPHONIA FASTIGIATA, *Grev.*

Floating. Bompres Hook. Brainerd. June.

BOTRYCHIA RIVULARIS, *Harv.*

Rocks near high-water mark. College Point and Astoria. September.

CYSTOCLONIUM PURPURASCENS, *Kutz.*

Floating. Flushing. Brainerd. July.

DASYA ELEGANS, *Ag.*

Stones, woodwork, etc. Fort Hamilton, Orient. Peconic bay, Mrs. Bush. New York Bay, Brainerd. September. A most beautiful but variable species.

CHAMPIA PARVULA, *Harv.*

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

CORALLINA OFFICINALIS, *L.*

Floating. Orient. September.

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 BRODIÆI, *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.*

On Zostera, etc. Greenport. September. Glencove. Brainerd.

SPYRIDIA FILAMENTOSA, *Harv.*

Zostera and shells. Greenport. September. Glencove. Brainerd. August.

RHODOMELA ROCHEI, *Harv.*

Floating. College Point. Brainerd. April.

CERAMIUM RUBRUM, *Ag.*

Attached to Fuci. Common and extremely variable. Bay Ridge, Astoria, Orient, &c.

CERAMIUM DIAPHANUM, *Roth.*

Small stones and seaweeds near low-water mark. Fort Hamilton, Bay Ridge, Canarsie Bay. Common. September.

CERAMIUM FASTIGIATUM, *Harv.*

Floating. Astoria. September.

CERAMIUM ARACHNOIDEUM, *Ag.*

Floating. Greenport. September.

GRIFFITHSIA CORALLINA var. TENUIS, *Harv.*

Greenport. Mrs. Bush. Glencove. Brainerd. August.

CALLITHAMNION BAILEYI, *Harv.*

On seaweeds. Orient. September.

CALLITHAMNION BYSSOIDEUM, *Arn.*

Floating. Bay Ridge and Astoria. Attached to wood work. Long dock, Brooklyn. September.

CALLITHAMNION CORYMBOSUM, *Ag.*

Floating. Flushing. Brainerd. August. Peconic Bay. Mrs. Bush.

CALLITHAMNION AMERICANUM, *Harv.*

Floating. College Point. Brainerd. April.

CALLITHAMNION SEIROSPERMUM, *Griff.* (*Seirospora griffithsiana*, HRV.

Peconic Bay, Mrs. Bush.

BRYOPSIS PLUMOSA, *Lamour.*

Floating. Astoria. September.

PORPHYRA VULGARIS, *Ag.*

Under side of rocks. College Point and Bay Ridge. September. Floating at Fort Hamilton. June. Peconic Bay. Mrs. Bush. Common and variable.

ULVA LATISSIMA, *Lin.*

Rocks. Extremely abundant on all our rocky coasts.

ULVA LINZA, *L.*

Floating. Coney Island.

ENTEROMORPHA INTESTINALIS, *Link.*

Rocks. Fort Hamilton.

Enteromorpha compressa, *Grev.*

Rocks. Bay Ridge and Fort Hamilton. Floating at Coney Island. Common.

Enteromorpha clathrata, *Grev.*

Muddy or sandy shores. Canarsie Bay and Coney Island.

Hormotrichum younganum, *Dillw.*

Rocks. Fort Hamilton. June.

Chætomorpha tortuosa, *Dillw.*

Rocks. Bay Ridge. September.

Chætomorpha 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.*

New York Harbor. Brainerd.

Cladophora glaucescens, *Griff.*

Coney Island.

Rhizoclonium riparium, *Roth.*

Wood-work of docks. Greenport.

Chætophora pisiformis, *Ag.*

Attached to sticks and grass in fresh water. Greenwood. Brainerd. Guilderland, Albany county; also near Canarsie. Probably common in the State. June.

CHÆTOPHORA ENDIVLÆFOLIA, *Ag.*

On sticks in fresh water. Litchfield, Herkimer county. July.

DRAPARNALDIA GLOMERATA, *Ag.*

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

BATRACHOSPERMUM MONILIFORME, *Roth.*

In still or slow-flowing fresh water. Fort Edward. Howe. Sandlake. July.

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.*

Woods and fields. Common. Sept., Oct.

AGARICUS PROCERUS, *Scop.*

Woods and fields. Fort Edward. Howe. Aug., Sept. An edible species.

AGARICUS RACHODES, *Vitt.*

Rotting stumps. Fort Edward. Howe. Roadsides. Wynantskill, Rens. county. Aug. A pretty species. Edible.

AGARICUS CRISTATUS, *Bolt.*

Woods. Fort Edward. Howe.

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.*

About logs and stumps. Fort Edward. Howe. Autumn. Edible.

Agaricus nebularis, *Batsch.*

Woods. Fort Edward. Howe. North Greenbush. Edible.

Agaricus laccatus, *Scop.*

Damp thickets and woods. Poestenkill. Howe. Bethlehem. Summer and Autumn.

Agaricus radicatus, *Bull.*

Woods. Summer and autumn. Common. Edible.

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.*

Decayed wood. Fort Edward. Howe. Autumn and Spring.

Agaricus ochropurpureus, *Berk.*

Woods. Fort Edward. Howe. Bethlehem and North Elba.

Agaricus galericulatus, *Scop.*

Humid earth. Fort Edward. Howe. Autumn.

Agaricus epipterygius, *Scop.*

Old wood. Fort Edward. Howe. Autumn.

Agaricus campanella, *Batsch.*

Rotting wood. Fort Edward. Howe.

Agaricus ostreatus, *Jacq.*

Old logs and dead trees. Fort Edward. Howe. Abundant on the Catskill Mountains. Autumn. Edible.

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.*

Dead trees, old logs and stumps. Common. Summer and autumn. Edible.

Agaricus petaloides, *Bull.*

Old logs and stumps, especially in damp, shaded places. Fort Edward. Howe. Catskill and Adirondack Mountains. Summer and autumn.

Agaricus atrocœruleus, *Fr.*

Bark of old trunks. Fort Edward. Howe. Underside of fence rails. Helderberg Mountains. Summer and autumn.

AGARICUS APPLICATUS, *Batsch.*

Old bark in woods. Fort Edward. Howe.

AGARICUS SEMI-CAPTUS, *B. & C.*

Subterranean sticks. Fort Edward. Howe. A pretty little species, but rare.

AGARICUS CURTISII, *Berk.*

Old boards and saw-dust. Fort Edward. Howe. Autumn.

AGARICUS PRUNULUS, *Scop.*

Woods. Fort Edward. Howe. Bethlehem. Autumn. Edible.

AGARICUS POLYCHROUS, *Berk.*

Decaying wood, etc. Fort Edward. Howe. Bethlehem and Helderberg Mountains. Autumn.

AGARICUS SEMIORBICULARIS, *Bull.*

Fields and woods. Fort Edward. Howe. Summer.

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, *Schæff.*

Fields. Fort Edward. Howe. Summer and autumn. Edible.

AGARICUS CRETACEUS, *Fr.*

Fields. Fort Edward. Howe. September. Edible.

AGARICUS SUBLATERITIUS, *Schæff.*

Woods. Fort Edward. Howe. Summer and autumn.

AGARICUS EPIXANTHUS, *Paul.*

Woods. Fort Edward. Howe. Helderberg Mountains. Summer and autumn.

Agaricus orcella, *Bull.*

Woods and base of stumps in open fields. Fort Edward. Howe. September. Edible.

Agaricus subinvolutus, *Batsch.*

Woods. Poestenkill. Howe. Summer.

Agaricus clypeatus, *L.*

Woods. Fort Edward. Howe. Summer and autumn.

Agaricus sphagnorum, *Pers.*

Among Sphagnum in marshes. Sandlake.

Coprinus comatus, *Fr.*

Rich ground, roadsides and barn yards. Bethlehem. September. Edible.

Coprinus atramentarius, *Bull.*

Manured grounds. Sandlake. Summer. Edible.

This and other allied species, by the deliquescence of the lamellæ, furnish a fluid which may be used as ink.

Coprinus domesticus, *Pers.*

Streets and yards of Albany. Spring and summer.

Coprinus plicatilis, *Curt.*

Manure. Fort Edward. Howe. Sandlake. Summer.

Paxillus atro-tomentosus, *Fr.*

Rotten logs in woods. Moreau, Saratoga county. Howe. July, October.

Hygrophorus cinnabarinus, *Fr.*

Woods. Poestenkill. Howe. Sandlake. July, September.

Hygrophorus conicus, *Fr.*

Swampy or shaded places. Poestenkill. Howe. Bethlehem and North Elba. Summer. A pretty species, but it turns black in drying.

Hygrophorus ceraceus, *Fr.*

Humid ground. Poestenkill. Howe. August.

Lactarius torminosus, *Fr.*

Woods. Poestenkill. Howe. July, September.

LACTARIUS PIPERATUS, *Fr.*

Woods. Poestenkill. Howe. North Elba. July, September. Edible.

LACTARIUS INDIGO, *Fr.*

Woods. Poestenkill. Howe. Bethlehem. August, October.

LACTARIUS ANGUSTISSIMUS, *Lasch.*

Woods. Poestenkill. Howe. Sandlake. July, September. Edible.

LACTARIUS VOLEMUS.

Woods and open places. Sandlake. August. Edible.

LACTARIUS SUBTOMENTOSUS, *B. & R.*

Wet swampy woods. Poestenkill. Howe. Summer.

LACTARIUS FULIGINOSUS, *Fr.* Woods. Poestenkill. Howe. Summer.

RUSSULA EMETICA, *Fr.*

Woods. Fort Edward. Howe. Bethlehem and North Elba. Summer. A beautiful but deleterious fungus.

RUSSULA ALUTACEA, *Fr.*

Woods. Poestenkill. Howe. Summer. Edible.

CANTHARELLUS TUBÆFORMIS, *Bull.*

Ground in woods. Fort Edward. Howe. Helderberg Mountains. September.

CANTHARELLUS CRISPUS, *Fr.*

Old logs and sticks. Fort Edward. Howe. Catskill Mountains. Summer and autumn.

MARASMIUS OREADES, *Fr.*

Hedges, orchards, etc. Fort Edward. Howe. August–October. Edible.

MARASMIUS PLANCUS, *Fr.*

Dead leaves and sticks in woods. Common. Summer.

MARASMIUS ROTULA, *Fr.*

Sticks and leaves in woods. Common. Summer.

LENTINUS LECONTEI, *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.*
Logs and wooden fences. Fort Edward. Howe. Sandlake and Catskill Mountains.

LENZITES CRATÆGI, *Berk.*
Dead trunks. Fort Edward. Howe.

LENZITES BICOLOR, *Fr.*
Old stumps. Fort Edward. Howe.

BOLETUS ELEGANS, *Fr.*
Woods. Near Port Kent and Bethlehem. August, September. Edible.

BOLETUS GRANULATUS, *L.*
Ground both open and shaded. Fort Edward. Howe. August. Edible.

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

BOLETUS SCABER, *Bull.*
Ground in open woods. Sandlake and North Elba. Summer. Edible.

BOLETUS FELLEUS, *Bull.*
Ground in both open and shaded places. Fort Edward. Howe. August.

POLYPORUS OVINUS, *Schæff.*
Ground in pine woods. Bethlehem. September. Edible.

POLYPORUS BRUMALIS, *Fr.*

Dead wood. Fort Edward. Howe.

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.*

Sticks and old logs. Fort Edward. Howe. Catskill Mountains.

POLYPORUS ELEGANS, *Fr.*

Dead wood and logs in woods. Fort Edward. Howe. North Elba.

POLYPORUS LUCIDUS, *Fr.*

Old logs, stumps and roots. Common.

POLYPORUS GIGANTEUS, *Fr.*

Base of hemlocks. Fort Edward. Howe. September. Edible.

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.*

Old stumps. Fort Edward. Howe. Catskill Mountains.

POLYPORUS GILVUS, *Fr.*

Trunks of trees. Sandlake.

POLYPORUS ADUSTUS, *Fr.*

Old stumps and branches. Fort Edward. Howe. North Elba.

POLYPORUS LABYRINTHICUS, *Fr.*

Dead pine trunks. Troy. Howe.

Polyporus cerifluus, *B. & C.*
Base of trees and old logs in woods. Adirondack Mountains.

Polyporus resinosus, *Fr.*
Stumps and trunks of trees. Troy. Howe. Helderberg Mountains.

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

Polyporus fomentarius, *Fr.*
Stumps, trunks and old logs. Common.

Polyporus igniarius, *Fr.*
Trunks of trees. Fort Edward. Howe. North Elba.

Polyporus scutellatus, *Schw.*
Dead bark. Fort Edward. Howe. Dead alders. North Elba.

Polyporus subfuscus, *Fr.*
Trunks and logs. Fort Edward. Howe.

Polyporus carolinensis, *B. & C.*
Stumps in woods. Fort Edward. Howe.

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

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

Polyporus radiatus, *Fr.*
Trunks and branches of trees. Fort Edward. Howe.

Polyporus biformis, *Kl.*
Old logs. Catskill Mountains.

Polyporus hirsutus, *Fr.*
Trees, stumps, etc. Very common.

Polyporus 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.*

Bark of pines and hemlocks. Moreau. Howe. Catskill Mountains.

POLYPORUS SULLIVANTII, *Mont.*

Branches of trees and ends of cut wood. Moreau. Howe.

POLYPORUS VIRGINEUS, *Schw.*

Branches of trees. Moreau. Howe.

POLYPORUS OCCIDENTALIS, *Kl.* Old logs, Sandlake.

POLYPORUS MEDULLA-PANIS, *Fr.*

Old stumps, logs and fences. Fort Edward. Howe. Van Hornesville.

POLYPORUS VAPORARIUS, *Fr.*

Dead trees. Moreau. Howe.

DÆDALEA CINEREA, *Fr.*

Old logs. Fort Edward. Howe. Catskill Mountains..

DÆDALEA CONFRAGOSA, *Bolt.*

Old logs and stumps. Fort Edward. Howe. North Elba.

GLŒOPORUS NIGROPURPURASCENS, *Schw.*

Old logs. Fort Edward. Howe. Catskill Mountains.

MERULIUS TREMELLOSUS, *Schrad.*

Old logs and stumps. Fort Edward. Howe. Catskill Mountains.

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.*

Woods. Fort Edward. Howe. Sandlake. Edible.

HYDNUM SUAVEOLENS, *Scop.*

Ground in woods and along shaded rivulets. Fort Edward. Howe. Sandlake.

HYDNUM GRAVEOLENS, *Delast.*

Woods. Fort Edward. Howe.

HYDNUM ADUSTUM, *Schw.*

Base of trees and stumps. Fort Edward. Howe.

HYDNUM CORALLOIDES, *Scop.*

Old logs in woods. Fort Edward. Howe. Adirondack Mountains. Edible. A very pretty, delicate white fungus.

HYDNUM ERINACEUS, *Bull.*

Dead trunk of Platanus. Fort Edward. Howe.

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.*

Sticks and stumps. Fort Edward. Howe.

HYDNUM HIMANTIA, *Schw.*

Half-buried, dead branches. Fort Edward. Howe.

HYDNUM MUCIDUM, *Pers.*

Trees and dejected branches. Fort Edward. Howe.

HYDNUM LÆTICOLOR, *B. & C.*

Dead branches among leaves. Fort Edward. Howe.

IRPEX TULIPIFERÆ, *Schw.*

Dead branches of trees. Fort Edward. Howe. Catskill Mountains.

IRPEX DEFORMIS, *Fr.*

Old stumps and trees. Helderberg Mountains.

IRPEX CINNAMOMEUS, *Fr.*

Dead trees and branches lying on the ground. Common.

CRATERELLUS CORNUCOPIOIDES, *Pers.*

Damp, shaded places in woods and along rivulets. Fort Edward. Howe. Helderberg and Adirondack Mountains.

THELEPHORA PALLIDA, *Schw.*

Fields and woods. Fort Edward. Howe. Port Kent

THELEPHORA PALMATA, *Fr.*

Sandy bank in woods. Fort Edward. Howe.

THELEPHORA TERRESTRIS, *Ehrh.*

Woods and thickets. Fort Edward. Howe.

STEREUM FASCIATUM, *Fr.*

Dead wood. North Greenbush.

STEREUM STRIATUM, *Fr.*

Trees and branches. Fort Edward. Howe.

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.*

Trees and branches. Fort Edward. Howe.

STEREUM OCHRACEO-FLAVUM, *Schw.*

Dead trees. Catskill Mountains.

STEREUM BICOLOR, *Fr.*

Old logs. Catskill Mountains.

STEREUM RUBIGINOSUM, *Schrad.*

Trees and branches. Fort Edward. Howe.

STEREUM TABACINUM, *Fr.*

Dead trees and old logs. Catskill Mountains.

STEREUM IMBRICATULUM, *Schw.*
Trees and branches. Fort Edward. Howe.

STEREUM FRUSTULOSUM, *Fr.*
Trees and branches. Fort Edward. Howe.

STEREUM ACERINUM, *Fr.*
Trees and branches. Fort Edward. Howe.

CORTICIUM OAKESII, *B. & C.*
Bark of hornbeam, oak and ash trees. Fort Edward. Howe. Catskill Mountains.

CORTICIUM CINEREUM, *Fr.*
Bark of trees and branches. Fort Edward. Howe.

CYPHELLA CAPULA, *Fr.*
Stems of herbs. Fort Edward. Howe.

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

CLAVARIA BOTRYTIS, *Pers.*
Woods. Poestenkill. Howe. Sandlake. Edible.

CLAVARIA AUREA, *Schæff.*
Woods. Fort Edward. Howe. Edible.

CLAVARIA JUNCEA, *Fr.*
Dead leaves. Fort Edward. Howe, the first to find it in this country.

CLAVARIA STRICTA, *Pers.*
Ground and old logs in woods. Fort Edward. Howe. Adirondack Mountains.

CLAVARIA INÆQUALIS, *Fr.*
Woods. Poestenkill. Howe. Helderberg Mountains.

SPATHULARIA FLAVIDA, *Pers.*
Woods in hilly and mountainous districts. Common.

PISTILLARIA MUSCICOLA, *Fr.*
Mosses, most often on *Climacium americanum* and *Hypnum delicatulum.*

TREMELLA AURANTIA, *Schw.*
Old stumps. Sharon Springs.

TREMELLA MESENTERICA, *Retz.* Bark. Fort Edward. Howe. Edible.

TREMELLA SARCOIDES, *With.*
Trunks of trees. Fort Edward. Howe.

EXIDIA AURICULA-JUDÆ, *Fr.*
Old logs in low woods. North Elba. A singular, soft, spongy species, sometimes used as a remedy for sore throat.

EXIDIA GLANDULOSA, *Fr.*
Old logs and sticks. Poestenkill. Howe. Guilderland.

EXIDIA TRUNCATA, *Fr.*
Trees and branches. Poestenkill. Howe.

EXIDIA CINNABARINA, *B. & C.*
Dejected branches. Fort Edward. Howe.

DACRYMYCES STILLATUS, *Fr.*
Old pine wood and rails. Fort Edward. Howe.

DACRYMYCES TORTUS, *Fr.*
Pine wood. Fort Edward. Howe.

LYCOPERDON GEMMATUM, *Batsch.*
Ground and old stumps in woods and fields. Common.

LYCOPERDON PYRIFORME, *Schæff.*
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.*
Fields. West Albany. Edible.

BOVISTA CYATHIFORMIS, *Bosc.*
Fields. Fort Edward. Howe.

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 *Hypnum triquetrum.* Fort Edward. Howe, who first detected it in this country.

PHYSARUM NUTANS, *Pers.*
Old logs and bark of hornbeam. Fort Edward. Howe.

STEMONITIS FERRUGINEA, *Ehrh.*
Dead and rotten wood. Common.

DICTYDIUM MICROCARPUM, *Schrad.*
Dead wood. Fort Edward. Howe. Port Kent.

CRIBRARIA PURPUREA, *Schrad.*
Rotten wood. Catskill Mountains. Rare.

CRIBRARIA INTRICATA, *Schrad.*
Rotten wood. Jordanville.

ARCYRIA CINEREA, *Fl. Dan.*
Rotton wood in woods. Sandlake.

TRICHIA RUBIFORMIS, *Pers.*
Rotten wood. North Elba.

TRICHIA CLAVATA, *Pers.*
Rotten wood. Fort Edward. Howe.

TRICHIA TURBINATA, *With.*
Rotten wood. Fort Edward. Howe.

CYATHUS CAMPANULATUS, *Fr.*
Dung in fields. Bethlehem.

CYATHUS CRUCIBULUM, *Pers.*
Sticks and stems of dead herbs. Fort Edward. Howe.

PTYCHOGASTER ALBUS. *Corda.*
In rotten logs. Fort Edward. Howe.

MICROTHYRIUM MICROSCOPICUM, *Desm.*
Dead stems of *Chelone glabra.* Poestenkill. Howe.

SPHÆRONEMA CONSORS, *B. & C.*
Stems of living *Juncus.* Fort Edward. Howe.

DIPLODIA VITICOLA, *Desm.*
Grape vines. Fort Edward. Howe. Albany.

SPHÆROPSIS INSIGNIS, *B. & C.*
Dead acorns. Fort Edward. Howe.

VERMICULARIA LILIACEARUM, *Schw.*
Dead stems of lilies. Poestenkill. Howe.

SEPTORIA HERBARIUM, *B. & C.*
Dead stems of *Leucanthemum vulgare.* Poestenkill. Howe.

STILBOSPORA OVATA, *Pers.*
Bark. Poestenkill. Howe.

STILBOSPORA PYRIFORME, *Hoffm.*
Bark. Poestenkill. Howe.

CYTISPORA RUBESCENS, *Fr.*
Dead bark of mountain ash. Poestenkill. Howe.

CYTISPORA LEUCOSPERMA, *Fr.*
Dead bark. Fort Edward. Howe.

NEMASPORA CROCEA, *Pers.*
Wood and branches of trees. Fort Edward. Howe. Little Falls.

MYXOSPORIUM NITIDUM, *B. & C.*
On *Cornus alternifolia.* Fort Edward. Howe. North Greenbush and Catskill Mountains.

Torula herbarum, *Pers.*

Dead herbs. Poestenkill. Howe.

Septonema spilomeum, *Berk.*

Old rails and boards. Poestenkill. Howe.

Aregma speciosum, *Fr.*

Cultivated rose bushes. Fort Edward. Howe.

Puccinia aculeata, *Schw.*

Living leaves of *Podophyllum peltatum.* Fort Edward. Howe.

Puccinia solida, *Schw.*

Living leaves of *Anemone pennsylvanica.* Fort Edward. Howe.

Puccinia graminis, *DC.*

Stems and leaves of grasses. Fort Edward. Howe.

Puccinia waldsteiniæ, *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.*

Living stems of Juncus. Fort Edward. Howe.

Puccinia investita, *Schw.*

Living leaves of Gnaphalium. Fort Edward. Howe.

Uredo rubigo, *DC.*

Living leaves of rye. Fort Edward. Howe. This and other species of *Uredo* are commonly called "*Rust.*"

Uredo caricina, *DC.*

Leaves of sedges. Fort Edward. Howe.

Uredo epitea, *Kunze.*

Leaves of willows. Fort Edward. Howe.

Uredo polygonorum, *DC.*

Leaves of Polygonum. Poestenkill. Howe.

Uredo solidaginis, *Schw.*

Leaves of Solidago and Aster. Fort Edward. Howe. Coney Island.

UREDO POTENTILLÆ, *DC.*

Leaves of *Potentilla canadensis.* Poestenkill. Howe.

UREDO RUBORUM, *DC.*

Leaves of Rubus. Fort Edward. Howe.

UREDO LUMINATA, *Schw.*

Leaves of Rubus. Common.

UREDO EFFUSA, *Strauss.*

Leaves, petioles and young branches of rose bushes. Fort Edward. Howe. Sandlake.

UREDO LEGUMINOSARUM, *Link.*

Leaves of *Amphicarpæa monoica.* North Greenbush.

UREDO PYROLÆ, *Strauss.*

Under side of leaves of Pyrola. Common.

UREDO SALICETI, *Schlect.*

Leaves of willows. Fort Edward. Howe.

UREDO VIOLARUM, *DC.*

Leaves of violets. Fort Edward. Howe.

UROMYCES LESPEDEZÆ-VIOLACEÆ, *Schw.*

Leaves of *Lespedeza violacea.* Poestenkill. Howe. Bethlehem.

UROMYCES LESPEDEZÆ-PROCUMBENTIS, *Schw.*

Leaves of *Lespedeza procumbens.* Kingsbury. Howe.

UROMYCES HYPERICI, *Schw.*

Leaves of Hypericum. Fort Edward. Howe.

UROMYCES APICULOSA, *Lev.*

Leaves of Euphorbia. Kingsbury. Howe.

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 zeæ, 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 junci, *Schw.*
Heads of Juncus. Poestenkill. Howe.

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

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

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

Æcidium grossulariæ, *DC.*
Leaves of gooseberry, *Ribes cynosbati.* Sandlake.

Æcidium compositarum, *Mart.*
Leaves of Compositaceæ. Moreau. Howe.

Æcidium gnaphaliatum, *Schw.*
Leaves of Gnaphalium. Moreau. Howe.

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

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

Æcidium hydnoideum, *B. & C.*
Leaves of leatherwood,—*Dirca palustris.* Fort Edward. Howe. North Greenbush.

Cystopus candidus, *Lev.*
Leaves of Amarantus. Poestenkill. Howe.

Epicoccum micropus, *Corda.*
Dead pumpkin vines. Poestenkill. Howe.

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.*
Bark of chestnut. Fort Edward. Howe.

HELMINTHOSPORIUM RECTUM, *B. & C.*
Dead wood. Fort Edward. Howe.

PODOSPORIUM RIGIDUM, *Schw.*
Leaves of Ampelopsis. Fort Edward. Howe.

POLYTHRINCIUM TRIFOLII, *Kunze.*
Living leaves of clover. Common.

CLADOSPORIUM HERBARUM, *Link.*
Dead leaves and stems of herbs. Fort Edward. Howe.

PENICILLIUM CRUSTACEUM, *Fr.*
Rotten apples. Poestenkill. Howe.

MORCHELLA ESCULENTA, *Pers.*
Ground under pines. Fort Edward. Howe. North Greenbush and Bethlehem. Edible. The "*Morel.*"

HELVELLA ESCULENTA, *L.*
Ground in woods. Fort Edward. Howe. Edible.

GEOGLOSSUM HIRSUTUM, *Pers.*
Low wet ground. Poestenkill. Howe. Jordanville.

GEOGLOSSUM DIFFORME, *Fr.*
Wet ground. Poestenkill. Howe.

PEZIZA MACROPUS, *Pers.*
Ground in woods. Bethlehem and Adirondack Mountains.

PEZIZA SCUTELLATA, *L.*
Old wood. Fort Edward. Howe. North Elba.

PEZIZA CALYCINA, *Schum.*
Gum spots on spruce trees. Catskill Mountains. Bark of pines. Fort Edward. Howe.

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.*
Wood and stems of herbs. Fort Edward. Howe. Sandlake.

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

Peziza citrina, *Batsch.*
Rotten wood. Fort Edward. Howe. Catskill Mountains.

Peziza herbarum, *Pers.*
Stems of herbs. Fort Edward. Howe.

Peziza compressa, *A. & S.*
Dry wood. Fort Edward. Howe.

Peziza flexella, *Fr.*
Pine wood. Fort Edward. Howe.

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

Solenia candida, *Pers.*
Rotten hemlock branches. Fort Edward. Howe.

Ascobolus conglomeratus, *Schw.*
Rotten wood. Troy. Howe.

Bulgaria inquinans, *Fr.*
Black oak logs. Fort Edward. Howe.

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

Sphinctrina turbinata, *Fr.*
On Pertusaria and dry fungus. Fort Edward. Howe.

PATELLARIA DISCOLOR, *Mont.*
Wood and stems of herbs. Troy and Fort Edward. Howe.

PATELLARIA RHABARBARINA, *Berk.*
Bark of alder. Troy. Howe.

URNULA CRATERIUM, *Fr.*
Rotten logs and sticks in woods. Fort Edward. Howe.

DERMATEA FASCICULARIS, *Fr.*
Oak branches. Poestenkill. Howe.

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

CENANGIUM PINASTRI, *Fr.*
Bark of hemlock. Fort Edward. Howe.

CENANGIUM POPULINUM, *Schw.*
Bark of Populus. Fort Edward. Howe.

CENANGIUM RIBIS, *Fr.*
Dead branches of Ribes. Poestenkill. Howe.

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.*
Leaves of Vaccinium. Fort Edward. Howe.

RHYTISMA PRINI, *Fr.*
Leaves of Prinos. Sandlake.

RHYTISMA PUNCTATUM, *Fr.*
Leaves of maple. Fort Edward. Howe. Sandlake.

RHYTISMA SALICINUM, *Fr.*
Leaves of willow. Fort Edward. Howe.

RHYTISMA BLAKEI, *Curt.*
Leaves of Rubus. Fort Edward. Howe.

PHACIDIUM CORONATUM, *Fr.*
Dry leaves of oak and chestnut. Fort Edward. Howe.

PHACIDIUM CRUSTACEUM, *B. & C.*
Dead branches of pines. Fort Edward. Howe.

HYSTERIUM ELONGATUM, *Wahl.*
Dry wood and old branches. Poestenkill and Fort Edward. Howe.

HYSTERIUM HIASCENS, *B. & C.*
Bark of white oak. Fort Edward. Howe.

HYSTERIUM LINEARE, *Fr.*
Old wood and rails. Poestenkill. Howe. Helderberg Mts.

HYSTERIUM PINASTRI, *Schrad.*
Dead pine leaves. Poestenkill. Howe.

XYLARIA POLYMORPHA, *Pers.*
Rotten wood. Common and variable.

XYLARIA HYPOXYLON, *Ehrh.*
Old wood and stumps. Fort Edward. Howe. Helderberg Mts.

HYPOCREA LACTIFLUORUM, *Schw.*
On Lactarius. Fort Edward. Howe. Sandlake.

HYPOCREA CITRINA, *Fr.*
Dead sticks in woods. Fort Edward. Howe.

HYPOCREA RUFA, *Pers.*
Dead wood. Moreau. Howe.

HYPOCREA RICHARDSONII, *B. & M.*
Bark of pines and oaks in woods. Fort Edward. Howe.

HYPOXYLON USTULATUM, *Bull.*
Old trees and stumps. Fort Edward. Howe. Helderberg Mts.

Hypoxylon nummularium, *Bull.*
Bark of maple. Fort Edward. Howe.

Hypoxylon clypeus, *Schw.*
Oak bark. Fort Edward. Howe.

Hypoxylon multiforme, *Fr.*
Old wood and bark. Fort Edward. Howe.

Hypoxylon cohærens, *Pers.*
Old logs and trees. Fort Edward. Howe. Adirondack Mts.

Hypoxylon fuscum, *Pers.*
Dead branches. Fort Edward. Howe.

Hypoxylon fragiforme, *Pers.*
Beech bark. Fort Edward. Howe.

Hypoxylon rubiginosum, *Pers.*
Rotten wood. Fort Edward. Howe.

Hypoxylon serpens, *Pers.*
Dead wood. Fort Edward. Howe.

Diatrype stigma, *Fr.*
Bark and wood of elm trees. Fort Edward. Howe.

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

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

Valsa stilbostoma, *Fr.*
Branches of trees. Fort Edward. Howe.

Valsa americana, *B. & C.*
Branches of trees. Fort Edward. Howe.

Valsa constellata, *B. & C.*
Bark. Fort Edward. Howe.

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

Nectria cucurbitula, *Fr.*
Dead branches of birch. Fort Edward. Howe.

Sphæria ovina, *Pers.*
Dry Wood. Poestenkill. Howe.

Sphæria pulvis-pyrius, *Pers.*
Oak wood. Poestenkill. Howe.

Sphæria myriocarpa, *Fr.*
Dry wood. Poestenkill. Howe.

Sphæria papilla, *Schw.*
Bark of Alnus. Fort Edward. Howe.

Sphæria pertusa, *Pers.*
Dead wood. Poestenkill. Howe.

Sphæria fissurarum, *B. & C.*
Pine wood. Poestenkill and Fort Edward. Howe.

Sphæria saubineti, *Mont.*
Stems of corn and rye. Poestenkill. Howe.

Sphæria picea, *Pers.*
Stems of herbs. Poestenkill. Howe.

Sphæria ulmea, *Schw.*
Leaves of elms. Fort Edward. Howe.

Sphæria lespedezæ, *Schw.*
Leaves of Lespedeza. Kingsbury. Howe.

Sphæria rostrata, *Fr.*
Wood and bark. Kingsbury. Howe.

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

Sphæria aculeata, *Schw.*
Stems of herbs. Fort Edward. Howe.

Sphæria acuminata, *Sow.*
Stems of Chenopodium. Poestenkill. Howe.

Sphæria nigrella, *Fr.*
Stems of Ambrosia. Poestenkill. Howe.

SPHÆRIA VERBASCICOLA, *Schw.*
Stems of Verbascum. Poestenkill. Howe.

SPHÆRIA POTENTILLÆ, *Schw.*
Leaves of *P. canadensis.* Fort Edward. Howe.

SPHÆRIA PUNCTIFORMIS, *Pers.*
Dead leaves. Fort Edward. Howe.

SPHÆRIA FUSCA, *Pers.*
Dead branches among leaves. Fort Edward. Howe.

SPHÆRIA DISCIFORMIS, *Hoffm.*
Dry sticks in open fields. Poestenkill. Howe.

SPHÆRIA CORYLI, *Batsch.*
Leaves of Corylus. Fort Edward. Howe.

SPHÆRIA FIMBRIATA, *Pers.*
Leaves of Carpinus and Ostrya. Fort Edward. Howe.

SPHÆRIA QUERCINA, *Pers.*
Fort Edward. Howe.

SPHÆRIA EPIDERMIDIS var. MICROSCOPICA, *Desm.*
Bark of cherry trees. Fort Edward. Howe.

SPHÆRIA DESMAZIERII, *B. & Br.*
Under side of branches lying on the ground. Fort Edward. Howe.

SPHÆRIA SORDARIA, *Fr.*
Bark of Populus. Fort Edward. Howe.

MICROSPHÆRIA PENICILLATA, *Lev.*
Leaves of Viburnum. Fort Edward. Howe.

DOTHIDEA OMANS, *Schw.*
Stems of Asclepias. Moreau. Howe.

DOTHIDEA BETULINA, *Fr.*
Leaves of Betula. Fort Edward. Howe.

Erysiphe communis, *Schlect.*
Living leaves. Fort Edward. Howe.

Erysiphe ceanothi, *Schw.*
Leaves of Ceanothus. Fort Edward. Howe.

Asterina gaultheriæ, *Curt.*
Under side of leaves of wintergreen—*G. procumbens.* Common.

Erineum fagineum, *Pers.*
Beech leaves. Fort Edward. Howe.

Erineum luteolum, *Kunze.*
Maple leaves. Fort Edward. Howe.

Erineum alnigerum, *Kunze.*
Alder leaves. Fort Edward. Howe.

Erineum aureum, *Pers.*
Birch leaves. Fort Edward. Howe.

Erineum vitis, *DC.*
Grape leaves. Poestenkill. Howe.

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

Sclerotium varium.
Dead vegetables. Fort Edward. Howe.

Sclerotium populinum, *Pers.*
Leaves of Populus. Fort Edward. Howe.

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

Depazea brunnea, *B. & C.*
Leaves of maple. Jordanville.

Depazea cruenta, *Fr.*
Leaves of Solomon's seal—*Smilacina racemosa.* North Greenbush.

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.*

Shaded banks. North Greenbush.

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 syphilitica, *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.*

Woods. North Elba.

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 pinnæ 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 EBENEUM var. INCISUM, *Howe.*

Poestenkill. Howe. In this form the pinnæ 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, *Sulliv.*
Danube, Herkimer county. Austin.

Barbula fallax, *Bryol Europ.*
Little Falls. Austin.

Orthotrichum obtusifolium, *Schrad.*
Stone walls. Herkimer county.

Ptychomitrium incurvum, *Schwægr.*
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, *Raddi.*
Bethlehem.

Lunularia vulgaris, *Mich.*
Conservatories. Buffalo. Clinton.

Reboulia hemisphærica, *Raddi.*
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.

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 algæ 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 algæ and many fungi, may be found at all seasons.

Respectfully yours,

C. H. PECK.

ALBANY, *Jan. 9th*, 1869.

(E.)

METEOROLOGICAL REPORT FOR THE YEAR 1868.

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

Thermometer.

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

	Snow.	Rain.	Barometer.
January,	37 inches.	None.	26°06′
February,	40 "	"	29 25
March,	25 "	1 inch.	29 13
April,	21 "	.55 "	29 34
May,	.....	4.15 "	28 94
June,	.....	3.57 "	28 95
July,	.....	2.20 "	28 87
August,	.....	3.68 "	29 01
September,	.....	5.50 "	29 10
October,	2 "	1.10 "	29 35
November,	7 "	8.40 "	29 21
December,	98 "	None.	29 20
Mean,	19 ft. 2½ in.	30 35-100 in.	29°12′

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.

March 21st, heavy snow storm over New England, New York and Philadelphia—two feet reported in Philadelphia.

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.

(F.)

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 by astronomical observations, carefully verified, 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.

MAGNETIC VARIATION AS OBSERVED IN THE SURVEY OF THE TRACT OF THE HOLLAND LAND COMPANY, OF WESTERN NEW YORK, IN 1798 AND 1799.

PLACE.	Variation.	Date.	Observer.
Range 1, Township 8–9,	0°40′ W.	1799,	James Dewey.
" 2, " "	0 50 W.	"	" "
" 1, " 7–8,	1 14 W.	"	" "
" 2, " "	1 5 W.	"	" "
" 3, " "	0 5 E.	"	" "
" 4, " "	2 5 W.	"	" "
" 5, " "	0 30 W.	"	" "
" 2, " 8–9,	0 10 E.	"	" "
" 3, " "	2 5 E.	"	" "
" 4, " "	0 30 W.	"	" "
" 3, " 9–10,	0 30 W.	"	" "
" 4, " "	1 45 W.	"	" "
" 5, " "	1 45 W.	"	" "
" 1, " 11–12,	1 10 W.	"	" "
" 1, " 10–11,	0 40 W.	"	" "
" 2, " "	1 28 W.	"	" "
" 1, " 9–10,	0 20 W.	"	" "
" 2, " "	0 40 W.	"	" "
" 4–5, " 9–10,	0 15 W.	"	" "
" 4–5, " 10,	0 30 W.	"	" "
" 4–5, " 10,	0 25 W.	"	" "
" 4–5, " 11,	0 10 W.	"	" "
" 2, " 10–11,	0 15 W.	"	" "
" 4, " "	0 10 W.	"	" "
" 3, " "	0 20 W.	"	" "
Shore of Lake Ontario:			
Township 15, Willink's strip, E. line,	0 45 W.	"	" "
" 15, " " W. line,	0 30 W.	"	" "
Tonawanda Reservation, N.W. cor.,	1 30 W.	" Feb'y,	John Thompson.
On Lake Erie, Monument, lat. 42° 16′ 16″ W.,	0 25 W.	1790, Aug. 23.	Andrew Elliott.
Buffalo Reservation, Lake shore,	0 30 W.	1798,	Augustus Porter.
Old Kana-andea (Caneadea),	1 00 W.	"	" "
Gardeau Reservation,	1 35 W.	" Sept. 6,	" "
Squawkey Hill Reservation,	0 00	" Sept. 18,	" "
Big Tree Reservation,	0 15 W.	" Sept. 24,	" "
Canawagus Reservation,	1 00 W.	" Sept. 30,	" "
On Lake Erie, W. line of State,	0 25 E.	" Aug. 30,	James Smedley.
" " 14 Range, 3d mile,	0 20 E.	" "	" "
" " 13 " 6th mile,	0 20 E.	" "	" "
" " 11 " 1st mile,	0 42 E.	" "	" "
" " 9 " 1st mile,	0 44 E.	" "	" "
On Lake Ontario, 1 R., E. transit,	1 00 W.	1799,	Amzi Atwater.
" " 3d meridian,	0 20 W.	"	" "
" " 4th meridian,	4 45 W.	"	" "
Range 9–10, Township 2,	1 00 E.	1798,	" "
" 9–10, " 3,	0 55 E.	"	" "
" 9–10, " 4,	0 50 E.	"	" "
" 9–10, " 5,	0 30 E.	"	" "
Range 13, " 5–6,	0 35 E.	"	" "
" 11, " 5–6,	0 40 E.	"	" "
" 10, " 5–6,	1 15 E.	"	" "
" 10, " 5-6, (S. end)	1 10 E.	"	" "
" 9, " 6–7,	0 40 E.	" Aug. 7,	" "
" 9–10, " 7,	0 30 E.	"	" "
" 10, " 7–8,	0 45 E.	"	" "
Lake Erie, and line of Township 7–8,	0 45 E.	"	" "
Range 3–4, Township 7–8,	0 10 W.	"	" "
" 3–4, " 3,	0 15 W.	"	" "
" 3–4, " 4,	0 25 W.	"	" "
" 1–2, " 1, (Pa. line)	0 35 W.	"	" "
" 1–2, " 1,	0 45 W.	"	" "
" 1–2, " 2,	0 40 W.	"	" "
" 1–2, " 2,	0 45 W.	"	" "

MAGNETIC VARIATIONS, &c.—*Continued.*

PLACE.	Variation.	Date.	Observer.
Range 1-2, Township 2,	0°15′ W.	1798,	Amzi Atwater.
" 1-2, " 3,	0 25 W.	"	" "
" 1-2, " 3,	0 55 W.	"	" "
" 1-2, " 4,	1 10 W.	"	" "
" 1, " 5-6,	1 50 W.	"	" "
" 1-2, " 5,	1 25 W.	"	" "
" 1-2, " 6,	0 20 W.	"	" "
" 1-2, " 7,	0 55 W.	"	" "
" 1-2, " 8,	1 10 W.	"	" "
" 1-2, " 9,	0 30 W.	"	" "
" 2-3, " 6,	1 45 W.	"	" "
" 2-3, " 7,	2 00 W.	"	" "
" 2-3, " 8,	0 45 W.	"	" "
" 2-3, " 9,	0 50 W.	"	" "
" 2-3, " 10,	0 00	"	" "
" 2-3, " 11,	0 10 W.	"	" "
" 7, " 11-12,	2 45 W.	1799,	" "
" 7, " 11-12,	1 40 W.	"	" "
" 6, " 11-12,	1 35 W.	"	" "
" 6, " 12-13,	1 25 W.	"	" "
" 8, " 12-13,	1 35 W.	"	" "
" 8, " 13-14,	0 50 W.	"	" "
" 7, " 13-14,	1 35 W.	"	" "
" 6, " 13-14,	1 25 W.	"	" "
On Lake Ontario, Range 8,	0 10 E.	"	" "
Range 5, Township 15-16,	1 40 W.	"	" "
" 6, " 15-16,	1 35 W.	"	" "
Pa. line, 12 miles from Wm. Phelps':			
Gorham Purchase,	0 15 W.	1798,	George Burges.
Range 1, Township 5,	1 00 W.	"	" "
" 1, " 8, 43 m. from Pa.,	0 10 E.	"	" "
" 1, " 4, 7 " "	0 55 W.	"	" "
" 1, " 5, 2 " "	0 55 W.	"	" "
" 1, " 5, 5 " "	1 35 W.	"	" "
" 1, " 11,	1 45 W.	"	" "
" 1, " 12,	0 35 W.	"	" "
" 1, " 12, (70 m. Pa.),	0 5 W.	"	" "
" 1, " 12-13, 72 "	0 00	"	" "
" 1, " " 73 "	0 5 W.	"	" "
" 1, " " 74 "	0 35 W.	"	" "
" 1, " 13, 76 "	0 15 W.	"	" "
" 1, " 13, 78 "	0 40 W.	"	" "
" 1, " 14, 83 "	1 20 W.	"	" "
" 1, " 14, 84 "	2 5 W.	"	" "
" 1, " 15, 86 "	1 55 W.	"	" "
" 1, " 15, 88 "	1 50 W.	"	" "
" 1, " 16, 91 "	1 30 W.	"	" "
N. Line, Tp. 2, Range 3,	1 9 W.	"	Augustus Porter.
Range 8, Township 15,	0 15 W.	1799,	Stph. Benton, Jr.
" 7, " 15,	0 30 W.	"	" "
" 6, " 16,	0 45 W.	"	" "
" 4-5, " 1, Pa. line,	1 00 W.	1798,	James Smedley.
" 4-5, " 4-5,	1 02 W.	"	" "
" 3, " 2-3,	0 40 W.	1799,	Stph. Benton, Jr.
" 2, " "	0 40 W.	"	" "
" 1, " "	0 40 W.	"	" "
" 1, " 3-4,	0 55 W.	"	" "
" 2, " "	0 55 W.	"	" "
Transit meridian, 24th mile,	2 5 W.	"	" "
Range 1, Township 3,	0 55 W.	"	" "
" 1, " 4-5,	2 5 W.	"	" "
" 1-2, " 5,	1 45 W.	"	" "
" 2, " 4-5,	0 40 W.	"	" "
" 3, " "	3 20 W.	"	" "
" 4, " "	0 20 E.	"	" "
" 4-5, " 2,	0 50 W.	1798,	James Smedley.
" 4-5, " 2,	0 40 W.	"	" "
" 4-5, " 3,	1 00 W.	"	" "

Longitude of Wst Boundary | 79°45'54"4. | Longitude of Buffal

MAP

OF THE

WESTERN PART

of the State of

NEW YORK,

SHOWING THE TOWNSHIP SURVEY'S OF THE

Holland Land Company's Purchase,

and their Relation with the

PRESENT SUBDIVISION BY TOWNS & COUNTIES.

43°

Longitude of W^d Boundary | 79°45'54"4 | Longitude of Buffalo | 78°58'25"

MAP

OF THE

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SHOWING THE TOWNSHIP SURVEYS OF THE

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PRESENT SUBDIVISION BY TOWNS & COUNTIES.

Drawn to accompany Dr E.B. Hough's Article upon the Variations of the magnetic needle

LAKE ONTARIO

Somerset | Yates | Carlton | No 16

Niagara | Porter | Wilson | Newfane | Hartland | Ridgeway | Gaines | No 15

Lewiston | Tuscarora Res | Cambria | Lockport | Royalton | Shelby | Barre | No 14

Niagara | Wheatfield | Pendleton | Tonawanda Res | Alabama | Oakfield | No 13

Grand Island | Amherst | Clarence | Newstead | Pembroke | Batavia | No 12 | Stafford

Buffalo City | Cheektowaga | Lancaster | Alden | Darien | Alexander | No 11 | Bethany

West Seneca | Elma | Marilla | Bennington | Ittica | No 10 | Middlebury

Hamburgh | East Hamburgh | Aurora | Wales | Sheldon | Orangeville | No 9 | Warsaw

Evans | Eden | Boston | Colden | Holland | West Seneca | Java | No 8 | Gainesville | Genesee Res

Brandt | North Collins | Concord | Sardinia | China | Eagle | No 7 | Pike | Genesee Falls

LAKE ERIE

Dunkirk | Sheridan | Hanover | Collins | Yorkshire | Freedom | Centerville | No 6 | Hume

Ferrysburg | Ashford

Otto | East Otto | Machias | Farmersville | Rushford | No 5 | Caneadea

Portland | Pomfret | Arkwright | Villenova | Dayton | Persia | Ellicottville | Franklinville | Lyndon | New Hudson | No 4 | Bolivar

Ripley | Westfield | Chautauqua | Chautauqua Lake | Stockton | Charlotte | Cherry Creek | Leon | New Albion | Mansfield | Little Valley | Great Valley | Humphry | Ischua | Otto Res | Cuba | No 3 | Friendship

Ellery | Ellery | Ellington | Conewango | Napoli

Chautauqua | Mina | Sherman | Harmony | Ellicott | Poland | Randolph | Cold Spring | Red House | Allegany | Hinsdale | Clarksville | No 2 | Wirt

Chautauqua Lake | Conewango Creek

R.15. French Creek | R.14. Clymer | R.13. Busti | R.12. | R.11. Kiantone | R.10. Carroll | R.9. South Valley | R.8. | R.7. | R.6. Carrollton | R.5. | R.4. Olean | R.3. Portville | R.2. Genesee | No 1. R.1. Bolivar

PENNSYLVANIA.

Longitude of W^d Boundary | 79°45'54"4 | Longitude of Buffalo | 78°58'25"

MAGNETIC VARIATIONS, &c.—*Continued.*

PLACE.	Variation.	Date.	Observer.
Range 4–5, Township 4,	1 20 W.	1798,	James Smedley.
" 4–5, " 5,	1 40 W.	"	" "
" 4–5, " 5,	1 43 W.	"	" "
" 4–5, " 6,	3 13 W.	"	" "
" 4–5, " 6,	2 00 W.	"	" "
" 4–5, " 7,	1 5 W.	"	" "
" 4–5, " 8,	1 50 W.	"	" "
" 4–5, " 9,	2 10 W.	"	" "
" 4–5, " 10,	1 40 W.	"	" "
" 4–5, " 11,	1 20 W.	"	" "

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 Ogdensburgh: 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."

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