

REPORT OF THE BOTANIST.

28 Reg Rep

S. B. WOOLWORTH, LL.D.,

Secretary of the Board of Regents of the University.

SIR— Since the date of my last report, specimens of one hundred and fifty species of plants have been mounted and placed in the Herbarium of the State Museum of Natural History, of which one hundred and thirty were not before represented therein. A list of the specimens mounted is marked (1).

Specimens have been collected in the counties of Albany, Dutchess, Fulton, Greene, Hamilton, Oswego, Rensselaer and Saratoga. These represent one hundred and sixty species new to the Herbarium, seventy of which are regarded as new or hitherto undescribed species. A list of the specimens collected is marked (2).

Specimens of fifty-six New York species, new to the Herbarium and not among my collections of the past season, have been contributed by or been obtained in naming specimens for correspondents. These added to the collected species make the whole number of additions two hundred and sixteen, a number considerably in excess of that for the previous year. A list of the contributors and their contributions is marked (3).

New species with their descriptions, previously unreported species, new stations of rare plants, etc., are given in a section marked (4).

CLASSIFIED TABULAR STATEMENT.

		New to the Herbarium.	New to science.
Plants collected,	{ Flowering plants	3
	{ Algæ	3
	{ Fungi	154	70
Total		160	70
Plants contributed,	{ Flowering plants...	5
	{ Mosses	2
	{ Lichens	3
	{ Fungi	46	13
Total		56	13
Collected and contributed		216	83

In my last report allusion was made to the fact that the spruce trees in some parts of the great northern wilderness, were said to be dying at an unusual rate as if affected by some fatal disease. In the absence of any personal knowledge of the circumstances or conditions attending the destruction of these trees, the attacks of fungi, the attacks of insects and the effects of drought were suggested as possible causes, chiefly for the purpose of directing the attention of those who might have the opportunity of an investigation, in such directions as seemed most likely to afford a satisfactory explanation of the mystery. It was then my impression that the trouble was of comparatively recent date and that it was possibly due to the modification of our climate by reason of the extensive and rapid denudation of our forest lands.

But I find that it is no new thing, that years ago lumbermen were fully aware of the pecuniary loss they were sustaining from this timber malady. Mr. Henry Hough, in answer to my inquiries, writes from Lewis county thus: "The dying of the spruce in this section has mostly, if not entirely, ceased. The greatest destruction on our territory was from ten to fifteen years ago." In Rensselaer county the same trouble was experienced about thirty years ago. A lumber firm found that their spruce timber was rapidly dying, and to make their

loss as light as possible they made haste to open roads in the forest that they might draw out and work up as many dead spruces as practicable before decay should render them entirely worthless. But with all their promptness they suffered no inconsiderable loss, for these dead trees soon became too much decayed to make marketable lumber.

I have asked lumbermen and others who have been aware of the destruction of the spruces, what theory they held in respect to the cause of it. Their theories are various, but the most prevalent attribute it to excessive dry weather or to the agitation of the trees by high winds. The few observations that I have been able to make lead me to adopt a theory quite different from these, and though the discussion of it belongs rather to the province of the entomologists than of the botanists, such is the importance of the subject that I cannot withhold a brief account of my investigations and conclusions.

In August a collecting trip was undertaken in the vicinity of Lake Pleasant, Hamilton county. While there it became apparent to me that I was in a region where the spruces were dying. Standing near the outlet of the lake and looking upon the distant mountain slopes toward the north-east, east and south, patches of brown appeared here and there mingled with the usual dark green hue of the forest. The inhabitants told me that these brown patches were groups of dead spruces; that the spruce trees were then rapidly dying, and had been for two or three years previous, and that in consequence the value of the woodland was greatly diminishing. One of the most conspicuous of these brown patches was on the slope of Speculator Mountain, a little more than half way from the base to the summit. Preparations were therefore made to visit this locality. Once on the ground it needed but little observation to satisfy me that the destructive process was then in operation. The ground under some of the spruces was thickly strewn with their fallen leaves, yet green, and every agitating wind was bringing down more of them. The bark of these trees, and of others already dead, was perforated in many places with small round holes scarcely one-eighth of an inch in diameter. Upon stripping a piece of bark from the trunk of one of the affected trees, the apparent cause of the mischief was at once revealed. The surface of the wood and the inner layers of the bark were abundantly furrowed by

the winding and branching galleries of a small bark-mining beetle, an insect known to entomologists as the *Hylurgus rufipennis* Kirby, though the wings are by no means always red, as the name would indicate. Both the mature insect and its larvæ occurred in countless numbers under the bark of the dying and recently dead trees. In a single instance they were accompanied by a much smaller beetle of similar shape and habits, the *Apate rufipennis* Kirby,* but the former is evidently the chief agent in this unprofitable business. These insects excavate their passages between the bark and the wood, eating away a part of both. Their extended work is, therefore, equivalent to a girdling of the tree. Their numerous galleries form an intricate network of furrows on all sides of the trunk, and traverse one of the most vital parts of the tree, the newly formed and forming layers of wood and bark. The furrows are shallow on the surface of the wood, rather more than half their diameter being in the bark, but their effect is to interrupt the circulation of the nutrient juices, and finally to destroy all vital action. The perforations in the bark, by admitting moisture, doubtless work more or less injury. The surface of the sapwood and the corresponding inner surface of the bark of living trees are discolored for a short space on both sides of the furrows, as if the injury exerted a poisonous or deadening influence on the tissues in its immediate vicinity. This was clearly seen in a tree which had been but slightly injured, there being but few furrows, and these merely longitudinal ones without lateral branches. Each occupied the center of a discolored stripe about half an inch broad, but which usually extended from two to four inches up and down beyond the extremities of the furrows. In another tree there were groups of furrows separated by considerable intervals, the central portions of which intervals had a whitish 'fresh appearance when the bark was first peeled, but after a few moments' exposure to the air the whole surface of the wood had changed to a dull, dead brown color, indicating a diseased or unnatural condition of the surface tissues. The foliage on this tree had not yet lost the green hue of life, but had commenced falling to the ground.

Small trees are rarely attacked. In the localities visited,

* I am indebted to Messrs. J. A. Lintner and J. L. Leconte for the entomological names of these insects.

from one-half to two-thirds of the spruces with a basal diameter ranging from one to two feet were either dead or dying. Trees of this size are the most suitable for lumber and consequently the most valuable. The smallest affected tree noticed, had an estimated basal diameter of about ten inches. In this case the attack appeared to be a failure, for so much resin had oozed from the wounds that the work was obstructed. The galleries were scattered and single and their authors were found dead, each in its furrow. No larvæ were present, and the apparent attempt to establish a colony in this tree had thus far failed. But it may be that this tree had only been attacked for the purpose of obtaining food, and had not yet been brought into that sickly, languishing condition thought by some entomologists to be necessary to induce the establishment of a colony, the deposition of eggs and the development of larvæ. For it is said of *Scolytus destructor*, a bark-mining beetle that sometimes proves very destructive to elm trees in Europe, that the adult insects first attack healthy trees for the purpose of obtaining food, and when, by this means the vigor of the tree has become somewhat impaired, the female deposits her eggs in her galleries. Then the rapidly increasing numbers soon destroy the life of the tree.

When two trees of unequal size stand in close proximity the larger one seems to be most liable to be attacked. In one instance two trees stood scarcely more than three feet apart. The larger one had been attacked; the smaller remained unharmed. In another similar instance the larger of the two trees was dead, having been attacked first; the other was dying. Why this preference on the part of these insects for the largest trees? It may be that young trees are apt to be too resinous to be attacked successfully. In the case of the small tree already mentioned the gummy exudations from the perforations in the bark first attracted my attention. Or the insects may instinctively know that a tree with a large trunk presents a broader field for their operations than one with a small trunk; or possibly the vigor of the tree may be so impaired by age that it is more readily brought into suitable condition for the habitation of these parasites. Whatever the cause of this selection, no diseased condition of the trees was detected except that which was accompanied by and to all appearance was directly due to the insects themselves. Cer-

tainly if the tree is at all diseased before its attack, the insects must be exceedingly quick to detect it, else they could not be found in abundance in trees whose leaves are yet green and whose sapwood is yet fresh and moist, except where stained by their excavations.

In the vicinity of Lake Pleasant the affected trees are upon the mountain slopes or on dry ridges where the spruces are especially abundant. And we might naturally expect that the insects would be attracted to and carry on their depredation most extensively in those localities where the material on which they work is most abundant. In the valleys I saw no trees affected by them and yet they doubtless do carry on their destructive work in the low lands where spruces abound. I see no reason why they should not.

In some localities their ravages have already ceased. On the slopes of an elevation a few miles southwest from Speculator Mountain there are two groves of dead spruces. Many trees in both were examined and, though all the dead ones bore unmistakable marks of the former presence of the beetle, not one could now be found either in the adult or in the larval state. What had caused them to disappear? Surely not the lack of material on which to work, for several large living spruces yet remained. This leads to the consideration of remedies. Doubtless there are natural agencies whose free operation has a tendency to check the ravages of these insects and to prevent their excessive multiplication, but there are times and localities in which these opposing agencies are inefficient or inoperative, and then these destructive insects multiply rapidly and their ravages become painfully apparent. It is then necessary that man himself should do something to protect his property from these active little foes. It was noticeable that many of the dead trees, in the two groves just mentioned, had their bark so chipped by wood-peckers that the general hue of the trunk was a reddish-brown instead of the usual grayish-brown. Here then is a possible explanation of the cessation of the ravages and the absence of the insects. Here is doubtless the indication of one of nature's antidotes to the mischief. The wood-pecker is the natural foe of such insects. With its long beak and barbed tongue it extracts them as a dainty morsel from beneath the bark. It is quite probable that these birds had congregated in these two localities in sufficient numbers to completely stop the ravages of the insects.

A few were seen at work on the affected spruces of Speculator Mountain, and if not interrupted they will probably in due time succeed in checking the ravages here also. The protection of these birds is to be enumerated among the means to be employed in checking the malady of the spruces. They are the friends of the forest and the allies of man. How insignificant the insect yet how capable of injury. How lightly we esteem the wood-pecker yet how indispensable are his services.

A remedy employed in similar cases in Europe is to cut down the affected trees, strip off their bark and burn it with its destructive tenants. Though it is somewhat doubtful if the owners of large tracts of timber land can be induced to adopt this method of checking the destruction of their spruces, it is certainly to be recommended. The loss from its omission would soon far exceed the cost of its employment, but care should be taken not to engage in this work in a dry time lest the destruction from forest fires should be greater than that from insects.

A brief extract from the Entomology of Kirby and Spence will show that the ravages of insects upon forest trees in Europe have sometimes been serious, and that it is none too soon for us to note well what is transpiring in our own forests.

“The bark-borer of the oak is a small beetle of an allied genus, *Scolytus pygmaeus* which with us does no great harm, but so abounded of late years in the Bois-de-Vincennes, near Paris, that 40,000 trees were killed by it; and many of the finest elms in St. James’ Park and Kensington Gardens as well as in the promenades of various cities in the north of France, have fallen victims to another of this tribe, *Scolytus destructor*, whose trivial name well characterizes the frequency and severity of its ravages. The ravages of *Tomicus typographus* in the pine forests of Germany, have long been known under the name *Wurmtrökniss* (decay caused by worms), and they sometimes attack the inner bark in such numbers, 80,000 being sometimes found in a single tree, that they are infinitely more noxious than those insects that bore into the wood. About the year 1668 this pest was particularly prevalent and caused incalculable mischief, and in 1783 it is estimated that a million and a half of trees were destroyed by it in the Hartz forests alone. At this period

when arrived at their perfect state they migrated in swarms like bees into Suabia and Franconia. At length between 1784 and 1789 in consequence of a succession of cold moist seasons the numbers of this scourge were sensibly diminished, but they appeared again in 1790 and so late as 1796 there was great reason to fear for the few fir trees that were left."

Westwood states that occasionally the evil was so great that prayers were offered in the churches against its extension. While we hope that our spruce tree bark-borer may never prove to be such a pest as this *Tomicus*, we certainly think that he deserves some special attention.

(1.)

PLANTS MOUNTED.

Ranunculus acris <i>L.</i>	Cannabis sativa <i>L.</i>
Caltha palustris <i>L.</i>	Quercus alba <i>L.</i>
Vaccaria vulgaris <i>Host.</i>	Q. bicolor <i>Willd.</i>
Ptelea trifoliata <i>L.</i>	Q. montana <i>Willd.</i>
Prunus pumila <i>L.</i>	Q. prinoides <i>Willd.</i>
Aralia hispida <i>Mx.</i>	Q. coccinea <i>Wang.</i>
Cornus stolonifera <i>Mx.</i>	Q. tinctoria <i>Bart.</i>
Sambucus pubens <i>Mx.</i>	Q. rubra <i>L.</i>
Solidago cæsia <i>L.</i>	Carex bromoides <i>Schk.</i>
Erigeron strigosus <i>Muhl.</i>	Agrostis alba <i>L.</i>

New to the Herbarium.

Aconitum Napellus <i>L.</i>	Hypnum exannulatum <i>Gumb.</i>
Solidago elliptica <i>Ait.</i>	H. cupressiforme <i>L.</i>
Polygonum Careyi <i>Olney.</i>	H. acutum <i>Mitt.</i>
P. Hartwrightii <i>Gr.</i>	Sphagnocetis Hubeneriana
Euphorbia Cyparissias <i>L.</i>	Jungermannia albescens <i>Hook.</i>
Scirpus Olneyi <i>Gr.</i>	J. ventricosa <i>Dicks.</i>
Carex striata <i>Mx.</i>	Scapania undulata <i>N. & M.</i>
Botrychium Lunaria <i>Sw.</i>	Frullania Oakesiana <i>Aust.</i>
B. matricariæfolium <i>A. Br.</i>	Cetraria Fahlunensis <i>Schær.</i>
Lycopodium sabinæfolium	Lecanora badia <i>Fr.</i>
Thelia Lescurii <i>Sulliv.</i>	Cladonia deformis <i>Hoffm.</i>
Hypnum Oakesii <i>Sulliv.</i>	C. papillaria <i>Hoffm.</i>

- Bæomyces byssoides Fr.*
Biatora milliaria Fr.
Lecidea arctica Smf.
L. Diapensiae Th. Fr.
L. melancheima Tuck.
Porphyridium cruentum Ag.
Agaricus cepæstipes Sow.
A. fumosoluteus Pk.
A. rosellus Fr.
A. constans Pk.
A. atroalboides Pk.
A. delectabilis Pk.
A. Acicula Schæff.
A. montanus Pk.
A. Rhododendri Pk.
A. infidus Pk.
A. fuscodiscus Pk.
A. luteofolius Pk.
A. chimonophilus B. & Br.
Coprinus aquatilis Pk.
Cortinarius fuscoviolaceus Pk.
Hygrophorus aurantiacoluteus
Gomphidius stillatus Fr.
Lactarius alpinus Pk.
Marasmius minutus Pk.
M. minutissimus Pk.
Panus operculatus B. & C.
Polyporus cupulæformis B. & C.
P. squamosus Fr.
P. volvatus Pk.
P. vulgaris Fr.
P. incarnatus Fr.
Trametes odoratus Fr.
Merulius porinoides Fr.
Stereum balsameum Pk.
S. versiforme B. & C.
Corticium calceum Fr.
C. colliculosum B. & C.
C. cremoricolor B. & C.
C. lilacinofuscum B. & C.
Cyphella candida Pk.
- Clavaria spathulata Pk.*
Typhula gyrans Fr.
T. filicina Pk.
Tremella enata B. & C.
T. stipitata Pk.
Dacrymyces fragiformis Nees.
Ditiotia radicata Fr.
Reticularia umbrina Fr.
Diderma umbilicatum Pers.
Phoma ellipticum Pk.
Septoria Verbenæ D. & R.
Discosia Maculæcola Ger.
Pestalozzia Mariæ Clinton.
Coryneum triseptatum Pk.
Spilocæa concentrica Schw.
Helicosporium olivaceum Pk.
H. ellipticum Pk.
Sporidesmium concinnum B. & C.
Puccinia Veratri Clinton.
Uromyces Liliæ Clinton.
Ustilago Syntherismæ Schw.
U. Erythronii Clinton.
Uredo Smilacis Schw.
U. Empetri DC.
Æcidium dubium Clinton.
Peridermium elatinum Lk.
P. balsameum Pk.
P. decolorans Pk.
Pterula setosa Pk.
Cladosporum Lignicola Cd.
Oidium corticale Pk.
Fusidium flavovirens Fr.
Monilia candida Pk.
Pilobolus crystallinus Tode.
Chætomium melioloïdes C. & P.
Helvella sphærospora Pk.
Mitrula cucullata Fr.
M. inflata Schw.
Peziza adusta C. & P.
P. subcarnea C. & P.
Ascobolus pilosus Fr.

Helotium aciculare <i>Fr.</i>	Dothidea Dalibardæ <i>Pk.</i>
H. fastidiosum <i>Pk.</i>	Diatrype platasca <i>Pk.</i>
Tympanis Fraxini <i>Schw.</i>	D. corniculata <i>Ehrh.</i>
Hysterium tumidum <i>Duby.</i>	Valsa impulsæ <i>C. & P.</i>
H. xylomoides <i>Chev.</i>	V. Peckii <i>Howe.</i>
H. Rhododendri <i>Schw.</i>	Lophiostoma sexnucleata
Rhytisma monogramma <i>B. & C.</i>	Sphæria thujina <i>Pk.</i>
Torrubia entomorrhiza <i>Fr.</i>	S. pilifera <i>Fr.</i>
Epichloe Hypoxylon <i>Pk.</i>	S. lagenaria <i>Pers.</i>
Hypomyces aurantius <i>Tul.</i>	S. orthogramma <i>B. & C.</i>
Nectria epispæria <i>Fr.</i>	S. Parnassiæ <i>Pk.</i>
Dothidea tetraspora <i>Fr.</i>	S. Arceuthobii <i>Pk.</i>

(2.)

PLANTS COLLECTED.

Pyrus sambucifolia <i>C. & S.</i>	Corticium colliculosum <i>B. & C.</i>
Aster amethystinus <i>Nutt.</i>	Cyphella muscigena <i>Fr.</i>
Bromus tectorum <i>L.</i>	Solenia filicina <i>Pk.</i>
Glæocapsa rupestris <i>Kutz.</i>	Clavaria rugosa <i>Bull.</i>
Hydrogastrium granulatum <i>L.</i>	C. pulchra <i>Pk.</i>
Spirogyra longata <i>Vauch.</i>	C. gracillima <i>Pk.</i>
Agaricus pusillomyces <i>Pk.</i>	Typhula Grevillei <i>Fr.</i>
A. tenerrimus <i>Berk.</i>	Tremella vesicaria <i>Bull.</i>
A. Austini <i>Pk.</i>	T. mycetophila <i>Pk.</i>
A. Watsoni <i>Pk.</i>	Æthaliium geophilum <i>Pk.</i>
A. deterrentis <i>Pk.</i>	Licea ochracea <i>Pk.</i>
A. Colvini <i>Pk.</i>	Diderma flavidum <i>Pk.</i>
Coprinus Seymouri <i>Pk.</i>	Didymium oxalinum <i>Pk.</i>
Hygrophorus marginatus <i>Pk.</i>	D. subroseum <i>Pk.</i>
H. parvulus <i>Pk.</i>	D. flavidum <i>Pk.</i>
H. Peckianus <i>Howe.</i>	Dictydium umbilicatum <i>Schrd.</i>
Cantharellus pruinosus <i>Pk.</i>	Phoma pallens <i>B. & C.</i>
Lentinus umbilicatus <i>Pk.</i>	Sphæropsis Sambuci <i>Pk.</i>
Boletus robustus <i>Frost.</i>	S. biformis <i>Pk.</i>
B. chromapes <i>Frost.</i>	Hendersonia Sarmentorum
Polyporus Stephensii <i>Berk.</i>	Vermicularia coptina <i>Pk.</i>
Hydnum aurantiacum <i>Batsch.</i>	Septoria Scrophulariæ <i>Pk.</i>
Michenera Artocreas <i>B. & C.</i>	S. Rhoidis <i>B. & C.</i>
Corticium giganteum <i>Fr.</i>	Dinemasporium Pezizula <i>B. & C.</i>

- Cytispora Micheneri* B. & C.
Discella discoidea C. & P.
Sphæronema oxysporum Berk
S. conforme Pk.
Coryneum Kunzei Cð.
Pestalozzia insidens Zab.
Septonema bicolor Pk.
Sporidesmium Lepraria B.&Br
Melanconium disseminatum Fr
M. oblongum B. & C.
Puccinia Sorghi Schw.
Ustilago destruens Duby.
Peridermium columnare A.&S.
Æcidium Dracontiatum Schw.
Cystopus Amaranthi Schw.
Stilbum candidum Pk.
Stachybotrys lobulata Berk.
Haplographium apiculatum
Helminthosporium Urticæ Pk.
Macrosporium Saponariæ Pk.
Nematogonum aurantiacum
Perenospora Geranii Pk.
P. obliqua Ck.
Erysiphella aggregata Pk.
Microsphæra Van Bruntiana
Chætomium lanosum Pk.
Geoglossum velutipes Pk.
Peziza onotica Pers.
P. repanda Wahl.
P. pallidula C. & P.
P. omphalodes Bull.
P. sepulta Fr.
P. ovilla Pk.
P. clandestina Bull.
P. fusicarpa Ger.
P. hyalina Pers.
P. cinera Batsch.
P. scirpina Pk.
P. Pteridis A. & S.
P. corneola C. & P.
P. subatra C. & P.
Peziza atrocinerea Ck.
Helotium pileatum Pk.
H. salicellum Fr.
Patellaria fusispora C. & P.
P. fenestrata C. & P.
Dermatea cinnamomea C. & P.
Sphinctrina tigillaris B. & Br.
Cenangium Rubi Fr.
C. Aucupariæ Fr.
C. deformatum Pk.
Stictis pupula Fr.
S. hysterina Fr.
S. quercina Pk.
Rhytisma Urticæ Fr.
Hysterium Roussellii De Not.
H. clavisporum C. & P.
Colpoma lacteum Pk.
Ailographum subconfluens Pk
Torrubia clavulata Schw.
T. superficialis Pk.
Nectria sanguinea Fr.
Hypoxylon fuscopurpureum
Dothidea Linderæ Ger.
Diatrype aspera Fr.
D. discoidea C. & P.
D. anomala Pk.
Melanconis bicornis Cooke.
Valsa Prunastri Fr.
V. Rubi Pk.
V. Woolworthi Pk.
V. leiphemia Fr.
V. acerina Pk.
V. oxyspora Pk.
V. obscura Pk.
V. mucronata Pk.
V. femoralis Pk.
V. sambucina Pk.
Cucurbitaria alnea Pk.
C. seriata Pk.
Lophiostoma Jerdoni B. & Br.
L. macrostoma Fr.

Lophiostoma triseptata <i>Pk.</i>	Sphæria pulicaris <i>Pers.</i>
L. Spirææ <i>Pk.</i>	S. rubefaciens <i>Pk.</i>
L. Scrophulariæ <i>Pk.</i>	S. Urticæ <i>Rabh.</i>
Sphæria callista <i>B. & C.</i>	S. mirabilis <i>Pk.</i>
S. subcorticalis <i>Pk.</i>	S. tubæformis <i>Tode.</i>
S. hirtissima <i>Pk.</i>	Sphærella sparsa <i>Awd.</i>
S. phæostromoides <i>Pk.</i>	S. carpinea <i>Fr.</i>
S. eximia <i>Pk.</i>	S. indistincta <i>Pk.</i>
S. canina <i>Pk.</i>	S. orbicularis <i>Pk.</i>
S. valsoides <i>Pk.</i>	Venturia Myrtilli <i>Cooke.</i>
S. minima <i>Awd.</i>	V. maculans <i>Pk.</i>
S. scoriadea <i>Fr.</i>	V. Clintonii <i>Pk.</i>
S. monosperma <i>Pk.</i>	V. Kalmiæ <i>Pk.</i>

(3.)

CONTRIBUTORS AND THEIR CONTRIBUTIONS.

Miss M. L. WILSON, Buffalo, N. Y.

Collema limosum *Nyl.* | Biatora uliginosa *Fr.*

Mrs. L. A. MILLINGTON, Glens Falls, N. Y.

Aspidium Noveb. v. fragrans. | Peridermium decolorans *Pk.*
Dothidea Pteridis *Fr.* | P. elatinum *A. & S.*

Mrs. E. E. ATWATER, Chicago, Ill.

Sarracenia variolaris <i>Mx.</i>	Leucobryum minus <i>Hampe.</i>
Viola ped. v. bicolor.	Hedwigia ciliata <i>Ehrh.</i>
Drosera capillaris <i>Poir.</i>	Bryum Atwateriæ <i>C. Mull.</i>
D. brevifolia <i>Ph.</i>	Hypnum molluscum <i>Hedw.</i>
Ascyrum amplexicaule <i>Mx.</i>	Lentinus Lecomtei <i>Fr.</i>
Silene Pennsylvanica <i>Mx.</i>	Polyporus hirsutus <i>Fr.</i>
Melia Azederach <i>L.</i>	P. cinnabarinus <i>Fr.</i>
Sassafras officinale <i>Nees.</i>	Stereum fasciatum <i>Fr.</i>
Lycopodium alopecuroides <i>L.</i>	Mitremyces lutescens <i>Schw.</i>
Dicranum scoparium <i>L.</i>	Peridermium Cerebrum <i>Pk.</i>

Rev. H. WIBBE, Oswego, N. Y.

Sedum reflexum *L.*

Rev. J. L. ZABRISKIE, New Baltimore, N. Y.

Dinemasporium Pezizula B.&C	Blastesis tridens Zab.
Pestalozzia insidens Zab.	Lophiostoma Jerdoni B. & Br.
P. rostrata Zab.	Diatrype discoidea C. & P.

Prof. C. E. BESSEY, Ames, Iowa.

Ustilago foetens B. & C.	Ustilago destruens Duby.
--------------------------	--------------------------

Prof. A. N. PRENTISS, Ithaca, N. Y.

Negundo aceroides Mærch.	Primula Mistassinica Mx.
Nardosmia palmata Hook.	Trillium erec. v. album Ph.
Pinguicula vulgaris L.	

Prof. J. HALL, Albany, N. Y.

Hellvella esc. v. conica Fr.	Spilocæa Pomi Fr.
------------------------------	-------------------

C. DEVOL, M. D., Albany, N. Y.

Platyserium alaicorne Gaud.	Cucurbitaria seriata Pk.
-----------------------------	--------------------------

E. C. HOWE, M. D., Yonkers, N. Y.

Centaurea nigra L.	Microsphæra Platani Howe.
Coryneum dis. v. ellipticum.	M. Symphoricarpi Howe.
Puccinia bullaria Lk.	M. Menispermi Howe.
Patellaria dispersa Ger.	M. Viburni Schw.
Diatrype prominens Howe.	Sphæria Platanicola Howe.

H. WILLEY, New Bedford, Mass.

Synalissa Schæreri Mass.	Ramalina rigida Pers.
--------------------------	-----------------------

R. KERSTING, Yonkers, N. Y.

Centaurea nigra L.

H. A. WARNE, Oneida, N. Y.

Azolla Caroliniana Willd.	Epichloe typhina Berk.
Hydnum auriscalpium L.	Geoglossum velutipes Pk.

E. L. HANKENSON, Newark, N. Y.

Habenaria leucophæa Nutt.

W. R. GERARD, Poughkeepsie, N. Y.

Septoria maculosa Ger.	Patellaria dispersa Ger.
Stilbum aurifilum Ger.	Hysterium vixvisibile Ger.
Peziza Cucurbitæ Ger.	H. magnosporium Ger.

J. T. LOCKWOOD, Hunter, N. Y.

Lygodium palmatum *Sw.*

B. D GILBERT, Utica, N. Y.

Carex Grayi *Carey.*C. Crawei *Dewey.*C. livida *Willd.*

Brotychium matricariæefolium

A. Br.

M. RUGER, New York, N. Y.

Amarantus spinosus *L.*Scleria verticillata *Mx.*

E. S. MILLER, Wading River, N. Y.

Ustilago Montagnei *v. major* *Desm.*

J. B. ELLIS, Newfield, N. J.

Agaricus trullisatus *Ellis.*Polyporus contiguus *Fr.*Thelephora pedicellata *Schw.*Hymenochæte tabacina *Fr.*H. agglutinans *Ellis.*Corticium colliculosum *B. & C.*Exobasidium discoideum *Ellis*E. Andromedæ *Pk.*Scleroderma Geaster *Fr.*

Hendersonia sarmentorum.

Pestalozzia pezizoides *DeNot.*Melanconium magnum *Berk.*M. bicolor *Nees.*Bactridium Ellisii *Berk.*Septonema bicolor *Pk.*Phragmidium mucronatum *Fr*P. speciosum *Fr.*Puccinia Smilacis *Schw.*P. Helianthi *Schw.*Uromyces Spermacocis *Schw.*Ustilago Syntherismæ *Schw.*Røstelia Ellisii *Pk.*Æcidium pyratum *Schw.*Æ. myricatum *Schw.*Peridermium pyriforme *Pk.*

Gymnosporangium Juniperi.

G. clavipes *C. & P.*G. bisseptatum *Ellis.*Podisoma Ellisii *Berk*

Dendriphium quadriseptatum.

Helminthosporium 7 septatum.

Chætomium melioloïdes *C.&P.*Peziza albopileata *Ck.*P. Erigeronata *Ck.*P. pollinaria *Ck.*P. protrusa *B. & C.*P. Andropogonis *B. & C.*Nectria inaurata *B. & Br.*Triblidium unisculptum *Ck.*Hypoxyton Sassafras *Schw.*H. marginatum *Schw.*Valsa Peckii *Howe.*Sphæria hirtissima *Pk.*S. pulveracea *Ehrh.*Venturia pulchella *C. & P.*

HON. T. M. PETERS, Moulton, Ala.

Neviusia Alabamensis <i>Gr.</i>	Myriangium Curtisii <i>M. & B.</i>
Leavenworthia Michauxii <i>Tor.</i>	Corticium prasinum <i>B. & C.</i>
Diamorpha pusilla <i>Nutt.</i>	Hygrophorus Petersii <i>B. & C.</i>
Asplenium pinnatifidum <i>Nutt.</i>	Pilacre Petersii <i>B. & C.</i>
Trichomanes radicans <i>Sw.</i>	Hypocrea Petersii <i>B. & C.</i>
T. Petersii <i>Gr.</i>	Hypoxylon Petersii <i>B. & C.</i>
Lemanea fluviatilis <i>Ag.</i>	Dendrina Diospyri <i>B. & C.</i>

HON. G. W. CLINTON, Buffalo, N. Y.

Stereum candidum <i>Schw.</i>	Uromyces Graminum <i>Ck.</i>
Phoma Mariæ <i>Clinton.</i>	Protomyces Menyanthi.
Sphæropsis Wilsoni <i>Clinton</i>	Monotospora biseptata <i>Pk.</i>
S. Squieriæ <i>Clinton.</i>	Microsphæra abbreviata <i>Pk.</i>
S. Clintonii <i>Pk.</i>	Helotium salicellum <i>Fr.</i>
Diplodia Herbarum <i>Lev.</i>	Sphinctrina tigillaris <i>B. & Br.</i>
Hendersonia Peckii <i>Clinton.</i>	Hysterium clavisporum <i>C.&P.</i>
H. Mariæ <i>Clinton.</i>	Melogramma Bulliardii <i>Tul.</i>
Septoria Scrophulariæ <i>Pk.</i>	Melanconis bicornis <i>Ck.</i>
S. Rhoidis <i>B. & C.</i>	Valsa suffusa <i>Fr.</i>
S. Verbascicola <i>B. & C.</i>	V. femoralis <i>Pk.</i>
S. Sambucina <i>Pk.</i>	Lophiostoma triseptata <i>Pk.</i>
S. Wilsoni <i>Clinton.</i>	Sphæria callista <i>B. & C.</i>
Vermicularia coptina <i>Pk.</i>	S. acer. v. Juniperi <i>West.</i>
Asteroma Rosæ <i>DC.</i>	S. rubefaciens <i>Pk.</i>
Cytispora Micheneri <i>B. & C.</i>	S. Daturæ <i>Schw.</i>
Melanconium minutissimum.	S. perisporioides <i>B. & C.</i>
Pestalozzia Peckii <i>Clinton.</i>	Sphærella oblivia <i>Ck.</i>
Puccinia Smilacis <i>Schw.</i>	S. carpinea <i>Fr.</i>
P. Dayi <i>Clinton.</i>	S. sparsa <i>Awd.</i>
P. Clintonii <i>Pk.</i>	Venturia Clintonii <i>Pk.</i>
P. Sorghi <i>Schw.</i>	

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

Barbula recurvifolia <i>Schp.</i>	Morchella esculenta <i>Pers.</i>
Hypnum compactum <i>C. Mull.</i>	Leotia lubrica <i>Pers.</i>
Tremella foliacea <i>Pers.</i>	Torrubia militaris <i>Fr.</i>
Pistillaria Muscicola <i>Fr.</i>	Xylaria polymorpha <i>Grev.</i>
Perichæna flavida <i>Pk.</i>	Sphæria fimbriata <i>Pers.</i>
Licea perreptans <i>Berk.</i>	S. coprophila <i>Fr.</i>

C. C. PARRY, Davenport, Iowa.

Æcidium bifforme *Ph.*

| *Calyptospora Gœppertiana*

Kühn.

J. M. CONGDON, East Greenwich, R. I.

[*By exchange.*]

<i>Acer macrophyllum</i> <i>Ph.</i>	<i>Eleocharis rostellata</i> <i>Torr.</i>
<i>Desmodium sessilifolium</i> <i>T.&G.</i>	<i>Rhynchospora scirpoides</i> <i>Gr.</i>
<i>Hedysarum boreale</i> <i>Nutt.</i>	<i>Scirpus sylvaticus</i> <i>L.</i>
<i>Garrya Fremontii</i> <i>Don.</i>	<i>Scleria reticularis</i> <i>Mx.</i>
<i>Plectritis congesta</i> <i>DC.</i>	<i>Carex salina</i> <i>Wahl.</i>
<i>Galium verum</i> <i>L.</i>	<i>C. maritima</i> <i>Vahl.</i>
<i>Aster graminifolius</i> <i>Ph.</i>	<i>C. polymorpha</i> <i>Muhl.</i>
<i>Solidago elliptica</i> <i>Ait.</i>	<i>C. muricata</i> <i>L.</i>
<i>Primula suffruticosa</i> <i>Gr.</i>	<i>C. paludosa</i> <i>Good.</i>
<i>Sarcodes sanguinea</i> <i>Don.</i>	<i>C. præcox</i> <i>Jacq.</i>
<i>Mimulus rubellus</i> <i>Gr.</i>	<i>C. Novæ-Angliæ</i> <i>Schw.</i>
<i>Gilia pungens</i> <i>Gr.</i>	<i>Calamagrostis stricta</i> <i>Trin.</i>
<i>Castanea chrysophylla</i> <i>Doug.</i>	<i>C. Lapponica</i> <i>Trin.</i>
<i>Lacnanthes tinctoria</i> <i>Ell.</i>	<i>Oryzopsis Canadensis</i> <i>Don.</i>
<i>Listera convallarioides</i> <i>Hook.</i>	<i>Poa cæsia</i> <i>Sm.</i>

(4.)

PLANTS, INDIGENOUS AND INTRODUCED, NOT
BEFORE REPORTED.

NEGUNDO ACEROIDES *Manch.*

Inlet Valley, near Ithaca. *Prof. A. N. Prentiss.* The credit of the discovery of these trees in the locality given is attributed to *Mr. J. C. Branner*, a student of Cornell University.

PYRUS SAMBUCIFOLIA *Cham. & Schl.*

Adirondack Mountains. Not common.

SEDUM REFLEXUM *L.*

Near Burden's lake, Rensselaer county. *Rev. H. Wibbe.* I am informed by *Mr. Wibbe* that the plants grow on a bank by the road-side, in a reddish soil of clay and shale and that they appear to be thoroughly naturalized. He was unable to learn upon inquiry that the plant is now or ever had been in cultivation any where in the vicinity.

ASTER AMETHYSTINUS *Nutt.*

Green Island, Albany county. The locality of this fine aster was made known to me by *Mr. Wibbe*. The plants are not numerous and are associated with *Aster Nova-Angliæ* and *A. multiflorus*.

CENTAUREA NIGRA *L.*

Rocky places. Yonkers. *R. Kersting* and *E. C. Howe*.

HABENARIA LEUCOPHÆA *Nutt.*

Sphagnous marshes on the shores of Mud pond, Wayne county. *E. L. Hankenson*.

BROMUS TECTORUM *L.*

Riverhead, Long Island. *E. S. Miller*.

BARBULA RECURVIFOLIA *Schp.*

Watkins Glen. *C. F. Austin*. Sterile.

HYPNUM COMPACTUM *C. Mull.*

Eldridge Glen, near Seneca lake, *Austin*. Sterile.

BIATORA ULIGINOSA *Schrad.*

North Collins. *Miss. M. L. Wilson*.

SYNALISSA SCHLÆRERI *Mass.*

Rocks. Trenton Falls. *H. Willey*.

COLLEMA LIMOSUM *Ach.*

Buffalo. Very rare. *Miss Wilson*.

GLÆOCAPSA RUPESTRIS *Kutz.*

What I take to be this species is not rare about Albany, forming a green stratum on stone steps, walls of buildings, old fences and trunks of trees. It is most conspicuous in wet weather in winter and spring. I have not seen a full description of the species.

HYDROGASTRUM GRANULATUM *L.*

Damp ground in dried water holes. North Greenbush. This plant has been supposed by some to be the cause of ague and has therefore been called the "ague plant," but it is hardly probable that it has any such deleterious quality.

SPIROGYRA LONGATA *Vauch.*

In ditches along the railroad. North Greenbush. June.

AGARICUS (LEPIOTA) PUSILLOMYCES *n. sp.*

Pileus thin, subcampanulate or convex, subumbonate, minutely granular mealy, whitish or dingy; lamellæ broad, close, free, white; stem slender, equal, exannulate, rough with a granular-mealiness, colored like the pileus; spores elliptical, .00016'-.0002'* long.

Plant scarcely 1' high, pileus 2"-4" broad, stem .5" thick.

Ground under *Pteris aquilina*. Lake Pleasant. August. (Plate 1, figs. 1-3.)

The species is related to *A. granulatus* but the plants are very much smaller and ringless.

AGARICUS TENERRIMUS *Berk.*

Under pine and hemlock trees. Northville, Fulton county. August.

AGARICUS (OMPHALIA) AUSTINI *n. sp.*

White, rather tenacious; pileus convex or hemispherical, glabrous, striate, deeply umbilicate, sometimes perforate, viscid when moist; lamellæ subdistant, decurrent; stem slender, equal, hollow, smooth, villose at the base; spores elliptical, .00025' long.

Plant gregarious, about 1' high, pileus 3"-6" broad.

Prostrate dead trunk of a small spruce tree. Providence, Saratoga county. August.

Dedicated to *Mr. C. F. Austin*.

AGARICUS (ECCILIA) WATSONI *n. sp.*

Pileus hemispherical or convex, umbilicate, striatulate, brown, the umbilicus darker and rough with minute blackish-brown scales; lamellæ distant, arcuate, decurrent, whitish then flesh-colored; stem equal, smooth, shining, brownish or pallid; spores angular, generally with a single nucleus, .00035'-.0004' in diameter.

Plant 1' high, pileus 5"-10" broad, stem .5"-1" thick.

Ground in woods. Northampton, Fulton county. August.

Dedicated to *Mr. Sereno Watson*.

* One accent (,) denotes inch or inches, two accents (,,) denote line or lines.

AGARICUS (PHOLIOTA) DETERSIBILIS *n. sp.*

Pileus hemispherical or convex, thin, densely coated with small erect pyramidal or spinulose scales, ochraceous-brown; lamellæ broad, plane, close, reaching the stem, slightly attached, pallid then cinnamon-brown; stem equal, stuffed or hollow, squamulose below the obsolete ring, colored like the pileus, often curved; spores unequally elliptical, .0003'-.00035' long.

Plant about 1' high, pileus 6" broad, stem 1" thick.

Decaying trunks of deciduous trees in woods. Lake Pleasant. August.

The small soft scales are rubbed off easily, whence the specific name. I suspect that under more favorable conditions the plant may grow considerably larger than the dimensions given.

AGARICUS (HEBELOMA) COLVINI *n. sp.*

Pileus fleshy, convex or expanded, sometimes gibbous or broadly umbonate, rarely centrally depressed, glabrous grayish or alutaceous inclining to pale ochre; lamellæ close, broad, emarginate or rounded behind, whitish or pallid becoming brownish; stem flexuous, silky-fibrillose, stuffed or hollow, solid toward the base, whitish; spores subelliptical, .0004'-.0005' long.

Plant 2'-4' high, pileus 1'-3' broad, stem 1"-3" thick.

Sand hills near West Albany. October.

This interesting species is dedicated to *Mr. V. Colvin*, to whom is due the credit of its discovery. Its habitat is peculiar, being the clear drifting sand of the plains west of Albany. The mycelium binds the sand together in a mass which adheres to the base of the stem. A cricket was observed feeding upon the pileus of a small specimen.

COPRINUS SEYMOURI *n. sp.*

Cæspitose, fragile; pileus thin, soon expanded, smooth or sprinkled with minute granular scales, dark-brown, the disk sometimes with a reddish tinge, strongly striate or subplicate, the thin margin soon splitting and revolute; lamellæ close, narrow, reaching the stem, brown then black; stem equal, hollow, smooth or slightly pulverulent, white; spores broadly ovate, compressed, .00025'-.0003' long, .0002'-.00025' broad.

Plant 3'-4' high, pileus 8"-12" broad, stem 1" thick.

Clay soil. Albany. October.

It is allied to *C. micaceus*, but is thinner, more fragile, darker in color, with more narrow lamellæ which are darker in the young plant. The species is respectfully dedicated to *Hon. H. Seymour*.

HYGROPHORUS MARGINATUS n. sp.

Fragile; pileus subcampanulate or expanded, often irregular or lobed, sometimes broadly umbonate, glabrous, shining, often minutely rimose, striatulate on the thin margin, bright golden-yellow; lamellæ rather broad, subdistant, ventricose, emarginate, often venose-connected, yellow, becoming more highly colored with age, the edge generally changing to orange or vermilion; stem smooth, hollow, often flexuous or irregular, pale yellow; spores subelliptical, about .0003' long.

Plant 2' high, pileus about 1' broad, stem 1"-2" thick.

Ground in woods. Northville. August.

This seems to be the American analogue of the European *H. obrusseus*. After considerable hesitation I have ventured to separate it as a species because of its smaller size and the red color of the edge of the lamellæ, a singular character which has suggested the specific name.

HYGROPHORUS PARVULUS n. sp.

Pileus thin, hemispherical or convex, smooth, hygrophanous, striatulate on the margin when moist, sulphur-yellow; lamellæ, subdistant, arcuate, adnate or decurrent, pale-yellow or whitish; stem equal, smooth, hollow, pale-yellow or luteous.

Plant 1' high, pileus 3"-4" broad.

Ground in woods and under *Pteris aquilina*. Northville and Lake Pleasant. August. (Plate 1, figs. 20-24.)

The stem and pileus are slightly viscid when young and moist. The stem is sometimes more highly colored than the pileus, an unusual feature in the *Agaricini*.

HYGROPHORUS PECKIANUS Howe.

Ground under *Pteris aquilina*. Lake Pleasant. August.

LACTARIUS AQUIFLUUS n. sp.

Pileus fragile, fleshy, convex or expanded, at length centrally depressed, dry, smooth, or sometimes appearing as if clothed with a minute appressed tomentum, reddish tan-

colored, the decurved margin often flexuous; lamellæ rather narrow, close, whitish, becoming dull reddish yellow; stem more or less elongated, equal or slightly tapering upward, colored like the pileus, smooth, hollow, the cavity irregular as if eroded; spores subglobose, rough, .0003' in diameter; flesh colored like the pileus; milk sparse, watery.

Plant 3'-8' high, pileus 3'-6' broad, stem 5''-10'' thick.

Swamps and wet mossy places in woods. Sandlake and North Elba. August and September.

The relationship of this plant is with *L. scripfuus*, to which it was formerly referred, but from which I am now satisfied it is distinct. The hollow stem is a constant character in our plant, and affords a ready mark of distinction. The plant, though large, is very fragile, and breaks easily. The taste is mild or but slightly acrid. Sometimes there is an obscure zonation on the pileus, which, in large specimens, is apt to be irregular and much worm-eaten. The milk looks like little drops of water when first issuing from a wound, but it becomes a little less clear on exposure to the atmosphere. The decided but agreeable odor of the dried specimens persists a long time.

CANTHARELLUS PRUINOSUS *n. sp.*

Pileus convex, even or slightly umbilicate, pruinose, white; lamellæ distant, simple, long-decurrent; stem slender, slightly enlarged above, pruinose, whitish.

Plant scarcely 1' high, pileus 2''-3'' broad.

Ground in pastures. Sageville, Hamilton county. August.

The small size and white mealy pruinosity are distinguishing features in this species. But for the obtuse edge of the lamellæ it might readily be taken for some small *Omphalia*, especially as the lamellæ are not branched.

LENTINUS UMBILICATUS *n. sp.*

Pileus fleshy, thin, tough, smooth, deeply umbilicate hygrophanous, brownish tan-colored when moist, paler when dry; lamellæ crowded, adnate or decurrent, serrate on the edge, whitish; stem slender, short, smooth, nearly even, tough, stuffed or hollow, central or eccentric, colored like the pileus.

Plant about 1' high, pileus 6''-12'' broad, stem 1'' thick.

Ground and old logs. Lake Pleasant. August. (Plate 1, figs. 15-19.)

It is related to *L. cochleatus*, which it resembles in color

and texture, but it is a much smaller plant, with a more slender and not sulcate stem. It is gregarious in habit. The form with eccentric stem grew on decaying logs, and has the stem more or less curved.

BOLETUS ROBUSTUS Frost.

Borders of woods. Sandy Creek, Oswego county. July.

BOLETUS CHROMAPES Frost.

Woods. Northville. August.

POLYPORUS STEPHENSII Berk.

Under side of spruce logs in woods. Indian Lake. July.
It forms patches several feet in extent.

HYDNUM AURANTIACUM Batsch.

Ground. Albany. August.

HYDNUM AURISCALPIUM L.

Old cones of Scotch fir. Oneida. *H. A. Warne.* Autumn.

MICHENERA ARTOCREAS B. & C.

Dead branches of black ash, *Fraxinus sambucifolia.*
Lake Pleasant. August.

The hymenium in our specimens is of a dull reddish or pale chestnut color, and the spores are generally bluntly pointed or beaked, but the species is so singular that I have no doubt of the correctness of the determination.

CORTICIUM GIGANTEUM Fr.

Pine wood and bark. Albany.

CORTICIUM COLLICULOSUM B. & C.

Dead branches. North Greenbush.

STEREUM CANDIDUM Schw.

Bark of trees. Gowanda, Erie county. *G. W. Clinton.*

CYPHELLA MUSCIGENA Fr.

Mosses on precipices in woods. Lake Pleasant. August.

SOLENTIA FILICINA n. sp.

Cups springing from an ochraceous, white-margined, tomentose subiculum, elongated, clavate or cylindrical, deflexed, clothed with appressed hairs or tomentum, ochra-

ceous; spores hyaline, broadly fusiform, pointed at the ends, containing one or two nuclei, .0004' long.

Base of living fern stems. Lake Pleasant. August.

The basal part of the cups sometimes turns brown and shrinks in size, so that they appear as if stipitate. Both the habitat and the effused stratum of tomentum are noteworthy features.

CLAVARIA RUGOSA Bull.

Ground in woods. Northampton and Sageville. August,

CLAVARIA PULCHRA n. sp.

Simple, small, about 1' high, club elongate-clavate, obtuse, yellow, sometimes a little darker at the apex, gradually tapering into the whitish or pale yellow stem-like base.

Ground and decaying wood in damp shaded places. Northville and Chittenango Falls. August. (Plate 1, fig. 10.)

A pretty species, associated with *C. fusiformis* in both localities, but differing from it in shape and habit.

CLAVARIA GRACILLIMA n. sp.

Simple, very slender, smooth, about 1' high, rather tough; club acute or acuminate, pale yellow, a little thicker than the long slender distinct bright yellow shining stem.

Among moss in a pasture. Northville. August. (Plate 1, fig. 9.)

In this species, as in *C. argillacea*, the hymenium is quite distinct from the stem.

TYPHULA GREVILLEI Fr.

Fallen leaves. Lake Pleasant. August.

The stem in our specimens is not distinctly pilose.

TREMELLA VESICARIA Bull.

Ground in damp shaded places. Oneida. Warne. Albany and Greenbush.

TREMELLA MYCETOPHILA n. sp.

Suborbicular, depressed, gyrose-plicate, tremelloid-fleshy, slightly pruinose, yellowish or pallid, 4"-8" broad.

Stem and pileus of *Agaricus dryophilus*. Oneida. Warne. North Elba. August. (Plate 1, fig. 4.)

ÆTHALIUM GEOPHILUM n. sp.

Effused in small irregular masses, whitish or yellowish, sometimes with a slight pinkish tinge; spores globose, colorless, .00016'-.0002' in diameter.

Damp ground in woods. Sageville. August.

The small size and colorless spores furnish the distinguishing characters of this species.

DIDERMA FLAVIDUM n. sp.

Cæspitose, small, external peridium thick, pale yellow or lemon color outwardly, white within, rupturing irregularly, inner peridium delicate; flocci white; spores black, globose, minutely rough, .0005' in diameter.

Among moss on decaying wood. Lake Pleasant. August.

DIDYMIUM OXALINUM n. sp.

Small, sessile, scattered or crowded, subglobose or elongated and somewhat confluent, plumbeus; peridium thin, clothed with a minute whitish mealiness, whitish when evacuated, tawny or reddish-brown within at the base; columella white, subglobose; flocci slender, colored; spores globose, blackish-brown, with a purplish tinge, .00033'-.00035' in diameter.

Living leaves and petioles of wood sorrel, *Oxalis Acetosella*. Williamstown, Oswego county. July.

DIDYMIUM SUBROSEUM n. sp.

Peridium subglobose, externally farinaceous, pinkish-white; stem short, white, equal or slightly tapering upward; flocci white; spores globose, smooth, purplish-black, .00033' in diameter.

Bark of butternut trees, *Juglans cinerea*. Williamstown. July.

DIDYMIUM FLAVIDUM n. sp.

Peridium subglobose, sessile, thin, yellow, clothed with a minute yellow mealiness; spores subglobose, black, .0004' in diameter.

Bark of dead balsam trees, *Abies balsamea*. North Elba. August.

DICTYDIUM UMBILICATUM Schrad.

Decaying wood. North Greenbush. June.

LICEA OCHRACEA *n. sp.*

Peridia short, connate, springing from a white gelatinous hypothallus, coated externally with a minute golden-yellow or bright-ochraceous mealiness; spores globose, purplish black, .0004' in diameter.

Living grass and club moss, *Lycopodium annotinum*. Lake Pleasant. August.

The tufts or patches are small and when moist are of a brown color, but upon drying the yellow color of the minute branny scales or mealiness becomes apparent.

PHOMA PALLENS *B. & C.*

Dead stems of woodbine, *Ampelopsis quinquefolia*. North Greenbush. June.

PHOMA MARIE *Clinton n. sp.*

Perithecia minute, punctiform or subhysteriform, covered by the epidermis, black; spores oblong-elliptical somewhat pointed, hyaline, with a nucleus near each end, .00033' long.

Living stems of *Lonicera flava* and *L. Tartarica*. Buffalo. *Clinton*. November and January.

Dedicated to *Miss Mary L. Wilson*.

SPHÆROPSIS WILSONI *Clinton n. sp.*

Perithecia minute, punctiform, slightly prominent, covered by the epidermis which at length ruptures longitudinally, black; spores oblong-elliptical, colored, .0008'-.0009' long.

Living stems of *Lonicera flava*. Buffalo. *Clinton*. January.

SPHÆROPSIS CLINTONII *n. sp.*

Perithecia minute, scattered, innate, black; spores elliptical or oblong-elliptical, colored .0005'-.0007' long.

Decorticated maple wood. Buffalo. *Clinton*. January.

SPHÆROPSIS SQUIERLÆ *Clinton n. sp.*

Perithecia small, numerous, covered by the epidermis which ruptures longitudinally, black; spores subglobose, colored, .0007'-.0008' long.

Dead stems of *Aristolochia tomentosa*. Buffalo. *Clinton*. January.

SPHÆROPSIS SAMBUCI *n. sp.*

Perithecia subglobose, scattered or subcæspitose, rather prominent, erumpent, surrounded by the ruptured epidermis, black; spores oblong, colored, .0006'-.0008' long.

Dead branches of elder, *Sambucus Canadensis*. North Greenbush, November.

Sphaeropsis nutica and *S. macropsora* are said to inhabit the elder, but the former is described as having very small hyaline spores, and the latter as having much larger subfusiform spores.

SPHÆROPSIS BIFORMIS *n. sp.*

Perithecia scattered, erumpent, some minute, rupturing the epidermis slightly, others larger, rupturing the epidermis distinctly, and generally longitudinally; spores variable, obovate elliptical or oblong, sometimes curved, colored, .0006'-.001' long.

Dead branches of ash, *Fraxinus Americana*. Albany. May.

SPHÆRONEMA OXYSPORUM *Berk.*

Old *Merulius tremellosus*. Forestburgh. September.

SPHÆRONEMA CONFORME *n. sp.*

Perithecia scattered, erumpent, with a long, rigid, spine-like black ostiolum; globule whitish; spores subfusiform, generally curved, often with one or two nuclei, .0006'-.0008' long.

Dead branches of apple trees. Center. June.

Almost exactly like *S. Spina* and *S. Magnoliæ* externally, but the spores afford distinguishing characters.

DIPLODIA HERBARUM *Lev.*

Dead stems of *Thalictrum cornuti*. Buffalo. Clinton.

HENDERSONIA SARMENTORUM *West.*

Dead bark of grape vines. North Greenbush. June.

HENDERSONIA PECKII *Clinton n. sp.*

Perithecia minute, punctiform, covered by the epidermis which is at length ruptured, black; sporophores long, slen-

der ; spores oblong, slightly colored, triseptate, shorter than the sporophores, from which they soon separate, .0005'-.0007' long.

Living stems of *Lonicera flava*. Buffalo. Clinton. January.

HENDERSONIA MARLÆ *Clinton n. sp.*

Perithecia as in the preceding species ; sporophores shorter than the spores, persistent ; spores oblong, often a little curved, five-septate, colored, with the basal cell and sometimes also the apical cell hyaline, about .001' long.

Living stems of *Lonicera flava*. Buffalo. Clinton. January.

SEPTORIA SCROPHULARIÆ *n. sp.*

Spots small, arid, whitish, surrounded by a purplish-brown border ; perithecia few, on the upper surface ; spores filiform, curved, hyaline, .001'-.0016' long.

Living leaves of *Scrophularia nodosa*. Buffalo. Clinton. Albany. June.

SEPTORIA RHODIS *B. & C.*

Leaves of sumach. Forestburgh. September. Buffalo. Clinton. October.

SEPTORIA VERBASCICOLA *B. & C.*

Leaves of *Verbascum Blattaria*. Buffalo. Clinton. August. The specimens agree with those distributed under this name by the late Dr. Curtis, but so far as I am aware no description has ever been published.

SEPTORIA MACULOSA *Ger.*

Leaves of *Cuphæa viscosissima*. Poughkeepsie. *W. R. Gerard.*

SEPTORIA WILSONI *Clinton n. sp.*

Spots scattered, suborbicular, arid, whitish or pallid, surrounded by a darker border ; perithecia minute, blackish ; spores filiform, more or less curved, sometimes nucleate, .0015'-.002' long.

Leaves of *Chelone glabra*. Buffalo. Clinton.

SEPTORIA SAMBUCINA *n. sp.*

Spots arid, whitish, surrounded by a broad, dark margin, brown or purplish-brown on the lower surface; perithecia on the upper surface, few, minute; spores long, filiform, more or less curved, obscurely three to six-septate, .002'-.003' long.

Leaves of elder, *Sambucus Canadensis*. Buffalo. Clinton. October.

VERMICULARIA COPTINA *n. sp.*

Perithecia minute, slightly prominent, black, with a tuft of divergent one or two-septate hairs at the apex; spores curved, pointed at each end, hyaline, .0008'-.001' long.

Dead or dying leaves of gold thread, *Coptis trifolia*. Buffalo. Clinton. Sandlake and Sandy Creek. June to October.

DINEMASPORIUM PEZIZULA *B. & C.*

Decaying elder wood. New Baltimore. Rev. J. L. Zabriskie. North Greenbush. May and June.

BLASTESIS TRIDENS *Zab.*

Living quince leaves. Flatbush, Long Island. Zabriskie.

ASTEROMA ROSÆ *DC.*

Leaves of *Rosa rubiginosa*. Buffalo. Clinton. October.

CYTISPORA MICHENERI *B. & C.*

Dead ash branches. Angola. Clinton. Greenbush. May. It sometimes renders the branch rough for several feet.

DISCELLA DISCOIDEA *C. & P.*

Erumpent, discoid, reddish when moist, black or blackish when dry, surrounded by the lacerated epidermis which splits in a somewhat stellate manner; perithecia obsolete above; sporophores long, branched or simple, the branches subclavate; spores abundant, oblong or elliptical, colorless, .0008'-.0012' long, containing a granular endochrome.

Dead branches of the water beech, *Carpinus Americana*. Greenbush. May. (Plate 1, figs. 34-37.)

MELANCONIUM DISSEMINATUM *Fr.*

Decaying wood. Richmondville and Hunter. June and July.

The masses of spores often occupy the summit of little protuberances of the wood, as if the fungus prevented or retarded the decay and wasting away of the woody tissues immediately beneath it.

MELANCONIUM OBLONGUM *B. & C.*

Bark of butternut trees, *Juglans cinerea*. Greenbush. May.

MELANCONIUM MINUTISSIMUM *Schw.*

Bark of *Platanus occidentalis*. Buffalo. Clinton. April.

CORYNEUM DISCIFORME *var. ELLIPTICUM B. & Br.*

Dead birch branches. Yonkers. Howe.

CORYNEUM KUNZEI *Cd.*

Dead branches of white birch, *Betula populifolia*. West Albany. May.

PESTALOZZIA INSIDENS *Zab.*

Bark of Elm trees. New Baltimore. *Zabriskie*. Hunter, Greene county. April and June.

The spores in this species are .0011'-.0015' in length, exclusive of the long bristles at the extremities. There are generally four central colored cells.

PESTALOZZIA ROSTRATA *Zab.*

Bark of Lonicera and of apple trees. New Baltimore. *Zabriskie*.

Externally this species closely resembles the preceding, but the spores are smaller, being .001' long, and have no bristle at the base. There are usually four central colored cells. I cannot distinguish the spores of this from those of *P. concentrica B. & R.*, from which, therefore, it differs only in habit and habitat, and to which it ought perhaps to be united.

PESTALOZZIA PECKII *Clinton n. sp.*

Pustules thickly scattered over the surface of the leaf or over indefinite grayish spots, erumpent, black; spores

straight or slightly curved, subfusiform, pale, with two or three colored central cells and a hyaline cell at each extremity, .0006'-.0007' long exclusive of the single short sometimes deciduous apical bristle; pedicels slender, hyaline, about as long as the colored part of the spore.

Under surface of fallen oak leaves, *Quercus alba*. Buffalo. Clinton. May.

The apical hyaline cell is somewhat elongated and abruptly contracted into the short straight erect bristle. The species is allied to *P. hysteriiformis*, from which it differs in its much paler spores, more numerous orbicular pustules and absence of spots or in having its indefinite spots not at all concentrically divided.

SEPTONEMA BICOLOR *n. sp.*

Sori small, scattered, varying in color from yellowish to blackish, generally dark olivaceous with a paler or yellowish center; spores elliptical-oblong, somewhat irregular; multicellular, at length rough and opaque.

Decorticated surface of wood. Forestburgh. September.

The species is similar in habit to *S. spilomeum*, but the threads of spores are coarser, the sori are different in color and the spores are both transversely and vertically septate, making them multicellular, although this is seen with difficulty except in the younger spores.

SPORIDESMIUM LEPRARIA *Berk.*

Decaying wood. Sandlake, Rensselaer county.

PUCCINIA BULLARIA *Lk.*

Stems of *Sanicula*. New Baltimore. Howe.

PUCCINIA SMILACIS *Schw.*

Leaves of *Smilax rotundifolia*. Shelter Island. Clinton.

PUCCINIA DAYI *Clinton n. sp.*

Spots suborbicular, brown, sori prominent, scattered or confluent, brown; spores oblong-clavate, slightly constricted, .0015'-.0023' long; peduncle slightly colored, one-half to wholly as long as the spore.

Leaves of *Lysimachia ciliata*. Buffalo. Clinton.

Very closely related to *P. Gerardii*, differing chiefly in the darker color of the spots and sori. Dedicated to Mr. D. F. Day.

PUCCINIA CLINTONII *n. sp.*

Spots obliterated; sori amphigenous, clustered or scattered, brown; spores oblong, slightly constricted, .0011'-.0014' long.

Leaves of *Pedicularis*. Goat Island. *Clinton*. October.

PUCCINIA SORGI *Schw.*

Leaves of Indian corn. Buffalo. *Clinton*. West Albany.

UROMYCES GRAMINUM *Cooke.*

Leaves of *Bryzopyrum spicatum*. Shelter Island. *Clinton*. September.

USTILAGO DESTRUENS *Duby.*

Spikes of *Setaria glauca*. Bethlehem. Albany county. September.

PROTOMYCES MENYANTHIS *De Bary.*

Leaves of *Menyanthes trifoliata*. Buffalo. *Clinton*. August.

PERIDERMIIUM COLUMNARE *A. & S.*

Leaves of Hemlock trees. *Abies Canadensis*. Sandlake. July.

The more elongated peridia and the yellow or orange colored spores distinguish this species from *P. balsameum*.

ÆCIDIIUM DRACONTIATUM *Schw.*

Leaves of *Arisæma Dracontium*. North Greenbush. June.

This species occurs also on leaves of *Arisæma triphyllum*.

CYSTOPUS AMARANTHI *Schw.*

Amaranth leaves. Albany. June and July.

STILBUM AURIFILUM *Ger.*

On *Dadalea unicolor*. Poughkeepsie. *Gerard*.

STILBUM CANDIDUM *n. sp.*

White, when dry slightly tinged with yellow, scarcely one line high, scattered, erumpent from minute chinks in

the matrix; head obovate or subglobose; stem slightly tapering upward; spores oblong, colorless, .0004'-.0005' long.

Dead stems of *Amphicarpæa monoica*. Portville. September. (Plate 1, figs. 25-27.)

STACHYBOTRYS LOBULATA *Berk.*

Damp wall paper. Albany. September.

HAPLOGRAPHIUM APICULATUM *n. sp.*

Flocci simple, septate, black, the tips slightly thickened and papillose; spores almond-shaped, very unequal in size, .0002'-.00066' long, with a minute apiculus at each end, forming branched moniliform cinereous threads, which diminish in size upward.

Discolored elongated-conical galls of witch hazel leaves. Bethlehem. September. (Plate 1, figs 28-33.)

The galls which this fungus inhabits are those of a plant louse, *Brysocrypta Hamamelidis* Fitch. Messrs. J. A. Lintner and H. F. Bassett.

MONOTOSPORA BISEPTATA *n. sp.*

Effused, black; flocci erect, simple, septate, slightly thickened at the base, bearing at the apex a single obovate, at first pale and uniseptate, then colored and biseptate spore, .0011'-.0013' long, .0007' broad, with the basal cell generally paler than the others.

Decaying wood. Gowanda. Clinton. October. (Plate 1, figs. 5-8.)

The specimens are accompanied by *Sphaeria hirsuta*.

HELMINTHOSPORIUM URTICÆ *n. sp.*

Flocci forming elongated effused blackish velvety patches, septate, knotty, sometimes slightly branched, the tips paler; spores cylindrical, obtuse, triseptate, colored, about equal in diameter to the flocci, but much shorter, .0006'-.001' long.

Dead nettle stems. Greenbush. May.

MACROSPORIUM SAPONARIÆ *n. sp.*

Spots arid, suborbicular; flocci short, stout, septate, obtuse, colored; spores oblong-clavate, brown or oliva-

ceous-brown, five to ten-septate, .002'-.0036' long, including the very short concolorous peduncle.

Leaves of soapwort, *Saponaria officinalis*. Greenbush. September.

The spores are often longer than the flocci.

NEMATOGONUM AURANTIACUM *Desm.*

Cut surface of a birch stump. Lake Pleasant. August.

PERONOSPORA OBLIQUA *Cooke.*

Living leaves of yellow dock, *Rumex crispus*. North Greenbush, October.

PERONOSPORA GERANII *n. sp.*

Effused, sometimes occupying the whole under surface of the leaf, whitish, the flocci irregularly branched, branches short, divaricately spreading, the apices not swollen, furnished with short slender spicules; aeciospores globose, .0006' in diameter.

Living leaves of *Geranium maculatum*. North Greenbush. June.

Related by its spiculose branches to *P. gangliformis*.

ERYSIPHELLA *nov. gen.*

Perithecia destitute of appendages, spores definite.

This genus differs from *Perisporium* in having a definite number of spores in an ascus, and from *Uncinula*, *Microsp hæra* and *Erysiphe* in being destitute of appendages.

ERYSIPHELLA AGGREGATA *n. sp.*

Mycelium obscure or concealed; perithecia numerous, densely crowded, subglobose, glabrous, reddish-brown or black; sporangia numerous, ten to twenty, varying from oblong-ovate to subclavate; spores eight, broad, elliptical, .0008'-.0009' long, .0005'-.0006' broad.

Fertile aments of alders. North Greenbush. May. (Plate 2, figs. 1-3.)

The perithecia are densely aggregated in the interstices of the aments, giving them a compact blackened appearance. Usually a white meal-like substance more or less involves and, with the crowded perithecia, conceals the mycelium. Sometimes nearly all the aments in a cluster are covered by this fungus.

MICROSPHÆRA PLATANI *Howe.*

Leaves of buttonwood, *Platanus occidentalis*. Yonkers
Howe.

MICROSPHÆRA SYMPHORICARPI *Howe.*

Leaves of snowberry, *Symphoricarpus racemosus*.
Yonkers. *Howe.*

MICROSPHÆRA MENISPERMI *Howe.*

Leaves of moonseed, *Menispermum Canadense*. Yonkers.
Howe.

MICROSPHÆRA ABBREVIATA *n. sp.*

Mycelium thin; conceptacles small; appendages six to fifteen, hyaline, rough, shorter than the diameter of the conceptacles, many times dichotomous at the tips, the ultimate ramuli curved; sporangia three or four, containing three to five, mostly four, spores; spores large, .001'-.0013' long, .00066' broad.

Under surface of dead or languishing oak leaves. Buffalo. Clinton. (Plate 2, figs. 4-5.)

Allied to *M. Hedwigii*, from which it is separated because of the short scabrous appendages, etc.

MICROSPHÆRA VAN BRUNTIANA *Ger.*

Living leaves of elder, *Sambucus Canadensis*. Poughkeepsie. Gerard. Buffalo. Clinton. Oneida. Warne. West Albany and Sandlake. July to September.

This species is described as having eight spores in a sporangium, but I have not been able to detect more than four in the specimens which I have examined.

CHLETOMIUM LANOSUM *n. sp.*

Perithecia small, subglobose, scattered or crowded, densely covered with long woolly hairs, which are either dingy-olivaceous or mouse-colored; asci short, broad, fugacious; spores subglobose, at first pale, then slightly colored. .0003'-.00035' in diameter, containing a single large nucleus.

On herbarium specimens of grasses. Albany. May.

The soft woolly appearance of the hairs suggests the specific name.

GEOGLOSSUM VELUTIPES *n. sp.*

Subcæspitose, black; club short, compressed; stem densely clothed with a very black velvety pubescence; asci lanceolate; spores fasciculate, at first simple or triseptate, then elongated and nine to eleven-septate, brown, .002'-.005' long; paraphyses septate, recurved at the tips.

Ground in hemlock woods. Oneida. *Warne*. Northville. August.

This species is easily distinguished both by its somewhat cæspitose habit and its very black hairy stem. The difference between the young and the mature spores is quite noticeable. I have not seen specimens of *G. Walteri*, a hairy species from Australia, but as it is said to have the spores seven-septate it must be distinct from our plant.

PEZIZA ONOTICA *Pers.*

Ground in woods. Williamstown and Northville. August.

P. unicisa is deemed only a form of this species.

PEZIZA REPANDA *Wahl.*

Ground and decaying wood. Croghan. September.

This is not rare in woods and in damp shaded places. It is quite variable in size and in the degree of expansion of the cups.

PEZIZA PALLIDULA *C. & P.*

Decaying beech wood. Croghan. September.

PEZIZA OMPHALODES *Bull.*

Burnt ground. Sandlake. August.

When confluent, as it often is, it has more the appearance of some *Corticium* than of a *Peziza*.

PEZIZA FUSICARPA *Ger.*

Ground. Poughkeepsie. *Gerard*. North Greenbush and Williamstown. August.

This, according to specimens received from Dr. Curtis, is the *P. velutina* B. & C. in his Catalogue of North Carolina Plants.

PEZIZA SEPULTA *Fr.*

Sand hills near West Albany. October.

Little openings in the sand reveal the places where these plants lie concealed.

PEZIZA OVILLA *n. sp.*

Small, 1"-2" in diameter, at first closed and subglobose, then open, cup-shaped or concave, rather firm, minutely tomentose, whitish, the disk sometimes tinged with pink; asci cylindrical; spores fusiform, large, one or two nucleate, .0013'-.0016' long.

Ground in woods. Sageville. August.

PEZIZA CLANDESTINA *Bull.*

Dead stems of raspberry, *Rubus strigosus*. Sandlake. June.

PEZIZA HYALINA *Pers.*

Decaying wood. Center. June.

PEZIZA CUCURBITÆ *Ger.*

Squashes. Poughkeepsie. *Gerard*.

PEZIZA CINEREA *Batsch.*

Decaying wood. Worcester and Portville. July and September.

PEZIZA CORNEOLA *C. & P.*

Subgregarious, erumpent, soon naked, elevated, pitchy-black, coriaceous or horny; cups at first sphaeroid, opening by a narrow paler mouth, opaque, subrugose, at length cup-shaped, margin inflexed, disk pallid tawny-gray; asci clavate or cylindrical; spores narrowly elliptical, binucleate, hyaline, .0004'-.0005' long.

Decaying stems of herbs. North Greenbush. June.

PEZIZA ATROCINEREA *Cooke.*

Dead stems of Solidago. Albany. June.

PEZIZA SUBATRA *C. & P.*

Gregarious, erumpent, black, soft or waxy; cups at first hemispherical, then open, smooth or slightly rugose, disk fuliginous, margin paler; asci subcylindrical; spores cylindrical, straight or curved, with two or three nuclei, .0006' long.

Dead stems of herbs. North Greenbush. June.

The species is allied to *P. atrata*, *P. ebuli* and *P. sphaerioides*, but it differs in fruit and in the more fibrous structure of the cup.

PEZIZA SCIRPINA *n. sp.*

Minute, scattered, erumpent, glabrous, black externally, paler or grayish within; asci oblong; spores crowded, fusiform, straight or slightly curved, binucleate, colorless, .0008'-.001' long.

Dead stems of *Scirpus cespitosus*. Adirondack Mountains. July.

PEZIZA PTERIDIS *A. & S.*

Dead fern stems. North Greenbush. June.

HELOTIUM PILEATUM *n. sp.*

Subhemispherical or pileiform, stipitate, smooth, whitish, under surface flattened and slightly pruinose; stem rather long, white, pruinose; spores oblong, hyaline, .0004'-.0005' long.

Decaying herbaceous stems in wet places. Hunter, Greene county. June. (Plate 1, figs. 11-14.)

The fresh plant, which is scarcely half an inch high, looks like some very small white Agaricus.

HELOTIUM SALICELLUM *Fr.*

Dead willow twigs. Buffalo. *Clinton*. Dead grape vines. Albany. October.

DERMATEA CINNAMOMEA *C. & P.*

Subcaespitose, erumpent, sessile, surrounded by the ruptured epidermis, somewhat coriaceous, externally pulverulent, cinnamon colored, margin involute, disk brown, nearly plane, somewhat angular when dry; asci elongated-clavate; spores narrowly elliptical, simple, .0005' long.

Dead branches of poplars. Shandaken. June.

PATELLARIA FUSISPORA *C. & P.*

Gregarious immarginate, dull black, orbicular, regular, convex, lenticular, somewhat coriaceous; asci cylindrical, attenuated at the base; spores lanceolate, uniseptate at first with each cell binucleate, ultimately brown,

.0008'–0009' long, .0002' broad ; paraphyses slender, simple, slightly thickened above.

Decaying wood. Portville. September.

PATELLARIA DISPERSA *Ger.*

Bark of *Juniperus Virginiana*. Poughkeepsie. *Gerard.*
New Baltimore. *Howe.*

PATELLARIA FENESTRATA *C. & P.*

Scattered, dull black, somewhat soft and waxy when moist, discoid, rather irregular when dry, margin rounded, elevated, contracted when dry, disk plane or convex, sometimes depressed or umbilicate in the center ; asci subclavate ; spores four to eight, involved in mucus, large, pyriform, multiseptate, fenestrate, brown, .0018'–.002' long ; paraphyses slightly clavate.

Dead branches of poplar. Center. October and November.

This species closely resembles the preceding one, but it is less scattered in its mode of growth, the spores are longer in proportion to their breadth, and are involved in mucus.

SPHINCTRINA TIGILLARIS *B. & Br.*

On *Polyporus abietinus*. Albany. Buffalo. *Clinton.*
The spores in our specimens are .0003'–.0006' long.

CENANGIUM AUCUPARLÆ *Fr.*

Dead branches of mountain ash, *Pyrus Americana*.
Keene, Essex county. July.

CENANGIUM RUBI *Fr.*

Dead stems of raspberry. North Greenbush. May.

CENANGIUM DEFORMATUM *n. sp.*

Small, crowded or scattered, at first irregular or subspherical then opening at the top and becoming discoid with an irregular or ruptured margin, black ; spores crowded, elliptical, at first pale with the endochrome centrally parted, then colored and uniseptate, .0011'–.0013' long.

Dead bark of *Juniperus Virginiana*. Greenbush. May.

When young the plants resemble some small irregular Sphaeria. They sometimes manifest a tendency to grow in lines.

STICTIS PUPULA *Fr.*

Dead poplar branches. Center. October and November.

STICTIS HYSTERINA *Fr.*

Decorticated pine branches. Guilderland. May.

STICTIS QUERCINA *n. sp.*

Amphigenous, scattered, minute, erumpent, the epidermis split into three or four blunt laciniae or teeth; disk white; asci subcylindrical; spores filiform, .0016'-.0026' long.

Fallen oak leaves. Port Jervis. September.

It is related to *S. phacidioides*, from which its amphigenous habit and fewer blunt teeth will separate it.

RHIZOTISMA URTICÆ *Fr.*

Dead nettle stems. Greenbush. May. Sterile.

HYSTERIUM VIXVISIBILE *Ger.*

Dead branches. Poughkeepsie. *Gerard.*

I am not fully satisfied that this is any thing more than a small variety of *H. angustatum*.

HYSTERIUM CLAVISPORUM *C. & P.*

Dead stems of reeds, *Phragmites communis*. Buffalo. Clinton. Tyre. September.

The spores are colored and multiseptate, and by their clavate form suggest the specific name.

HYSTERIUM ROUSSELII *De Not.*

Decaying wood. Tyre and Lake Pleasant. August and September.

HYSTERIUM MAGNOSPORIUM *Ger.*

Decaying hickory wood. Poughkeepsie. *Gerard.*

COLPOMA LACTEUM *n. sp.*

Perithecia scattered, erumpent, thin, black, the longitudinally ruptured epidermis closely appressed; disk plane, milk white; asci subcylindrical or clavate; spores filiform, .002'-.003' long.

Dead stems of Labrador tea, *Ledum latifolium*. Sand-lake. June.

When moist the perithecium gaps widely, revealing the conspicuous white disk. This and the different habit distinguish the species from *Xyloma Ledi*.

AILOGRAPHUM SUBCONFLUENS n. sp.

Perithecia, small, numerous, thin, scattered, or subconfluent; orbicular, elliptical or elongated, black; asci oblong; spores oblong-clavate, hyaline, .003'-.004' long.

Dead stems of herbs. North Greenbush. June.

This appears to the naked eye much like some *Leptosroma*.

TORRUBIA CLAVULATA Schw.

On dead scale insects of black-ash branches. Lake Pleasant. August.

Schweinitz describes his *Sphaeria clavulata* as growing on a fibrillose-membranaceous shield-shaped subiculum which adheres closely to the bark of living branches of oak trees, *Quercus palustris* and *Q. coccinea*. Our plant grows on the flattened discolored or blackened bodies of a scale insect found on living branches of *Fraxinus sambucifolia*. Notwithstanding this difference in habitat and a slight discrepancy in the arrangement of the perithecia, the species is so remarkable and so well characterized that I cannot believe our plant to be specifically distinct. It is the smallest *Torrubia* known to me, and does not well agree with the generic character. It occurs on young and half grown as well as on full grown insects, but I have not been able to determine whether it attacks the insect while living or only after death.

TORRUBIA SUPERFICIALIS n. sp.

Slender, about 1' high, smooth, brown, the sterile apex gradually tapering to a point; perithecia crowded, superficial, subglobose, blackish-brown, sometimes collapsed, with a small papilliform ostiolum; asci cylindrical; spores long, slender, filiform.

Under hemlock trees on buried larvæ. Northville. August.

Related to and intermediate between *T. Ravenelii* and *T. Carolinensis*. The stem of the plant is about equal in length to the club or perithecia-bearing part. The perithecia are more loosely placed at the extremities of the club, thereby giving it a subfusiform shape. The spores are more slender than those of *T. Carolinensis* but the plant itself is less elongated and slender.

EPICHLÆ TYPHINA *Berk.*

Living stems of *Carex*. Oneida. *Warne.*

I do not know that this plant has before been detected in this country.

NECTRIA SANGUINEA *Fr.*

Cut surface of maple wood. Williamstown. July.

HYPOXYLON FUSCOPURPUREUM *Schw.*

Old rails and decaying wood. Sandlake.

HYPOXYLON SASSAFRAS *Schw.*

Bark of *Sassafras officinale*. Yonkers. *Howe.*

DOTHIDEA LINDERÆ *Ger.*

Dead stems of the spice bush, *Lindera Benzoin*. Albany. October.

MELOGRAMMA BULLIARDI *Tul.*

Bark of hornbeam. La Salle, Niagara county. *Clinton*. May.

DIATRYPE ASPERA *Fr.*

Dead stems of *Cornus*. Tyre. September.

DIATRYPE DISCOIDEA *C. & P.*

Stroma orbicular or elliptical, transversely erumpent, surrounded by the epidermis, disk naked, plane, grayish-black; ostiola small, scarcely exerted, nearly smooth or four to six sulcate, perithecia six to twelve, ovate; asci small, linear-clavate, stipitate, polysporous; spores cylindrical, curved or straight, slightly colored, .0002' long; paraphyses filiform.

Dead branches of white birch, *Betula populifolia*. Center. October.

When the outer bark is torn away the fungus comes off with it. The species belongs to the subgenus *Diatrypella* and is closely related to *D. quercina*. There are two forms, one with the stroma small, narrow, and transversely erumpent, the other larger and suborbicular.

DIATRYPE PROMINENS *Howe*.

Bark of *Platanus occidentalis*. Yonkers. *Howe*.

DIATRYPE ANOMALA *n. sp.*

Pustules prominent, subrotund or elliptical, 1''-2'' in diameter, erumpent, penetrating the wood, generally with a thin black crust beneath and around them, the disk convex or slightly depressed, rough, brown or black, sometimes whitish-pulverulent; perithecia crowded, deeply imbedded in the stroma, often elongated; ostiola scattered or crowded, convex, often radiate-sulcate, black; asci short, broad, fergacious; spores crowded, elliptical, simple, often with a nucleus at each end, colorless, .0003'-00035' long.

Stems of hazel bushes living or dead. Albany. May.

The pustules sometimes appear in long lines or series. The peculiar and anomalous character of this species is found in its unusual spores and in its attacking living stems.

MELANCONIS BICORNIS *Cooke*.

Perithecia circinating, five to seven, seated beneath the epidermis which is but slightly elevated; ostiola short, convergent, just piercing the epidermis, with a regular orifice; spores expelled when mature, blackening the matrix round the ostiola, fasciculate, obtusely fusiform, straight or curved, triseptate, brown, .0026'-0033' long, scarcely constricted, ultimate cells smallest, each extremity tapering into a hyaline at first straight then curved or flexuous cornute appendage, one-half to one-third the length of the spore.

Bark of *Platanus occidentalis*. La Salle. Clinton. Greenbush. March and May.

Allied to *Melanconis Berkeleyi* Tul., but distinct. When the epidermis is torn away, the perithecia come off with it. They are slightly whitish-floccose or tomentose above.

VALSA PRUNASTRI *Fr.*

Dead branches of plum or cherry. Greenbush. June.

VALSA RUBI *n. sp.*

Perithecia crowded, irregular, black, white within, forming a small pustule which is covered by the whitened epidermis; ostiola crowded, piercing and generally obliterating

the minute rusty-brown erumpent disk, not prominent, black; asci subclavate; spores eight, curved, simple, colorless, .0003'-.0004' long.

Dead stems of blackberry, *Rubus villosus*. Forestburgh. September.

The epidermis is paler in the patches where the pustules occur. The disk appears to the naked eye like a minute black dot though it usually contains from eight to sixteen ostiola. The species is clearly distinct from *S. rubincola* Schw.

VALSA WOOLWORTHI *n. sp.*

Minute, erumpent; perithecia two to six, nestling in the inner bark; ostiola crowded, slightly prominent, barely exerted through the longitudinally ruptured epidermis; spores crowded or biseriata, oblong or subfusiform, uniseptate, mostly four-nucleate, nearly colorless, .0004' long.

Dead oak or hickory branches. Greenbush. May.

The clusters of perithecia are very numerous and usually occur in series, the epidermis being ruptured continuously from one to another. Respectfully dedicated to *Hon. S. B. Woolworth*.

VALSA LEIPHEMIA *Fr.*

Dead oak branches. North Greenbush. May.

VALSA OXYSPORA *n. sp.*

Pustules scattered, subconical, erumpent, blackish externally, surrounded by the triangularly or stellately ruptured epidermis; perithecia sunk to the wood, when broken off leaving a whitish spot circumscribed by a faint blackish line; ostiola few, short; spores crowded or biseriata, colorless, oblong-elliptical, slightly constricted in the middle, uniseptate, quadrinucleate, with a bristle-like appendage at each end, .0006' long.

Dead oak branches. Sandlake. August. (Plate 2, figs. 26-29.)

VALSA OBSCURA *n. sp.*

Pustules minute, sunk to the wood, erumpent; ostiola three to eight, slightly prominent; asci subcylindrical;

spores crowded or biseriate, simple or obscurely uniseptate, oblong, narrower toward one end, hyaline, with a minute bristle at each end, .0003' long.

Dead stems of raspberry, *Rubus strigosus*. Albany. May.

The septum is not always clearly visible. When present it divides the spore into two unequal parts.

The appendages are so small as to be easily overlooked. The bark is generally stellately split over the pustules.

VALSA MUCRONATA *n. sp.*

Perithecia four to eight, rather large, nestling in the inner bark, surrounded by a black line; ostiola separately erumpent, not collected in a disk, slightly prominent, black, sometimes circumscribed by an obscure black line; asci lanceolate; spores crowded, large, uniseptate, colorless, .0016'-.0021' long, generally with a short appendage or mucro at each end.

Dead willow branches. Sandlake. September. (Plate 2, figs. 10-13.)

This species is very distinct both in its separately erumpent ostiola and in its spores. The appendages are so short as to resemble a little mucro, whence the specific name. It is an aberrant species, the ostiola not agreeing well with the generic character.

VALSA ACERINA *n. sp.*

Pustules small, erumpent; perithecia sunk in the wood, covered above by a thin blackish crust and surrounded by a black line; ostiola prominent, elongated-conical or cylindrical; spores oblong or subelliptical, subacute, colorless, .0005' long, the endochrome one to three times divided.

Dead branches of *Acer spicatum*. Indian Lake. July.

VALSA SUFFUSA *Fr.*

Dead alder branches. Buffalo. *Clinton*.

VALSA FEMORALIS *n. sp.*

Pustules small; perithecia few, nestling in the inner bark; ostiola few, black, short, erumpent through small and mostly transverse chinks, crowded or scattered; asci

lanceolate; spores crowded, elongated, sublinear, straight or slightly flexuous, obtuse, slightly thickened at the ends, .0013'-.003' long.

Dead alder branches. West Albany and Greenbush. Also on dead branches of basswood. Buffalo. *Clinton*.

Closely related to *Valsa suffusa*, but the spores are shorter and thickened at each end and the ostiola are not always crowded in the center of the disk. The perithecia adhere to the epidermis and are torn away with it. The name is suggested by the resemblance of the spores to a *femur*.

VALSA SAMBUCINA *n. sp.*

Pustules erumpent, sometimes seriatly placed; ostiola slightly prominent, even or radiately sulcate, scattered or crowded; asci linear; spores eight, uniseriate, oblong, colored, triseptate, .0005'-.0006' long.

Dead stems and branches of elder. Catskill Mountains. June.

When young the spores are paler. The pustules vary much in size, those on the branches being larger and more scattered than those on the main stems or trunks.

CUCURBITARIA ALNEA *n. sp.*

Perithecia cæspitose, erumpent, astomous, black, white within, the tufts closely surrounded by the transversely ruptured epidermis; spores uniseriate, uniseptate, sub-acuminate, constricted at the septum, nearly colorless, with one or two nuclei in each cell, .0008'-.001' long.

Dead alders, Center. May.

Torula alnea is associated with this species and may be a condition of it.

CUCURBITARIA SERIATA *n. sp.*

Perithecia cæspitose, erumpent in long flexuous interrupted lines, small, nearly globose, black, white within, sometimes collapsing, the stroma if present merely cortical and subferruginous; asci cylindrical or subclavate; spores uniseriate or rarely crowded, uniseptate, oblong-elliptical, slightly constricted at the septum, hyaline, .0004'-.0005' long.

Dead bark of *Euonymus*. Albany. October. *Dr. C. Derol.*

LOPHIOSTOMA JERDONI *B. & Br.*

Bark of elm. New Baltimore. *Zabriskie*. Dead stems of raspberry. West Albany. October.

LOPHIOSTOMA SCROPHULARIÆ *n. sp.*

Perithecia scattered, minute, covered by the epidermis; ostiola small, compressed, piercing the epidermis; asci cylindrical; spores crowded or biseriata, subfusiform, uni-septate, with two large nuclei in each cell, strongly constricted at the septum and sometimes also between the nuclei, straight or slightly curved, colorless, .001' long.

Dead stems of *Scrophularia nodosa*. Green Island. October.

Sometimes a small additional nucleus is seen at the extremities of the spore, thus making three in each cell. The smaller spores will separate this species from *L. angustilabra* and *L. sexnucleata*, to which it is related.

LOPHIOSTOMA TRISEPTATA *n. sp.*

Perithecia scattered, sunk in the wood, black, with a narrow compressed ostiolum; asci linear; spores uniseriate, rarely crowded, oblong-elliptical, triseptate, colored, .0006'-.0007' long, slightly constricted at the septa.

Decaying wood. Buffalo. *Clinton*. Sterling. Cayuga county. August.

LOPHIOSTOMA SPIRÆÆ *n. sp.*

Perithecia scattered, sunk to the wood, closely covered by the bark which is pierced by the compressed ostiola; spores crowded or biseriata, elongated-fusiform, straight or curved, colorless, about seven-septate, usually with a nucleus in each cell, .0016'-.0023' long.

Dead branches of *Spiræa opulifolia*. Rhinebeck. June.

The septa of the spores are not very distinct, especially toward the extremities. The nuclei are not regularly placed, and sometimes one or two very small additional ones occur in some of the cells. Rarely one of the central cells is swollen.

LOPHIOSTOMA MACROSTOMA *Fr.*

Bark of maple trees. Northampton. August.

The spores in our specimens are a little longer than in the European plant, and are occasionally nine-septate. The ter-

minal cells, too, are slightly colored, but paler than the others.

SPHÆRIA CALLISTA B. & C.

Dead branches of *Cornus alternifolia*. Buffalo. Clinton. Sandlake. Autumn and spring.

I do not know that any description of this species has been published, but our specimens agree with those representing it in Ravenel's *Fungi Exsiccati Caroliniani*. The perithecia become pezizoid-collapsed, and the asci contain numerous small curved colorless spores, as in some species of *Nectria*.

SPHÆRIA PHÆOSTROMOIDES n. sp.

Conidia. Flocci simple or branched, septate, some of them nodose, globosely inflated at the apex; spores apical, oblong, obtuse, uniseptate, centrally constricted, colored, .0005'-.0007' long.

Ascophore. Perithecia gregarious, minute, globose, then collapsing, rugulose, seated on a black subiculum; asci subfusiform; spores crowded, subfusiform or cylindrical, slightly curved, triseptate, colored, .001' long, the terminal cells colorless, the others sometimes nucleate.

Dead branches lying on the ground. North Greenbush. September. (Plate 2. figs. 30-35.)

This plant appears to be the American analogue of *S. phæostroma*, from which it scarcely differs except in its shorter spores and uniseptate conidia. So closely does the subiculum of our plant resemble *Cladotrichum triseptatum*, that it might readily be taken for a *Cladotrichum* with uniseptate spores.

SPHÆRIA SUBCORTICALIS n. sp.

Perithecia rather large, thin, sometimes collapsed, black, involved in a dense blackish-brown tomentum which is sometimes confluent, forming a subiculum; spores oblong, colorless, .0003' long.

Dead bark of water beech, *Carpinus Americana*. North Greenbush. June.

When the perithecia are crowded the tomentum runs together forming a subiculum, when scattered, it surrounds each separately. They are seated on the inner bark and are entirely concealed by the epidermis. When this is torn away the perithecia usually come off with it. The specific

name is given in allusion to the place of growth. This and the two preceding species belong to the *Byssisedæ*.

SPHÆRIA HIRTISSIMA n. sp.

Perithecia scattered or crowded, superficial, ovate or subglobose, black, densely clothed with rather short rigid black hairs; asci linear; spores uniseriate, broadly elliptical or subglobose, colored, .0005' long.

Decaying pine wood. Center. November.

The perithecia are a little smaller than those of *S. hirsuta*. The asci are quite fugacious. The species belongs to the *Villosæ*.

SPHÆRIA EXIMIA n. sp.

Perithecia free, ovate or subconical, clothed with short hairs, black; ostiola smooth, papilliform; spores crowded, elliptical, colored, .001'-.0012' long, with a very long fine hyaline appendage at each end, the base of one attached to a firm tapering point or process at one end of the spore.

Dung of hares in wet places. Kasoag, Oswego county. July. (Plate 2, figs. 14-17.)

This species is remarkable for the extremely long, slender appendages which are several times the length of the spore.

SPHÆRIA VALSOIDES n. sp.

Perithecia sunk in the matrix, scattered, black, with a few rigid bristle-like processes at the apex; asci subclavate; spores crowded or biseriata, oblong-elliptical, at first greenish, then brown, .0011'-.0013' long, generally with a single nucleus and a short stem-like colorless appendage at the base.

Cow dung. Sageville. August.

The caudate appendage is usually about half as long as the spore. The erect processes at the apex of the perithecia are suggestive of a minute species of *Valsa*, whence the specific name.

SPHÆRIA MINIMA Awd.

Dung of hares. Providence. Also on horse dung. Bethlehem. August and September.

SPHÆRIA CANINA n. sp.

Perithecia minute, scattered or crowded, free, subglobose,

reddish-brown or dark amber color, then blackish; asci broad, oblong or oblanceolate; spores numerous, elliptical, slightly colored, .00025'-.0003' long.

Dung of dogs. Bethlehem. May.

SPHÆRIA ACERVALIS var. *JUNIPERI* West.

Dead wood and branches of red cedar, *Juniperus Virginiana*. Buffalo. Clinton.

SPHÆRIA MONOSPERMA n. sp.

Perithecia scattered, convex or hemispherical, partly covered by the fibres of the wood, smooth, black, pierced; asci oblong or lanceolate, containing a single spore; paraphyses numerous, filiform; spores very large, oblong or subfusiform, obtuse, fenestrate, sometimes obscurely multiseptate, yellowish or pale-brown, .003'-.006' long.

Decorticated birch wood. Forestburgh. September. (Plate 2, figs. 36-39.)

Remarkable for producing but one spore in an ascus. When young the asci are filled with a granular endochrome which is gradually absorbed in the formation in each of a single large cellular spore which scarcely differs in color from the original contents of the ascus. In the best developed specimens the ostiolum when magnified appears to occupy the center of a small orbicular depressed disk.

SPHÆRIA SCORIADEA Fr. *Verrucaria conferta* Tayl.

Dead birch branches. Center. June.

There is some doubt whether this is a fungus or a lichen.

SPHÆRIA PLATANICOLA Howe.

Branchlets of *Platanus occidentalis*. Yonkers. Howe.

SPHÆRIA PULICARIS Pers.

Dead stems of Indian corn. North Greenbush. October.

Not having access to Persoon's description, our specimens were determined by comparison with those in Ravenel's *Fungi Exsiccati Caroliniani*. *Sphæria pulicaris* Fr., now referred to the genus *Nectria*, seems to be different.

SPHÆRIA RUBEFACIENS n. sp.

Perithecia minute, scattered, subglobose, smooth, black, nearly free, abruptly tapering into the long slender subulate

ostiola ; asci clavate, fugacious ; spores elliptical, colored, .00018'-.0002' long, .00012' broad.

Decorticated wood of deciduous trees. Forestburgh. September. Buffalo. *Clinton*.

The surface of the wood on which it grows is variegated with red stains, whence the specific name. The long ostiola crowned by the mass of spores have the appearance of some minute species of *Calicium*. The plant belongs to the *Ceratostomæ*, and is closely related to *Sphæria pilifera*, but the type of that species grows on pine wood and produces no red stains. Its spores appear to be unknown, and unless they shall be found to correspond with those above described, this must be considered a distinct species.

SPHÆRIA URTICÆ *Rabh.*

Dead stems of nettles. Greenbush. May.

The spores are shorter in our specimens than the dimensions given in the description, but this difference is probably only varietal.

SPHÆRIA DATURÆ *Schw.*

Dead stems of *Datura Tatula*. Buffalo. *Clinton*. October.

SPHÆRIA TUBÆFORMIS *Tode.*

Fallen alder leaves. West Albany. May.

SPHÆRIA MIRABILIS *n. sp.*

Perithecia scattered, innate, subglobose, membranaceous, tough, black, ostiola long, slender, curved or flexuous, lateral ; asci broadly fusiform ; spores crowded, elongated, subfusiform, hyaline, generally four to many-nucleate, .0011'-.0013' long, with a slight appendage at one or both ends.

Fallen birch leaves. Bethlehem. June. (Plate 2, figs. 18-21.)

The species is remarkable for its lateral ostiola, which are about equal in length to the diameter of the perithecia.

SPHÆRIA PERISPORIOIDES *B. & C.*

Upper surface of living leaves of *Desmodium Canadense*.

I find no description of this species, and make the determination by comparison with Ravenel's specimens in *Fungi Exsiccati Caroliniani*, with which ours agree in habit,

although they occur on *Rhynchosia* leaves and are destitute of fruit. To this extent ours must be regarded as doubtful.

SPHÆRELLA OBLIVIA Cooke.

Fallen leaves of *Rhododendron maximum*. Buffalo. Clinton.

SPHÆRELLA CARPINEA Fr.

Fallen leaves of *Carpinus Americana*. Buffalo. Clinton. North Greenbush. May.

SPHÆRELLA SPARSA Awd.

Fallen leaves of beech and basswood. Buffalo. Clinton. Also on chestnut leaves. North Greenbush. May.

SPHÆRELLA INDISTINCTA n. sp.

Perithecia minute, innate, slightly prominent, scattered or subgregarious, globose, black; asci subcylindrical, .0014'-.0018' long; spores crowded, elongated, hyaline, simple or obscurely uniseptate, .001'-.0011' long, generally slightly curved.

Dead leaves of *Pteris aquilina*. Center. June.

The perithecia are so small as to be easily overlooked. The spores are quite unlike those of *Sphærella Pteridis*, being twice as long and not distinctly septate.

SPHÆRELLA ORBICULARIS n. sp.

Perithecia minute, innate, covered by the epidermis which is at length pierced or ruptured, occupying distinct or subconfluent orbicular brownish spots; asci subcylindrical; spores oblong, uniseptate, colored, .0004'-.0005' long.

Upper surface of fallen poplar leaves. Center and North Greenbush. June.

The spots on the leaves resemble those of *Venturia orbicula* on oak leaves. Sometimes the epidermis peels off revealing the perithecia beneath. These are often more numerous near the margin of the spot than in the center.

VENTURIA MYRTILLI Cooke.

Fallen leaves. New Scotland. Albany county. June.

VENTURIA MACULANS n. sp.

Perithecia very minute, innate, seated on small irregular more or less confluent grayish-brown spots, crowned by a

few rigid black hairs or setæ; asci rather broad, often narrowed above; spores crowded or biseriata, at first hyaline, then yellowish, uniseptate, with the cells unequal, slightly constricted at the septum, .00035'-.0005' long.

Fallen leaves of *Betula populifolia*. Center. May.

VENTURIA CLINTONII *n. sp.*

Gregarious in indeterminate suborbicular patches; perithecia nearly free, globose, black, hispid with few straight black bristles; asci linear; spores obovate, uniseriate, uniseptate, yellowish or yellowish-brown. .0004' long, the septum usually nearest the small end.

Under surface of fallen leaves of *Cornus circinata*. Buffalo. Clinton. May. (Plate 2, figs. 22-25.)

The decidedly colored uniseriate spores afford a peculiar character in this species.

VENTURIA KALMLÆ *n. sp.*

Perithecia minute, prominent, centrally aggregated on small orbicular brown spots or scattered along the midrib, black-bristly with straight rigid divergent black hairs; asci subcylindrical, .0013' long; spores oblong or subfusiform, minutely nucleate, .00035' long.

Upper surface of living leaves of *Kalmia glauca*. Kasoag-July. (Plate 2, figs. 6-9.)

The affected leaves are the older ones occupying the lower part of the stem.

NEW STATIONS OF RARE PLANTS,
REMARKS AND OBSERVATIONS.

BRASENIA PELTATA *Pursh.*

Mud Pond near the base of Mt. Dix. Also in many other lakes and ponds of the Adirondack region. *V. Colvin.*

SOLEA CONCOLOR *Ging.*

Manlius. *Wibbe.* Pine Plains. *L. H. Hoysradt.* "New Lebanon near the Shaker Settlement." *Beck Herbarium.*

POTENTILLA TRIDENTATA *Ait.*

Top of Stissing Mountain near Pine Plains. *Hoysradt.*

AMELANCHIER CANADENSIS V. OLIGOCARPA *T. & G.*

The fruit of this variety, as it occurs in the Adirondack region, is ellipsoid. It is not quite as juicy and pleasant to the taste as the globose fruit of the other varieties.

NARDOSMIA PALMATA *Hook.*

Buttermilk Glen, Ithaca. *Prof. Prentiss.* *G. W. Wood.*
Machias, Wyoming county. *Clinton.*

RHODODENDRON MAXIMUM *L.*

Machias. *Clinton.* Also near West Hurley, Ulster county.

PRIMULA MISTASSINICA *Mx.*

Fall Creek Gorge, Ithaca. *Prof. Prentiss.*

PINGUICULA VULGARIS *L.*

Cascadilla Ravine, Ithaca. *Prof. Prentiss.* Portage. *Clinton.*

AMARANTUS SPINOSUS *L.*

Waste places about Brooklyn. *M. Ruger.*

ARCEUTHOBIUM PUSILLUM *Pk.*

Kasoag, Oswego county; also Providence, Saratoga county, thus making five counties in the State in which this plant has been found. In all these localities it inhabits spruces in low grounds or marshes. At Kasoag there are a few dead trees giving evidence of having been inhabited by this parasite to which possibly their death is due.

ABIES BALSAMEA *Marshall.*

This occurs in the Stony Clove, Catskill Mountains, in a prostrate or ascending bush-like form resembling the common juniper, the American yew and the prostrate form of the black spruce as it is found on the high Adirondack summits.

ARISÆMA TRIPHYLLUM *Torr.*

This plant with us is quite constantly diœcious. During two or three successive seasons I have examined scores of plants in various localities in the vain effort to find a specimen with monœcious inflorescence. Can it be that the monœcious character is giving way, under altered climatic conditions, to a diœcious one?

TRILLIUM ERECTUM V. ALBUM *Pursh.*

Ithaca. *Prof. Prentiss.*

ALLIUM CANADENSE *Kalm.*

Alluvial banks of the Hudson. North Greenbush. June.

SCLERIA VERTICILLATA *Muhl.*

Near Woodside, Long Island. *Kruger.* Mr. Kruger observes that the fresh plant has a pleasant vanilla-like odor. Rev. J. A. Paine also speaks of its fragrance.

ORYZOPSIS CANADENSIS *Torr.*

Sandy soil near Center.

POA ALSODES *Gray.*

Shaded banks. Catskill Mountains.

MILLIUM EFFUSUM *L.*

Stony Clove, Catskill Mountains.

PANICUM AGROSTOIDES *Spreng.*

Near Northampton, Fulton county.

ASPIDIUM NOVEBORACENSE V. FRAGRANS.

New Pond, Essex county. *Mrs. L. A. Millington.* Mrs. Millington observes that the fronds are very tall, "sometimes three feet high," that the sori at length spread over the whole under surface and that there is a marked vanilla-like odor which persists even in the dried specimens.

LYGODIUM PALMATUM *Sw.*

Hunter. This, so far as I know, is the only New York station for this rare fern. The credit of its discovery belongs, I believe, to *Miss M. C. Reynolds.* Fertile specimens have been sent me by *Mr. J. T. Lockwood.*

BOTRYCHIUM LANCEOLATUM *Angst.*

Near Northampton and Northville. August.

AZOLLA CAROLINIANA *Willd.*

Black Creek near Oneida Lake. *Warne.*

PANNARIA PETERSII *Tuck.*

The specimen reported under this name and also those reported as *Verrucaria pinguicula* Mass. are not in good condition and therefore uncertain. *Willey.*

AGARICUS ADMIRABILIS *Pk.*

A variety with brown pileus and white stem was found at Lake Pleasant associated with the typical form.

AGARICUS SYLVATICUS *Schæff.*

Ground under pine trees. Northampton. August.

CORTINARIUS SQUAMULOSUS *Pk.*

This species was discovered in 1869 and had not since been observed by the writer until the past season. It is manifestly a species of rare occurrence.

PHALLUS IMPUDICUS *Fr.*

When this plant begins to decay the odor is extremely offensive and not unfrequently is the first intimation given of the presence of the fungus. The carrion beetle, *Necrophila Americana*, sometimes feeds upon this loathsome substance, doubtless deeming it equal to putrefying flesh.

PHYSARUM CÆSPITOSUM *Pk.*

Since the publication of this species I find that the name was preoccupied, and as a reexamination shows it to be a better *Licea* than *Physarum*, I would substitute *Licea cæspitosa* Pk. for the above name.

PUCCINIA MESOMAJALIS *B. & C.*

The species published under this name has been re-described in *Grevillea*, by Rev. M. J. Berkeley under the name *Puccinia mesomegala* B. & C.

USTILAGO MONTAGNEI *Tul.*

On *Rhynchospora glomerata*. Long Island. *Miller.*

The spores are a little larger than in the form found on *R. alba*. It is probably *U. Montagnei* var. *major* Desm.

PHRAGMIDIUM MUCRONATUM *Lk.*

The typical form occurs on rose leaves in Oneida. *Warne.*

American specimens generally have the spores more opaque and with two or three more septa than the typical form. This variant form might be called var. *Americanum*.

PERIDERMIIUM ELATINUM *A. & S.*

Glens Falls. *Mrs. Millington.* Also in Stony Clove, Catskill mountains. Thus far we have seen it on the leaves of the balsam only, and several interesting and peculiar features are indicated. Unlike our other species this one attacks *all the leaves* on an affected branch. These have a sickly yellowish hue, stand out on all sides of the branch and do not attain more than half their usual size. They fall off each year so that leaves are found only on the *terminal* shoots of the affected branches, the internodes of the previous years being entirely destitute of foliage. The fungus therefore appears in reality to be *perennial*, for having once attacked a branch it reappears year after year on the successive crops of leaves, apparently loosening its vampire-like hold only upon the death of the branch. Fortunately it spreads only *outwardly* or in the direction of growth. Hence all the affected branches of a tree if traced back will be found to have a common origin and at this common starting point there is usually a swollen or seemingly injured place in the main branch. From this point the ramification becomes excessive and crowded, exactly similar to that so often seen in spruce trees when attacked by *Arceuthobium pusillum*. All the branches given off below this point are unaffected, all given off above it are affected. Whether the fungus originates this affected point in the branch or not is yet a question, also how long an affected branch will continue to live and support its parasite and whether by the application of sulphur or any other antidote the fungus may be killed and the life of the branch preserved. An obvious remedy would be to cut off the branch below the affected point.

MORCHELLA ESCULENTA *Fr.*

This species, with us as in Europe, is quite variable. The most common form about Albany is whitish or pallid throughout and answers to the variety *rotunda* except in the form of the pileus which is obtusely conical rather than rounded. Whenever I have met with this form it has been under or in the vicinity of pine trees. Another form has

the pileus narrowly conical and darker colored than the stem, which is frequently equal to the pileus in diameter. This is nearest the variety *conica*. It has been found at Albany, *Prof. J. Hall*, and near Utica, *Hon. H. Seymour*. A third form has the stem quite long, even exceeding the pileus in length. It merits the name of variety *longipes*. I have seen dried specimens only and do not know the color of the fresh specimens. They were collected near Oneida by *H. A. Warne*.

SPATHULARIA FLAVIDA *Pers.*

There are two varieties of this, one having a pale or whitish stem, the other having a reddish-brown or bay stem. I do not find the pileus hollow, though it is said to be so in some descriptions.

GEOGLOSSUM GLUTINOSUM *Pers.*

Our specimens were erroneously referred to this species, the description on which we relied making no mention of the fruit. Our plant has been separated by reason of the different spores and is *Geoglossum Peckianum* Cooke.

TORRUBIA OPHIOGLOSSOIDES *Tul.*

Northville and Lake Pleasant.

XYLARIA CORNIFORMIS *Mont.*

A variety occurs with the club irregular and much flattened or compressed. It might be called variety *irregularis*.

HYPOXYLON MORSEI *B. & C.*

There is a variety of this in which the stroma is confluent in patches an inch or more in diameter. It is found on dead poplar branches. Sandlake.

DOTHIDEA PTERIDIS *Fr.*

Mrs. Millington sends an early state of this plant in which there are no asci but numerous spore-like bodies (spermatia ?) oblong, colorless, .0004'-.0005' in length. When moist they ooze out and form a whitish or pale amber-colored globule.

MELANCONIS ELLIPTICA *Pk.*

Further observation induces me to place this species in the genus *Diatrype*. The spores are sometimes .0018' long. When young they are six nucleate.

In the preceding pages when no name is added to the station or stations the plant has been found therein by the writer. Dates signify the time of collecting the specimens and therefore indicate to some extent the time of the occurrence of the plant.

Grateful acknowledgments are rendered to those Botanists whose names appear in the preceding pages, for their kind aid and their generous contributions of specimens.

Respectfully submitted,

CHARLES H. PECK.

ALBANY, *January* 13, 1875.

EXPLANATION OF PLATES.

EXPLANATION OF PLATE I.

AGARICUS (LEPIOTA) PUSILLOMYCES *Peck.*

Page 48.

- Fig. 1. Two plants of ordinary size.
- Fig. 2. Vertical section of a pileus.
- Fig. 3. Spores $\times 400$.

TREMELLA MYCETOPHILA *Peck.*

Page 53.

- Fig. 4. Three plants of ordinary size growing on *Agaricus dryophilus*.

MONOTOSPORA BISEPTATA *Peck.*

Page 62.

- Fig. 5. A block of wood bearing a patch of plants.
- Fig. 6. A plant bearing an immature spore $\times 400$.
- Fig. 7. A plant bearing a mature spore $\times 400$.
- Fig. 8. Detached spores $\times 400$.

CLAVARIA GRACILLIMA *Peck.*

Page 53.

- Fig. 9. Two plants of ordinary size.

CLAVARIA PULCHRA *Peck.*

Page 53.

- Fig. 10. Two plants of ordinary size.

HELOTIUM PILEATUM *Peck.*

Page 67.

- Fig. 11. Piece of an herb stem bearing three plants of ordinary size.
- Fig. 12. A plant magnified.
- Fig. 13. An ascus containing spores $\times 400$.
- Fig. 14. Spores $\times 400$.

LENTINUS UMBILICATUS *Peck.*

Page 51.

- Fig. 15. A plant of ordinary size with the stem eccentric.
- Fig. 16. A plant of ordinary size with the stem central.
- Fig. 17. Vertical section of a pileus.
- Fig. 18. Transverse section of a stem.
- Fig. 19. Spores $\times 400$.



PLATE I— (*Continued*).

HYGROPHORUS PARVULUS *Peck.*

Page 50.

- Fig. 20. A plant of ordinary size.
- Fig. 21. A larger plant, showing the lamellæ.
- Fig. 22. Vertical section of a pileus.
- Fig. 23. Transverse section of a stem.
- Fig. 24. Spores $\times 400$.

STILBUM CANDIDUM *Peck.*

Page 61.

- Fig. 25. Piece of a stem bearing four plants of ordinary size.
- Fig. 26. A plant magnified.
- Fig. 27. Spores $\times 400$.

HAPLOGRAPHIUM APICULATUM *Peck.*

Page 62.

- Fig. 28. A leaf with its fungus-bearing gall.
- Fig. 29. The gall and its hairy coating of fungi slightly magnified.
- Fig. 30. Upper part of a plant bearing strings of spores, magnified.
- Fig. 31. Upper part of a plant deprived of its spores, $\times 400$.
- Fig. 32. A branched string of spores $\times 400$.
- Fig. 33. Separate spores $\times 400$.

DISCELLA DISCOIDEA *C. & P.*

Page 58.

- Fig. 34. Piece of a branch bearing the fungus.
- Fig. 35. A pustule and its matrix magnified.
- Fig. 36. A fertile filament bearing spores $\times 400$.
- Fig. 37. Spores $\times 400$.

PLATE II.

ERYSIPHELLA AGGREGATA *Peck.*

Page 63.

- Fig. 1. An alder catkin coated by the fungus.
- Fig. 2. A conceptacle and its mycelium magnified.
- Fig. 3. A sporangium containing spores $\times 400$.

MICROSPHÆRA ABBREVIATA *Peck.*

Page 64.

- Fig. 4. Part of the circumference of a conceptacle and two appendages $\times 400$
- Fig. 5. A sporangium containing spores $\times 400$.

VENTURIA KALMLÆ *Peck.*

Page 82.

- Fig. 6. A leaf bearing the fungus.
- Fig. 7. A perithecium magnified.
- Fig. 8. An ascus containing spores $\times 400$.
- Fig. 9. Spores $\times 400$.

VALSA MUCRONATA *Peck.*

Page 74.

- Fig. 10. Piece of a branch bearing the fungus.
- Fig. 11. A single cluster of the fungus magnified.
- Fig. 12. An ascus containing spores $\times 400$.
- Fig. 13. Spores $\times 400$.

SPHÆRIA EXIMIA *Peck.*

Page 73.

- Fig. 14. Several perithecia attached to the matrix.
- Fig. 15. A perithecium magnified.
- Fig. 16. An ascus containing spores $\times 400$.
- Fig. 17. Spores $\times 400$.

SPHÆRIA MIRABILIS *Peck.*

Page 80.

- Fig. 18. Part of a leaf bearing the fungus.
- Fig. 19. A perithecium magnified.
- Fig. 20. An ascus containing spores $\times 400$.
- Fig. 21. Spores $\times 400$.

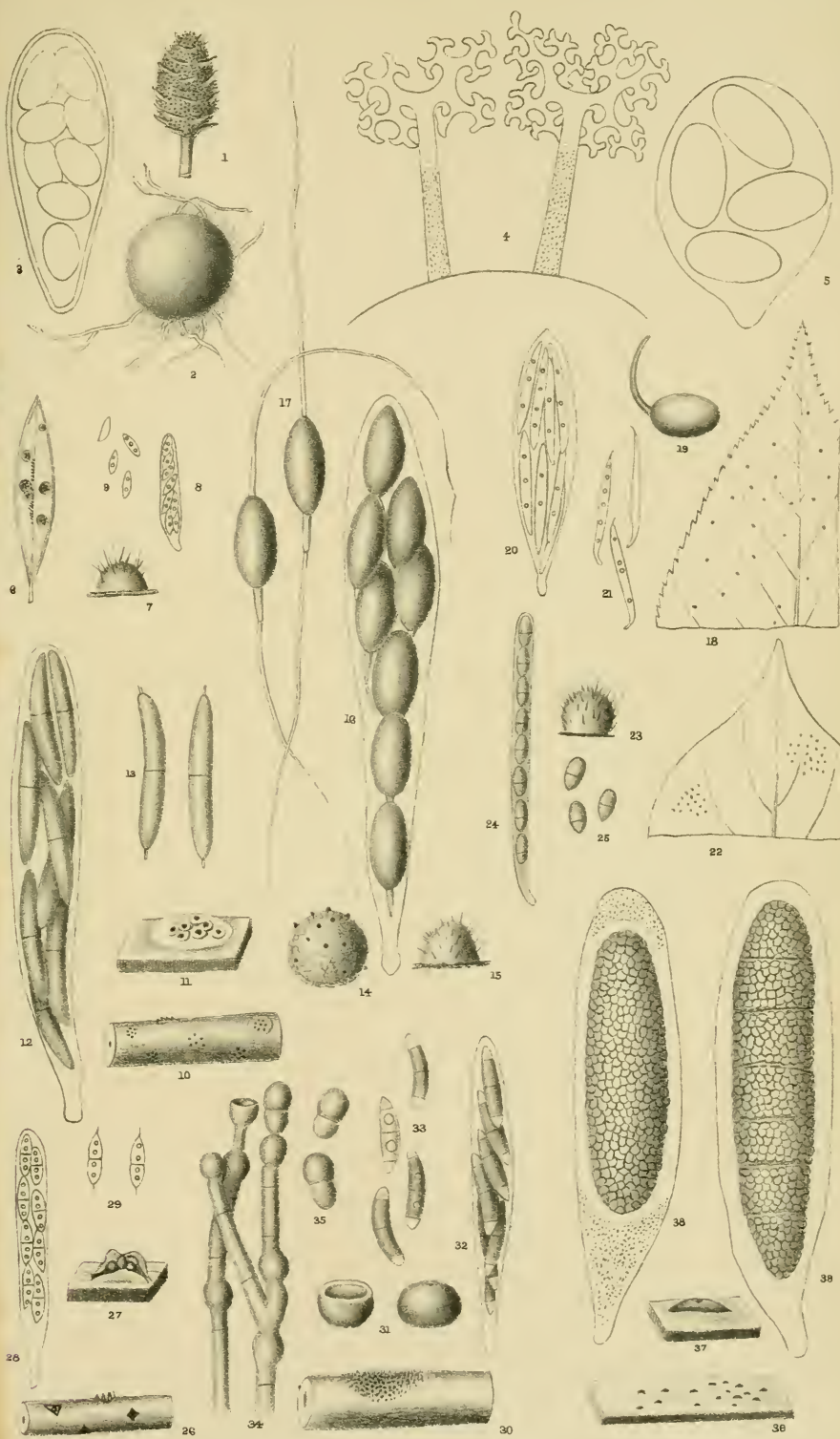




PLATE II — (*Continued*).

VENTURIA CLINTONII *Peck.*

Page 82.

- Fig. 22. Part of a leaf bearing the fungus.
- Fig. 23. A perithecium magnified.
- Fig. 24. An ascus containing spores $\times 400$.
- Fig. 25. Spores $\times 400$.

VALSA OXYSPORA *Peck.*

Page 73.

- Fig. 26. Piece of a branch bearing the fungus.
- Fig. 27. A pustule with its matrix magnified.
- Fig. 28. An ascus containing spores $\times 400$.
- Fig. 29. Spores $\times 400$.

SPHÆRIA PHÆOSTROMOIDES *Peck.*

Page 77.

- Fig. 30. Piece of a branch bearing the fungus.
- Fig. 31. Two perithecia magnified, one of them collapsed.
- Fig. 32. An ascus containing spores $\times 400$.
- Fig. 33. Spores $\times 400$.
- Fig. 34. Flocci of the subiculum $\times 400$, one bearing a spore at the apex.
- Fig. 35. Spores or conidia of the subiculum $\times 400$.

SPHÆRIA MONOSPERMA *Peck.*

Page 79.

- Fig. 36. Piece of wood bearing the fungus.
- Fig. 37. A perithecium with its matrix magnified.
- Fig. 38. An ascus containing an immature spore $\times 400$.
- Fig. 39. An ascus containing a mature spore $\times 400$.

PLATE III.

RECEPTACULITES SUBTURBINATUS *Hall.*

Page .

- Fig. 1. Lateral view of a specimen enlarged to two diameters.
Fig. 2. A further enlargement of the surface, showing the form of cells.
Fig. 3. An enlarged summit view of another specimen.

ASTYLOSPONGIA PRÆMORSA *Goldfuss.*

Page .

- Figs. 4, 5. Lateral and summit views of a specimen of medium size.
Fig. 6. View of the upper side of a more deeply lobed specimen.
Figs. 7, 8. Upper and lateral views of a very perfectly formed specimen, enlarged two diameters.
Figs. 9, 11. Vertical sections of two specimens showing structure, enlarged to two diameters. The dark spots in the center are filled with pyritous matter, and are not cavities.
Fig. 10. Horizontal section of another specimen, enlarged two diameters.
Figs. 12, 13. Lateral and summit views of a specimen, showing some difference from the usual form in the lobation of the surface.
Fig. 14. A crushed and imperfect specimen, showing the radiating fibrous-like character of the substance (enlarged).

ASTYLOSPONGIA ? (PALÆOMANON) BURSA *n. sp.*

Page .

- Figs. 15, 16. Lateral and profile views of a crushed specimen, showing the characters of the species. This is the only individual found among large collections of specimens from this locality.