

[FROM THE 46TH REPORT OF THE NEW YORK STATE MUSEUM OF NATURAL HISTORY.]

ANNUAL REPORT

OF THE

STATE BOTANIST

OF THE

STATE OF NEW YORK. 1892

Made to the Regents of the University, Pursuant to
Chapter 355 of the Laws of 1883.

BY CHARLES H. PECK.

ALBANY :

JAMES B. LYON, STATE PRINTER.

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LIBRARY
NEW YORK
BOTANICAL
GARDEN

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STATE OF NEW YORK.

No. 41.

IN SENATE,

JANUARY, 1893.

ANNUAL REPORT

OF THE

STATE BOTANIST.

OFFICE OF THE STATE BOTANIST, }
ALBANY, *January*, 1893. }

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

I have the honor to present to you my annual report for
the year 1892.

Very respectfully.

CHARLES H. PECK.



R E P O R T .

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

GENTLEMEN.—I have the honor of communicating to you the following report of the work of the Botanist for the year 1892.

Plant specimens have been collected in the counties of Albany, Essex, Hamilton, Herkimer, Jefferson, Oneida, Queens, Rensselaer, Saratoga, Suffolk, Ulster, Washington and Warren.

Specimens have been contributed by correspondents who collected them in the counties of Albany, Chenango, Essex, Onondaga, Rensselaer, Richmond, Queens, Saratoga, Schenectady, Suffolk and Washington.

The whole number of species represented by the specimens added to the State Herbarium during the year is 338. Of these 24 are represented by contributed specimens, 314 by specimens collected by the Botanist. Of the species new to the Herbarium, 81 in all, nine belong to the contributed specimens and 72 to those collected by the Botanist. Of the 81 species, there are 30 of which I find no satisfactory description, and they are, therefore, described as new. These are all fungi, two of which belong to the contributed specimens, 28 to the collected. A list of the species of which specimens have been added to the Herbarium is marked A.

Specimens of plants have been contributed by twenty-three persons. Among these contributions are many specimens of extra-limital species not included in the foregoing enumeration. A list of the names of the contributors and of their respective contributions is marked B.

The record of species not before reported, together with the localities where the specimens were respectively collected, their habitats, remarks concerning them and the descriptions of new species is marked C.

To this is added a record of a few extra-limital species received from correspondents and considered new or worthy of special notice. These descriptions and remarks follow the letter D.

Notes and observations upon species previously reported, together with descriptions of new or interesting forms and varieties of them, are marked E. To this record I have added descriptions of our New York species of *Pluteolus* and *Galera*. They are marked F.

That there is a growing demand for a better knowledge of our fungi, especially of those of economic importance, is plainly evident. The frequent inquiries received at the office of the Botanist concerning them, and the numerous specimens sent to him for identification, are an evidence of this fact. The use of the edible fleshy species for food is rapidly on the increase in this country, and yet very many who would gladly avail themselves of the agreeable and nutritious diet afforded by our numerous esculent species are debarred from doing so by a lack of the knowledge necessary for a proper discrimination between the good and the bad or worthless. With this knowledge the fear of being poisoned by the bad would no longer prevent the use of the good. With it many whose circumstances are such as to make it difficult or impossible to procure an adequate supply of animal food might often obtain a very good substitute for it by the slight labor of gathering it in the fields and woods. European works on this subject are not readily available because of their high price and are not generally satisfactory because the species in this country are not wholly the same as in that; or if the price is not great then the deficiency in the number and character of the illustrations is likely to be an objection. In view of these facts it was very gratifying to me to receive from your office directions to prepare for publication full-size colored plates of the edible and poisonous mushrooms of the State, together with brief descriptions and notes. In accordance with these directions thirty-six quarto plates, on which are represented fifty-nine edible species in natural size and color, have been prepared. Also, four plates representing in like manner three poisonous species. In all cases where it is important these plates show both the young and the mature plant and the principal variations in color and shape. Vertical sections of the plants are also depicted in order to show the internal structure and color, to which have been added, for the advantage of students of mycology and others who may be fortunate enough

to possess a compound microscope, illustrations of the fruit or spores of each species. These are uniformly magnified 400 diameters.

The manuscript designed to accompany the plates consists of 19 pages of legal note, 123 pages of descriptions and remarks, explanations of the plates and two pages of index.

With these plates and their accompanying explanations, descriptions and remarks, it seems to me to be an easy matter for any one of ordinary intelligence, even though without any experience in such things, to recognize the species illustrated by them. Of the 59 edible species illustrated, 40 at least have been used as food by myself and thus proved to my own satisfaction to be good and safe. Nearly all of the remainder have been proved by friends or correspondents in whom I have full confidence, and the few untried ones are such as are generally recommended as edible by European works on this subject, and such as I would have no hesitation in eating if opportunity should be afforded. A few of the species are such as are not represented in European works or have not been classed as edible in them, but in all these cases they have been proved by actual trial to be worthy of a place among our edible species.

There yet remains in our flora a goodly number of reputed edible species which I have not tried for lack of opportunity, but it is my purpose to test them as fast as opportunity is given. Eight species not included in the illustrations have been tried the past season. It is my purpose to continue the illustration of these, and others as fast as they have been proved, until all our esculent species have been thus represented. The more I experiment in this direction the more firmly I am convinced that the number of really poisonous or dangerous species of mushrooms is very small. Probably there is not a greater percentage of such species among the fleshy fungi than there is of really dangerous or poisonous species among flowering plants. But there are many fungi which, though harmless, are not to be classed as edible, because of their toughness, insipidity, unpleasant flavor or smallness of size.

The plan of putting the illustrations of our edible mushrooms upon charts to be suspended upon the walls of our institutions of

learning seems to me to be a good one. In this way the students, by seeing them from day to day, would become familiar with the general appearance of the species, and would recognize them at once if they should see the plants themselves growing in their native places. There would probably be kindled in the minds of some, at least, an earnest desire to know more of these interesting and useful plants, and they would thus be led to acquire a more extended knowledge of them. If the number of our esculent species should be thought too great for such chart representation, any desired number of the more common and important species might be selected for this purpose. If the outlay necessary to place charts in all the district schools should seem too great, they might be placed at first in the high schools and academies by way of experiment.

The vegetation that grows so profusely in the shallow water at the head of Lake Champlain and along its shores and dykes seemed to me to be worthy of examination. This was given early in July. Much of the woody growth consists of willows, of which the most abundant are the black willow, *Salix nigra*, the shining willow, *S. lucida*, the glaucous willow, *S. discolor*, the heart-leaved willow, *S. cordata*, and the brittle willow, *S. fragilis*. All except the last are indigenous species. The green ash, *Fraxinus viridis*, the silver maple, *Acer dasycarpum* and the red maple *A. rubrum*, are also plentiful. Although these are moisture-loving plants, too much water seems to be an injury rather than a benefit to some of them at least. Their roots and the soil in which they grow are submerged much of the time, yet the leaves of many of them are unusually small. This was especially noticeable in the black willow, the shining willow and the heart-leaved willow. Their peculiar habitat seems also to retard development. The reddish-brown color of the young leaves of the heart-leaved willow and the maples was conspicuous even in July. The spiked loosestrife, *Lythrum Salicaria*, an introduced plant which is abundant in the lower part of the Hudson river valley, was growing freely in the margin of the lake. This is a new station for it and the most northern one in the State, though it is said to grow about the quarantine grounds of Quebec. The great bullrush, *Scirpus validus*, the river club-rush, *Scirpus fluviatilis*, and the sweet flag, *Acorus Calamus*,

occupy much of the shallow water space, sometimes growing intermingled and again each maintaining exclusive possession over large areas. Such plants as the water persicaria, *Polygonum amphibium*, in which the leaves were often two inches wide and four or five inches long, and the swamp dock, *Rumex verticillatus*, were apparently intent on obtaining as much food as possible from their watery habitat, for they had emitted a dense whorl of rootlets from each of the lower joints of the submerged stem.

Our native wild roses and wild asters have been the source of considerable perplexity to botanists by reason of the variability of the species. Some special attention has been given to these plants the past summer and autumn. Our native roses are easily divided into two groups, one of which is easily recognized by the naked pedicels and receptacles and by the persistent lobes of the calyx; the other, by the glandular pedicles and receptacles and the deciduous lobes of the calyx. The bland or early wild rose, *Rosa blanda*, has hitherto been considered our only representative of the first group, but two roses have been found on the mountains and along the highways in the eastern part of Essex county which correspond to the description of the two western roses, *R. Engelmanni* and *R. Sayi*, which also belong to this group. These have the stems, and usually the branches also, densely clothed with prickles intermingled with some straight slender spines, a feature by which they may at a glance be distinguished from ordinary forms of the bland rose. They scarcely differ from each other except in the form of the fruit which is globose in the specimens referred to Say's rose, and oblong elliptical or ovate in those referred to Engelmann's rose. The bland rose which usually has stems entirely destitute of prickles or spines, sometimes occurs with prickles toward the base of the stems, but I have seen no specimens with spines.

The Carolinian or swamp rose, *Rosa Carolina*, so far as my observation goes, is most satisfactorily recognized by the teeth on the margin of the leaflets. These are decidedly smaller and finer than those of the leaflets of the other species of its group. The stem is sometimes furnished with prickles, sometimes destitute of them. This is the only species of wild rose that I have found in the heart of the Adirondack wilderness. It flowers

there about one month later than on Long Island. Of the two remaining species of this group, the shining rose, *Rosa lucida*, and the dwarf rose, *R. humilis*, the extreme forms are easily recognized; the former by its tall stout stem, stout spines and dark-green shining leaves; the latter, by its low slender growth, straight, slender spines, thinner leaves and fewer flowers; but all manner of intermediate forms occur which are very perplexing and which seem to connect the two.

Among our wild asters several interesting forms and varieties have been collected. Some of the most notable of these variations have been found to occur in the prenanthoid aster, *Aster prenanthoides*, a species which seems to have been regarded as quite uniform and fixed in its characters, for only a single variety is mentioned in the North American Flora. In the Catskill mountain region it varies excessively in the size and shape of the leaves, in the number and size of the heads and in their arrangement in panicles and corymbs, in the color of the rays and in the number, length and direction of the branches. The extreme forms, if observed separately, would scarcely be thought to belong to the same species, but they are so connected by intermediate forms that it is difficult to separate them. A more extended account of these variations will be found in another part of this Report.

Scarcely less remarkable are the variations shown by the low or dwarf goldenrod, *Solidago humilis*. This species, which I have found in the Adirondack region only, occurs on the top of the low rocky ridge on the north shore of Third lake, one of the Fulton chain of lakes. This ridge is known as Bald mountain. Its summit is long and narrow and nearly destitute of trees. Here and there the rock is covered with limited areas of thin soil that has accumulated in the depressions and shallow cavities and crevices. In this the dwarf goldenrod grows. The elevation, temperature, degree of exposure, moisture and character of the soil are all so uniform over the whole summit that much variation in the character of any plant that might grow there would scarcely be expected. Yet this goldenrod, in this limited area and apparently exposed to the same external conditions, exhibits here four well-marked and quite distinct forms. It certainly looks as if variation does not always depend upon external circumstances.

Some attention has been given to the collection of specimens designed to add to the popular interest in the contemplated exhibit of representative specimens of the Herbarium at the World's Fair. But no official notice of the assignment of space for such an exhibit has yet been received by me, and I have not thought it proper to devote much time to preparation for this exhibit till such notice shall have been received. Inasmuch as the Herbarium is especially rich in specimens of fungi, I have thought it most appropriate to make an exhibit of these plants, and chiefly of those having an economical importance, either by reason of their useful or their noxious character.

Respectfully submitted.

CHAS. H. PECK.

ALBANY, *December* 12, 1892.

(A.)

PLANTS ADDED TO THE HERBARIUM.

New to the Herbarium.

- | | |
|---|--|
| Papaver somniferum <i>L.</i> | Corticium Kalmiæ <i>Pk.</i> |
| Prunus Cerasus <i>L.</i> | Exobasidium Vaccinii <i>Wor.</i> |
| P. domestica <i>L.</i> | Tylostoma mammosum <i>Fr.</i> |
| Rosa humilis <i>Marsh.</i> | T. campestre <i>Morg.</i> |
| R. Sayi <i>Schw.</i> | Lycoperdon hirtum <i>Mart.</i> |
| R. Engelmanni <i>Wats.</i> | L. asterospermum <i>D. & M.</i> |
| Rubus setosus <i>Bigel.</i> | L. perlatum <i>Pers.</i> |
| R. Millspaughii <i>Britton.</i> | L. Curtissii <i>Berk.</i> |
| Galium Kamtschaticum <i>Stell.</i> | Didymium proximum <i>B. & C.</i> |
| Oenothera Oakesiana <i>Robbins.</i> | Physarum contextum <i>Rost.</i> |
| Chrysanthemum segetum <i>L.</i> | Peronospora Linariæ <i>Fckl.</i> |
| Artemisia serrata <i>Nutt.</i> | Phyllosticta Dioscoreæ <i>Cke.</i> |
| Lactuca hirsuta <i>Muhl.</i> | Phoma vulgaris <i>Sacc.</i> |
| Blephilia ciliata <i>Raf.</i> | Macrophoma versabilis <i>Pk.</i> |
| Polygonum cuspidatum <i>S. & Z.</i> | Sphæronema Loniceræ <i>Pk.</i> |
| Quercus Brittoni <i>Davis.</i> | Septoria Trailiana <i>Sacc.</i> |
| Scirpus Peckii <i>Britton.</i> | Micropera Nemopanthis <i>Pk.</i> |
| Panicum nitidum <i>Max.</i> | Glœosporium Platani <i>Oud.</i> |
| P. laxiflorum <i>Lam.</i> | G. phomoides <i>Sacc.</i> |
| Zygodon conoideus <i>Dicks.</i> | G. fructigenum <i>Berk.</i> |
| Tricholoma serratifolium <i>Pk.</i> | Cylindrosporium Acori <i>Pk.</i> |
| T. submaculatum <i>Pk.</i> | Urocystis Waldsteinii <i>Pk.</i> |
| Clitocybe albidula <i>Pk.</i> | Cryptospora Gœppertiana <i>Kuhn.</i> |
| C. revoluta <i>Pk.</i> | Æcidium Lupini <i>Pk.</i> |
| Collybia ochroleuca <i>Pk.</i> | Uredo Chimaphilæ <i>Pk.</i> |
| Mycena rugosa <i>Fr.</i> | Cylindrium griseum <i>Bon.</i> |
| M. hemisphærica <i>Pk.</i> | C. elongatum <i>Bon.</i> |
| Entoloma nidorosum <i>Fr.</i> | Verticillium sphærophilum <i>Pk.</i> |
| Tubaria canescens <i>Pk.</i> | Periconia tenuissima <i>Pk.</i> |
| Agaricus subrufescens <i>Pk.</i> | Zygodemus fulvus <i>Sacc.</i> |
| Hypholoma aggregatum <i>Pk.</i> | Cladosporium Zeæ <i>Pk.</i> |
| Deconica bryophila <i>Pk.</i> | Napicladium gramineum <i>Pk.</i> |
| D. bulbosa <i>Pk.</i> | Stilbum madidum <i>Pk.</i> |
| Coprinus arenatus <i>Pk.</i> | Coremium glaucum <i>Fr.</i> |
| Hygrophorus metapodius <i>Fr.</i> | Fusarium viticolum <i>Thum.</i> |
| Russula adusta <i>Fr.</i> | Lachnella citrina <i>Pk.</i> |
| Merulius Corium <i>Fr.</i> | Anthostoma Ontariense <i>E. & E.</i> |
| M. serpens <i>Tode.</i> | Stigmatea Geranii <i>Fr.</i> |
| Odontia lateritia <i>B. & C.</i> | Massariella Xanthoxyli <i>Pk.</i> |
| Thelephora subcetracea <i>Pk.</i> | Ophiobolus subolivaceus <i>Pk.</i> |

Not new to the Herbarium.

- | | |
|-----------------------------------|---------------------------|
| Anemone Virginiana <i>L.</i> | Magnolia glauca <i>L.</i> |
| A. nemorosa <i>L.</i> | M. acuminata <i>L.</i> |
| Thalictrum polygamum <i>Muhl.</i> | Nuphar advena <i>Ait.</i> |

- Nuphar Kalmianum Ait.*
Arabis hirsuta Scop.
A. perfoliata Lam.
Nasturtium palustre DC.
Barbarea vulgaris R. Br.
Lepidium intermedium Gr.
Hudsonia ericoides L.
Viola sagittata Ait.
Arenaria serpyllifolia L.
A. Caroliniana Walt.
Buda rubra Dumont.
Hypericum Ascyron L.
Linum striatum Walt.
L. Virginianum L.
Erodium cicutarium L'Her.
Geranium Carolinianum L.
Floerkea proserpinacoides Willd.
Vitis æstivalis Mx.
Polygala polygama Walt.
P. senega L.
P. sanguinea L.
Lespedeza violacea Pers.
Vicia sativa L.
V. tetrasperma L.
V. Cracca L.
V. Caroliniana Walt.
Cassia Marilandica L.
Prunus maritima Wang.
P. Persica B. & H.
Rubus neglectus Pk.
R. villosus Ait.
R. Canadensis L.
Rosa blanda Ait.
R. lucida Ehrh.
Amelanchier Canadensis T. & G.
Sedum acre L.
Drosera filiformis Raf.
Myriophyllum ambiguum Nutt.
Lythrum Salicaria L.
Epilobium lineare Muhl.
E. adenocaulon Haussk.
Enothera fruticosa L.
Opuntia vulgaris Mill.
Aralia trifolia D. & P.
Viburnum cassinoides L.
Cornus florida L.
Galium pilosum Ait.
G. circæzans Mx.
G. boreale L.
G. trifidum L.
Galium triflorum Mx.
Solidago bicolor L.
S. humilis Pursh.
S. uliginosa Nutt.
S. rugosa Mill.
S. juncea Ait.
S. Canadensis L.
S. nemoralis Ait.
S. lanceolata L.
Sericocarpus conyzoides Nees.
S. solidagineus Nees.
Aster Herveyi Gr.
A. corymbosus Ait.
A. patens Ait.
A. undulatus L.
A. cordifolius L.
A. lævis L.
A. diffusus Ait.
A. paniculatus Lam.
A. prenanthoides Muhl.
A. puniceus L.
Erigeron annuus Pers.
E. strigosus Muhl.
Gnaphalium purpureum L.
Artemisia caudata Mx.
Senecio aureus L.
Cnicus horridulus Pursh.
C. pumilus Torr.
Hieracium præaltum Vill.
H. venosum L.
Sonchus asper Vill.
Lobelia spicata Lam.
Specularia perfoliata A. DC.
Campanula rapunculoides L.
Rhododendron viscosum Torr.
Chimaphila maculata Pursh.
Primula Mistassinica Mc.
Lysimachia stricta Ait.
Anagallis arvensis L.
Fraxinus viridis Mx.
Asclepias incarnata L.
A. verticillata L.
Hydrophyllum Canadense L.
Verbascum Thapsus L.
Linaria vulgaris Mill.
Mimulus moschatus Dougl.
Limosella aquatica L.
Veronica peregrina L.
Conopholis Americana Wallr.
Lycopus Virginicus L.

- Scutellaria lateriflora *L.*
 S. galericulata *L.*
 Plantago major *L.*
 P. Rugelii *Dec.*
 P. lanceolata *L.*
 P. Patagonica *Jacq.*
 Chenopodium capitatum *Wats.*
 C. Bonus-Henricus *L.*
 Rumex Patientia *L.*
 R. verticillatus *L.*
 R. obtusifolius *L.*
 R. Acetosella *L.*
 Polygonum lapathifolium *L.*
 P. Pennsylvanicum *L.*
 P. amphibium *L.*
 P. Persicaria *L.*
 P. acre *H B K.*
 P. cilinode *Mx.*
 Euphorbia Presslii *Guss.*
 Carya sulcata *Nutt.*
 Salix nigra *Marsh.*
 S. lucida *Muhl.*
 S. fragilis *L.*
 S. rostrata *Rich.*
 S. petiolaris *Sm.*
 S. cordata *Muhl.*
 S. myrtilloides *L.*
 Chamaecyparis sphaeroidea *Spach.*
 Aplectrum hiemale *Nutt.*
 Spiranthes cernua *Rich.*
 S. Romanzoffiana *Cham.*
 Pogonia pendula *Lindl.*
 Habenaria lacera *R. Br.*
 Aletris farinosa *L.*
 Iris prismatica *Pursh.*
 Sisyrinchium anceps *Cav.*
 Clintonia borealis *Raf.*
 Lilium Philadelphicum *L.*
 Trillium erectum *L.*
 Heteranthera graminea *Vahl.*
 Juncus marginatus *Rostk.*
 J. Greenii *O. & T.*
 J. tenuis *Willd.*
 J. Gerardi *Loisel.*
 J. pelocarpus *E. Meyer.*
 J. articulatus *L.*
 J. militaris *Bigel.*
 J. acuminatus *Mx.*
 J. scirpoides *Lam.*
 Cyperus strigosus *L.*
 Scirpus maritimus *L.*
 S. fluviatilis *Gr.*
 S. polyphyllus *Vahl.*
 S. silvaticus *L.*
 Eriophorum cyperinum *L.*
 Scleria pauciflora *Muhl.*
 Carex intumescens *Rudge.*
 C. lurida *Wahl.*
 C. hystericina *Muhl.*
 C. scabrata *Schw.*
 C. vestita *Willd.*
 C. filiformis *L.*
 C. lanuginosa *Mx.*
 C. stricta *Lam.*
 C. torta *Boott.*
 C. longirostris *Torr.*
 C. arctata *Boott.*
 C. Sullivantii *Boott.*
 C. granularis *Muhl.*
 C. conoidea *Schk.*
 C. Hitchcockiana *Dew.*
 C. laxiflora *Lam.*
 C. digitalis *Willd.*
 C. laxiculmis *Schw.*
 C. plantaginea *Lam.*
 C. eburnea *Boott.*
 C. varia *Muhl.*
 C. Pennsylvanica *Lam.*
 C. communis *Bailey.*
 C. vulpinoidea *Mx.*
 C. sparganioides *Muhl.*
 C. Muhlenbergii *Schk.*
 C. cephaloidea *Dew.*
 C. cephalophora *Muhl.*
 C. echinata *Murr.*
 C. canescens *L.*
 C. tribuloides *Wahl.*
 C. scoparia *Schk.*
 C. foenea *Willd.*
 C. silicea *Olney.*
 C. straminea *Willd.*
 Spartina juncea *Willd.*
 S. cynosuroides *Willd.*
 Panicum virgatum *L.*
 P. dichotomum *L.*
 P. Crus-galli *L.*
 Setaria Italica *Kunth.*
 Anthoxanthum odoratum *L.*
 Oryzopsis asperifolia *Mx.*
 Muhlenbergia Mexicana *Trin.*

Muhlenbergia silvatica T. & G.
 M. Willdenovii Trin.
 Calamagrostis Canadensis Bv.
 Agrostis alba L.
 A. scabra Willd.
 Deschampsia flexuosa Trin.
 Trisetum subspicatum Bv.
 Avena striata Mx.
 Eatonia Pennsylvanica Gr.
 Eragrostis Frankii Meyer.
 Poa serotina Ehrh.
 P. trivialis L.
 P. debilis Torr.
 P. alsodes Gr.
 Glyceria obtusa Trin.
 G. nervata Trin.
 G. grandis Wats.
 G. fluitans R. Br.
 G. acutiflora Torr.
 Festuca elatior L.
 Bromus Kalmii Gr.
 Elymus Virginicus L.
 E. Canadensis L.
 Equisetum limosum L.
 Asplenium Filix-fœmina Bernh.
 Aspidium spinulosum Sw.

Lygodium palmatum Sw.
 Botrychium ternatum Sw.
 Amanita muscaria L.
 Armillaria mellea Vahl.
 Tricholoma terreum Schæff.
 Collybia radicata Rehl.
 Pholiota discolor Pk.
 Cortinarius pulchrifolius Pk.
 Lactarius deceptivus Pk.
 Polyporus cuticularis Fr.
 Poria semitincta Pk.
 Hydnum graveolens Del.
 Porothelium fimbriatum Fr.
 Thelephora Cladonia Schw.
 Hymenochæte tabacina Lev.
 H. corrugata Lev.
 Corticium incarnatum Lev.
 C. radiosum Fr.
 C. subaurantiacum Pk.
 Ceratium hydroides A. & S.
 Plasmopara viticola B. & D.
 Monilia fructigena Pers.
 Macrosporium commune Rabh.
 Cladosporium herbarum Lk.
 Cryptospora suffusa Fr.

(B.)

CONTRIBUTORS AND THEIR CONTRIBUTIONS.

Mrs. E. G. Britton, New York, N. Y.

Zygodon conoideus Dicks.

Mrs. D. B. Fitch, Norwich, N. Y.

Lygodium palmatum Sw.

Miss Bessie Grinnan, Madison Mills, Va.

Calostoma Berkeleyi Mass.

Rev. J. H. Wibbe, Schenectady, N. Y.

Chrysanthemum segetum L.

Artemisia serrata Nutt.

Erodium Cicutarium L'Her

Mimulus moschatus Dougl.

Polygonum cuspidatum S. & Z.

Eragrostis Frankii Meyer.

Rev. J. L. Zabriskie, Flatbush, N. Y.

Myriophyllum ambiguum Nutt., var. limosum Torr. | Limosella aquatic L., var. tenuifolia Hoffm.

Geo. F. Atkinson, Auburn, Ala.

Hypocrella tuberiformis B. & Br.

Microsphaeria calocladophora Atk.

Ravenelia Cassiæcola Atk.

Uredo Fici Cast.

Ramularia areola Atk.

Cercospora Bolleana Speg.

S. M. Tracy, Starkville, Miss.

Phyllosticta ulmicola <i>Sacc.</i>	Melampsora Quercus <i>Schw.</i>
Vermicularia affinis <i>S. & B.</i>	M. Hydrangeæ <i>Burr.</i>
Dinemasporium graminum <i>Lev.</i>	Helminthosporium Ravenelli <i>B. & C.</i>
Gloeosporium nervisequum <i>Sacc.</i>	Entyloma Physalidis <i>Wint.</i>
Ustilago Uniolæ <i>E. & E.</i>	Cercospora grisea <i>C. & E.</i>
Uromyces Dactylidis <i>Ott.</i>	C. gossypina <i>Che.</i>
Puccinia globosipes <i>Pk.</i>	C. cruenta <i>Sacc.</i>
P. rubigovera <i>Wint.</i>	C. macroguttata <i>Atk.</i>
P. emaculata <i>Schw.</i>	C. erythrogena <i>Atk.</i>
P. coronata <i>Cd.</i>	Erysiphe communis <i>Fr.</i>
P. Conoclinii <i>Seym.</i>	Microsphaeria Alni <i>Wint.</i>
P. Anthoxanthi <i>Fckl.</i>	Sphærotheca lanestris <i>Hark.</i>
Phragmidium speciosum <i>Fr.</i>	Pseudopeziza Medicaginis <i>Lib.</i>
Ravenelia Cassiæcola <i>Atk.</i>	Acrospermum compressum <i>Tode.</i>
Æcidium Oldenlandianum <i>E. & T.</i>	

E. C. Howe, Lansingburgh, N. Y.

Carex hystricina <i>Muhl.</i>	Agrostis perennans <i>Tuck.</i>
C. tribuloides <i>Wahl.</i>	A. vulgaris <i>With.</i>
C. lurida <i>Wahl.</i>	Glyceria fluitans <i>R. Br.</i>
Muhlenbergia Mexicana <i>Trin.</i>	

G. H. Hicks, Agricultural College, Mich.

Excipula Hicksiana <i>E. & E.</i>	Dendryphium corticola <i>E. & E.</i>
Morchella bispora <i>Sor.</i>	Verpa digitaliformis <i>Pers.</i>

A. P. Morgan, Preston, Ohio.

Bovista minor <i>Morg.</i>	Hymenochaete purpurea <i>C. & M.</i>
Bovistella Ohiensis <i>E. & M.</i>	

M. A. Howe, Berkeley, Cal.

Gloeosporium Pteridis *Hark.*

S. H. Burnham, Vaughns, N. Y.

Hypericum pyramidatum <i>Ait.</i>	Blitum Bonus-Henricus <i>Reich.</i>
Cuphea viscosissima <i>Jacq.</i>	Houstonia purpurea <i>L.</i>
Cardamine pratensis <i>L.</i>	Aplectrum hiemale <i>Nutt.</i>
Blephilia ciliata <i>Raf.</i>	

J. Dearness, London, Can.

Phyllosticta Dircae <i>E. & D.</i>	Clypeosphaeria ulmicola <i>E. & E.</i>
P. staphylina <i>D.</i>	Sphaerella Epilobii <i>Sacc.</i>
Ceriosporella Dearnessii <i>E. & E.</i>	Othia Ostryigena <i>E. & E.</i>
Micropera Fraxini <i>E. & E.</i>	Thyridium Americanum <i>E. & E.</i>
Botrytis epichloris <i>E. & D.</i>	Cucurbitaria ulmicola <i>Fckl.</i>
Puccinia Pimpinellæ <i>Lk.</i>	Diaporthe aliena <i>E. & E.</i>
Pezicula carpinea <i>Pers.</i>	D. tuberculosa <i>Sacc.</i>
Melampsoi chionea <i>Fr.</i>	D. spicata <i>E. & E.</i>
Anthostomella mammoides <i>E. & E.</i>	D. claviceps <i>E. & E.</i>
Melanconis salicina <i>E. & E.</i>	

W. T. Davis, New Brighton, N. Y.

Quercus Brittoni <i>Davis.</i>	Populus heterophylla <i>L.</i>
Q. nigra <i>L.</i>	

N. L. Britton, New York, N. Y.

Galium Kamtschaticum <i>Stell.</i>	Rubus Millspaughii <i>Britton.</i>
Ranunculus septentrionalis <i>L.</i>	Vicia hirsuta <i>Koch.</i>
Aquilegia vulgaris <i>L.</i>	Zizia aurea <i>Koch.</i>
Lepidium Virginicum <i>L.</i>	Osmorhiza longistylis <i>Torr.</i>
Viola delphinifolia <i>Le Conte.</i>	Erigeron bellidifolius <i>Muhl.</i>
Acer spicatum <i>Lam.</i>	Senecio aureus <i>L.</i>
A. Pennsylvanicum <i>L.</i>	Tussilago Farfara <i>L.</i>
*	
Geaster argenteus <i>Cke.</i>	Æcidium gaurinum <i>Pk.</i>
Ustilago Hordei <i>K. & S.</i>	Æ. Convallariæ <i>Schum.</i>
Uromyces Spragueæ <i>Hark.</i>	Æ. porosum <i>Pk.</i>
U. Zygadeni <i>Pk.</i>	Æ. Ellisii <i>T. & G.</i>
U. Eriogoni <i>E. & H.</i>	Æ. hemisphaericum <i>Pk.</i>
U. Euphorbiæ <i>C. & P.</i>	Æ. Thalictri <i>Grev.</i>
U. borealis <i>Pk.</i>	Æ. monoicum <i>Pk.</i>
U. Glycyrrhizæ <i>R. & M.</i>	Æ. Urticæ <i>Wint.</i>
Puccinia Polygoni <i>Pers.</i>	Æ. Plantaginis <i>Ces.</i>
P. mirabilissima <i>Pk.</i>	Æ. Eurotias <i>E. & E.</i>
P. consimilis <i>E. & E.</i>	Æ. Cleomis <i>E. & A.</i>
P. Gayophyti <i>Pk.</i>	Æ. Compositarum <i>Mart.</i>
P. Phragmitis <i>Korn.</i>	Æ. Pini <i>Pers.</i>
P. Menthæ <i>Pers.</i>	Uredo Polypodii <i>DC.</i>
P. Tanaceti <i>DC.</i>	Ræstelia cornuta <i>Fr.</i>
P. intermixta <i>Pk.</i>	Cystopus candidus <i>Lev.</i>
P. rubigovera <i>Wint.</i>	C. cubicus <i>DeBy.</i>
P. Grindeliæ <i>Pk.</i>	Ramularia arnicalis <i>E. & E.</i>
P. Troximontis <i>Pk.</i>	Cercospora Thaliæ <i>E. & E.</i>
P. Balsamorrhizæ <i>Pk.</i>	Peziza scabrovillosa <i>Phil.</i>
P. Giliæ <i>Hark.</i>	Mollisia Montanensis <i>E. & E.</i>
P. Malvastri <i>Pk.</i>	Lachnella flammea <i>A. & S.</i>
P. mutabilis <i>E. & E.</i>	Claviceps purpurea <i>Tul.</i>
P. Hieracii <i>Mart.</i>	Tapesia fusca <i>Pers.</i>
P. Helianthi <i>Schw.</i>	Erysiphe communis <i>Fr.</i>
P. Jonesii <i>Pk.</i>	E. graminis <i>DC.</i>
Phragmidium Potentillæ <i>Karst.</i>	E. Cichoracearum <i>DC.</i>
P. subcorticium <i>Wint.</i>	Sphærotheca Castagnei <i>Lev.</i>
P. Rubi-Idæi <i>Karst.</i>	Uncinula Salicis <i>Wint.</i>
Melampsora Lini <i>Tul.</i>	Physalospora megastoma <i>Pk.</i>
M. farinosa <i>Schret.</i>	P. aurantia <i>E. & G.</i>
Melampsorella Cerastii <i>Schret.</i>	Rosellinia obliquata <i>Sacc.</i>
Æronartium asclepiadeum <i>Fr.</i>	Teichospora mammosides <i>E. & E.</i>
Æcidium Clematidis <i>DC.</i>	Phyllachora Heraclei <i>Fr.</i>
Æ. Allenii <i>Clint.</i>	P. Potentillæ <i>Schw.</i>
Æ. Violæ <i>Schum.</i>	P. Wittrockii <i>Sacc.</i>

C. L. Shear, Alcove, N. Y.

Carex intumescens <i>Rudge.</i>	Botrychium ternatum <i>Sw.</i>
C. sparganioides <i>Muhl.</i>	Amanita cæsarea <i>Scop.</i>
C. Sullivantii <i>Boott.</i>	Urocystis Waldsteiniae <i>Pk.</i>

* The following are specimens of fungi from the collection of the late F. W. Anderson. They were communicated by Prof. Britton.

Mrs. L. L. Goodrich, Syracuse, N. Y.

Floerkea proserpinacoides Willd.

W. Herbst, Trexlertown, Pa.

Phallus Ravenelii B. & C.

Queletia mirabilis Fr.

W. Falconer, Glen Cove, N. Y.

Agaricus subrufescens Pk.

C. F. Millspaugh, Waverly, N. Y.

Cylindrocolla Dendroctoni Pk.

John E. Coventry.

A fasciated ear of corn, *Zea Mays L.*

E. H. Savage, Keeseville, N. Y.

Sand incrustated specimen of fungus, *Polyporus fomentarius Fr.*

Prof. James Hall, Albany, N. Y.

Four-headed flower of dandelion, *Taraxacum officinale Web.* on a single stout or fasciated scape.

(C.)

SPECIES NOT BEFORE REPORTED.

Papaver somniferum L.

Menands, Albany county. September. Cultivated for ornament but often self-seeding and sparingly escaping from cultivation.

Prunus Cerasus L.

Voorheesville and Delmar, Albany county, and Westport, Essex county. The sour cherry is sometimes spontaneous by roadsides and near farm-houses.

Prunus domestica L.

Amagansett, Suffolk county. An apparently starved or degenerate form of the cultivated plum grows in sandy soil in this locality. It assumes a straggling bush-like form three to four feet high, or in a few instances six to eight feet. The taller specimens were seen on the north side of the road leading from Amagansett to Easthampton. The leaves on the spurs are about six lines long and three lines broad. Those on the branches are about one inch long and half as wide. On the most thrifty shoots they scarcely exceed one and a half inch in length. Flowers and fruit not seen.

Rosa humilis Marsh.

This rose, which had been previously united with *R. lucida*, is considered a distinct species in the last edition of Gray's Manual. Its most prominent distinguishing features are its shorter stems, straight slender spines, narrow stipules and lobed outer sepals. These characters, however, are somewhat variable, so that individuals occur, which connect the two in such a way as to show that they are not very sharply limited. This is the most common species about Albany. It is abundant on Mount Defiance, near Ticonderoga, and is quite variable there. One noteworthy form has the spines nearly wanting, the leaflets numerous and small, generally eight or nine lines long, and the pedicels and calyx tube as glabrous as in *R. blanda*. From *R. blanda* it may be separated by the presence of an occasional spine and by the deciduous sepals. Can it be a cross between *R. blanda* and *R. humilis*, both of which occur in this locality? *R. humilis* appears to be equally at home on rocky, clayey or sandy soil. It is abundant in the eastern part of Long Island.

Rosa Sayi Schw.

I refer to this species, specimens collected near Westport, Essex county, in June. The essential characters of the species are shown, but in some cases only partially or slightly. The serrulate teeth of the leaflets are not always present, and their resinous-puberulent character is sometimes very slight. The stems are always very prickly, and often the branches also. The prickles are sometimes intermingled with straight, slender spines, and the stipules, which are either narrow or dilated, are pretty constantly and distinctly glandular-ciliate. The leaflets are more rounded or obtuse at the base than in *R. blanda*, from which it is separated by the characters just mentioned, although its variation from typical *R. Sayi* seems to be in the direction of *R. blanda*. In the Manual the species is credited from Northern Michigan and Wisconsin to Minnesota and Colorado. Possibly it may have been introduced into our locality from the west, but it is well established both north and west from Westport, and has been here many years.

Rosa Engelmanni Watson.

Fruiting specimens of a rose very similar to the preceding species were collected several years ago at the base of Mount

Defiance, near Ticonderoga. They differ from *Rosa Sayi* in the shape of the fruit, which is distinctly longer than broad.

Rubus Millspaughii Britton.

Avalanche Pass, Essex county. *N. L. Britton*. Morehouseville, Hamilton county. July.

The glabrous character of this species separates it from small forms of *Rubus villosus* var. *frondosus*. The specimen contributed by Professor Britton is wholly without spines, those collected by myself have a few weak spines.

Rubus setosus Bigel.

Common in the southern and western part of the Adirondack region. Morehouseville and Lake Pleasant, Hamilton county, Old Forge or "Brown Tract," Herkimer county, and Garoga, Fulton county. July and August.

This plant was previously reported by me as *Rubus hispidus* var. *suberectus*, but later observations led me to the belief that it is a distinct species. Professor Britton agrees with me in this belief, and thinks it belongs to the species under which I have now placed it, and with the originally published description of which it agrees very well, except that its ripe fruit is black instead of red, as in Bigelow's plant. Doctor Torrey, in *N. Y. State Flora*, regarded Bigelow's plant as a variety of *Rubus hispidus* and abbreviated the description too much to make it satisfactory. The specimen which he placed in the Herbarium as a representative of this plant is clearly a mere form of *R. hispidus*.

R. setosus, as here understood, is quite plentiful in the localities mentioned and evidently delights in the soil of mixed sand and gravel which is common in that region. I observed the past season that it had taken possession of the old neglected garden of Arnold house, Fulton Chain, and was apparently fast overrunning the whole area. It thrives better on dry upland than in wet swampy places, though it occasionally appears in such localities. The old abandoned fields and pastures of the region mentioned are most congenial to it. Unthrifty specimens of it were seen on the summit of Bald mountain near Third lake. In no case have I found it associated with *R. hispidus*, which is strangely absent or scarce in this whole region. The fruit is ripe in August. It is

rather small, black when ripe and scarcely inferior in flavor to that of the dewberry, *R. Canadensis*, or of the leafy blackberry and of Millspaugh's blackberry.

Galium Kamtschaticum *Stell.*

Mount Marcy. August. *Britton*. The specimens are in fruit, but no flowers are shown. The species may be distinguished from the glabrous variety of *Galium circeazans* by its long erect pedicels.

Oenothera Oakesiana *Robbins.*

Luzerne, Warren county. This is *O. biennis* var. *Oakesiana* Gr.

Chrysanthemum segetum *L.*

Introduced and growing in fields near Niskayuna, Schenectady county. September. *Rev. J. H. Wibbe.*

Artemisia serrata *Nutt.*

Banks of the Mohawk, three miles below the aqueduct and opposite Rock island. August. *Wibbe.*

An introduction from the west.

Lactuca hirsuta *Muhl.*

Rocky hillsides. Whitehall. June.

Blephilia ciliata *Raf.*

Vaughn's, Washington county. *S. H. Burnham.*

Polygonum cuspidatum *S. & Z.*

Banks of the Mohawk below the aqueduct, Schenectady county. August. *Wibbe.* Introduced as an ornamental plant, but sometimes escaping from cultivation.

Quercus Brittoni *Davis.*

Watchogue, Richmond county. September. *W. T. Davis.* Mr. Davis considers this oak to be a hybrid between *Quercus nigra* and *Q. ilicifolia*.

Scirpus Peckii *Britton.*

Lake Pleasant, Hamilton County. August. First collected in this locality in 1875. It was again collected in 1891, but in a new station. It was reported last year under the name *Scirpus polyphyllus* var. *macrostachys*. Professor Britton has recently published it as a distinct species, and as such it is now reported. It certainly is quite distinct from our ordinary forms of *S. polyphyllus*. Specimens sometimes occur in which a cluster of spikelets is borne on a long pedicel issuing from the axil of the uppermost leaf.

Panicum nitidum *Max.*

Sandy soil near Riverhead. July.

Panicum laxiflorum *Lam.*

With the preceding species. July.

Zygodon conoideus *Dicks.*

Base of a birch tree. Adirondack mountains. *Mrs. E. G. Britton.* The specimen is sterile.

Tricholoma serratifolium *n. sp.*

Pileus fleshy, firm, convex or nearly plane, often irregular, dry silky or flocculose-squamulose, white, often slightly tinged with brown or yellowish-brown in the center, flesh white or whitish, taste at first mild, then acrid; lamellæ broad, close, adnexed, serrate or eroded on the edge, white; stem short, stout, solid, white; spores broadly elliptical or subglobose, .0002 to .00024 in. long, .0002 broad.

Pileus 2 to 4 in. broad; stem about 1 in. long, 3 to 6 lines thick.

Woods. Shokan. September.

This is apparently related to such species as *T. psammopodum* and *T. impolitum*, but distinct from them in color and in the character of the lamellæ.

Tricholoma submaculatum *n. sp.*

Pileus convex or nearly plane, sometimes slightly depressed in the center; glabrous, brownish, sometimes tinged with ferruginous, becoming obscurely spotted with age, flesh white; lamellæ

thin, close, white, becoming orange-red or saffron color where wounded or bruised; stem solid, silky-fibrillose, white, often decumbent or radicating at the base; spores minute, broadly elliptical or subglobose, .00016 to .0002 in. long, .00016 broad.

Pileus 1 to 2 in. broad; stem 1 to 3 in. long, 3 to 5 lines thick. Borders of woods. Shokan. September.

The species may easily be recognized by the obscurely spotted pileus and by the peculiar color assumed by any part of the plant where cut or bruised. The spots indicate an affinity with the tribe Guttata, but inasmuch as the specimens were collected in a dry time, the pileus did not exhibit the moist character to be expected in members of that tribe.

Clitocybe albidula n. sp.

Pileus thin, at first convex, then umbilicate or centrally depressed, glabrous, hygrophanous, pale grayish-brown and finely striatulate on the margin when moist, whitish when dry; lamellæ close, adnate or slightly decurrent, dingy-white; stem short, glabrous or slightly pruinose, hollow, colored like the pileus; spores minute, elliptical, .00016 to .0002 in. long, .0001 to .00012 broad.

Pileus about 1 in. broad; stem 1 in. long, 1 to 1.5 lines thick. Under pine trees. Delmar. September.

Related to *C. candicans*, from which it is distinguished by its more dingy color and by its decided farinaceous odor. The margin of the young pileus is whitened by a pruinosity or a minute white villosity.

Clitocybe revoluta n. sp.

Densely caespitose; pileus convex or nearly plane, glabrous, whitish and slightly striatulate on the margin when moist, white when dry, the thin margin commonly and irregularly revolute; lamellæ thin, narrow, close, adnate or slightly decurrent; stem glabrous, solid when young, stuffed or somewhat hollow when old, whitish; spores subglobose, .00016 to .0002 in. long.

Pileus 1 to 3 in. broad; stem 2 to 3 in. long, 3 to 5 lines thick. Woods. Alcove, Albany county. September.

This plant forms dense tufts of considerable extent and composed of many individuals. In these tufts the pileus is more or less irregular with the margin wavy and revolute. Occasionally

a plant is seen growing apart from the general mass and then its pileus is apt to be regular and the margin horizontal.

Collybia ochroleuca *n. sp.*

Pileus thin, convex, then umbilicate or centrally depressed, glabrous, pale ochraceous, flesh white, taste farinaceous; lamellæ broad, subdistant, rounded behind or emarginate, whitish; stem firm, slender, glabrous, stuffed or hollow, colored like the pileus; spores elliptical, .00024 to .0003 in. long, .0002 broad.

Pileus 6 to 12 lines broad; stem about 1 in. long, 1 line thick.

Woods. Shokan. September. Related to *C. esculenta*, but distinct by its umbilicate or depressed pileus and its farinaceous odor and taste.

Mycena hemisphærica *n. sp.*

Pileus thin, firm, hemispherical, glabrous, hygrophanous, brownish and striatulate when moist, gray or grayish-brown when dry; lamellæ subdistant, arcuate, adnate, livid-white; stem glabrous, hollow, livid-white; spores broadly elliptical, .00016 to .0002 in. long, .00012 broad.

Pileus 5 to 8 lines broad; stem 1 to 1.5 in. long, 1 to 1.5 lines thick.

Mossy prostrate trunks of trees in woods. Fulton Chain. August.

The species belongs to the tribe Rigidipedes. It is distinguished from *M. galericulata* by its hemispherical hygrophanous pileus, the character and color of the lamellæ and by its smaller spores. It is gregarious or subcaespitose in its mode of growth.

Mycena rugosa *Fr.*

Woods. Shokan. September.

Entoloma nidorosum *Fr.*

Woods. Shokan. September.

Our specimens differ from the type in having the stem solid and the lamellæ adnate. For the present I designate them as *Var. solidipes*.

Tubaria canescens *n. sp.*

Pileus very thin, almost membranous, convex, grayish-white or canescent, coated with minute whitish fibrils or appressed tomentum; lamellæ distant, decurrent, cinnamon color; stem slender,

whitish, fibrillose, with a white mycelium at the base; spores elliptical, .00024 in. long, .00016 broad, often containing a shining nucleus.

Pileus 2 to 3 lines broad; stem 6 to 8 lines long.

Damp naked soil in woods. Selkirk. July.

This is a very small species closely allied to *Tubaria autochthona*, from which it is separated by the shape and color of the pileus, the decidedly decurrent lamellæ and the fibrillose stem. As in that species, the spores are unusually pale. The dry pileus is distantly sulcate or striate.

Agaricus subrufescens n. sp.

Pileus rather thin and fragile, at first deeply hemispherical, then convex or broadly expanded, often wavy or irregular, silky-fibrillose or minutely and obscurely squamulose, varying in color from whitish or grayish to dull reddish-brown, flesh white, unchangeable; lamellæ close, free, at first white or yellowish-white, then pinkish, finally blackish-brown; stem minutely flocculose below the annulus, hollow, white, somewhat thickened or bulbous at the base; the annulus membranous, white, externally flocculose; the mycelium white, forming slender branching root-like strings; spores elliptical, brown, .00024 to .00028 in. long, .00016 to .0002 broad.

Pileus 2 to 4 in. broad; stem 2 to 6 in. long, 4 to 8 lines thick.

Leaf mold. Glen Cove. October. *W. Falconer*. Also cultivated.

In the form of the young pileus and in its color in the reddish tinted specimens, also in the white color of the young lamellæ, this species makes an approach to *A. campestris* var. *rufescens*, but unlike that variety the wounded flesh does not become red. From typical *A. campestris* it differs in many respects — in the thin flesh, the color of the young lamellæ, the character of the stem and its annulus and in its mycelium. It resembles more closely *A. placomyces* and *A. silvaticus*, but from the former it may be separated by the shape of the pileus and the more obscure character of its scales and by its annulus, from the latter, by the color of the pileus and the young lamellæ and also by the annulus, which is externally floccose-squamulose and also not distant as in that species.

Mr. Falconer says that under cultivation it is exceedingly productive, growing equally well in sunshine and in shade, but being fond of warmth. When grown in the dark the color of the pileus is darker than when grown in the light. The mushrooms appear in twenty-four to thirty days after the planting of the spawn, which is about two weeks earlier than in the case of the common mushroom. They have a decided flavor and are good eating. From this it will readily be seen that in productiveness, early appearance and ability to endure warm weather it is an improvement on the common mushroom.

Hypholma aggregatum *n. sp.*

Densely caespitose; pileus thin, convex or subcampanulate, grayish-white, obscurely spotted with appressed brownish fibrils; lamellæ subdistant, rounded behind, nearly free, at first whitish, then brown or blackish-brown with a whitish edge; stem rather long, hollow, somewhat floccose or fibrillose, white; spores brown, elliptical, .0003 in. long, .00016 to .0002 broad.

Pileus about 1 in. broad; stem 2 to 3 in. long, 1.5 to 2 lines thick.

At the base of trees and stumps in woods. Alcove. Sept.

The caespitose habit and obscurely spotted grayish-white pileus are marked features of this species. From *H. silvestre* the species may be distinguished by its smaller size, adnexed or nearly free lamellæ, which have no rosy tint, and by its very caespitose mode of growth.

Deconica bryophila *n. sp.*

Pileus thin, membranous on the margin, subconical, becoming convex or nearly plane, glabrous, hygrophanous, chestnut color or dark brown and striatulate on the margin when moist, creamy-white, grayish-white or pale brown when dry and often distinctly striate on the margin; lamellæ broad, distant, adnate or slightly decurrent, plane or ventricose, at first pale-brown, then purplish-brown; stem slender, slightly silky-fibrillose when young, stuffed or hollow, pallid or brown; spores brown, elliptical, .0003 in. long, .0002 broad.

Pileus 3 to 6 lines broad; stem 8 to 12 lines long.

Sandy soil among mosses. Delmar and Karner. May.

From *D. bullacea*, this species differs in its not viscid pileus and in its distant lamellæ. The chestnut-colored specimens sometimes have the center of the pileus darker than the margin.

***Deconica bulbosa* n. sp.**

Pileus submembranous, convex, becoming nearly plane, glabrous, slightly striate on the margin, whitish tinged with brown; lamellæ broad, distant, adnate, purplish-brown; stem slender, firm, hollow, bulbous, both it and the bulb densely grayish-fibrillose; spores purplish-brown, elliptical, .0003 in. long, .0002 broad.

Pileus 3 to 6 lines broad; stem 8 to 12 lines long, scarcely half a line thick.

Dead stems of herbs. Delmar. September.

This small species resembles the preceding one in size, but it differs in its place of growth, its paler color, its bulbous stem and in the grayish fibrils that clothe both stem and bulb.

***Coprinus arenatus* n. sp.**

Pileus thin, at first broadly ovate or subhemispherical, soon convex or campanulate, adorned with small white tomentose scales, striate on the margin, whitish or grayish-white, becoming grayish-brown with age; lamellæ broad, crowded, free, grayish-white, soon purplish-brown, finally black, furnished with numerous projecting hyaline cystidia; stem short, equal, glabrous, hollow, white; spores broadly ovate or subglobose, black in the mass, purplish-brown by transmitted light, .0003 to .00035 in. long, .00025 to .0003 broad.

Pileus 1 to 2 in. broad; stem 1 to 2 in. long, 1 to 2 lines thick.

Solitary or gregarious, growing on sandy soil recently overrun by fire. Karner. May.

The mycelium binds the sand together in a globular mass at the base of the stem. The scales of the pileus are easily separable and soon disappear. The marginal striations extend half way or more toward the center. The long cystidia give a peculiar appearance to the lamellæ, and in the fresh plant they may be seen extending across the interspaces. The species belongs to the section *Tomentosi* and is remarkable for its peculiar habitat.

Hygrophorus metapodius Fr.

Woods. Shokan. September. Our specimens were not at all viscid, nor did wounds of the flesh and lamellæ turn red, but in other respects they correspond so well to the figure and description of this species that we dare not separate them.

Russula adusta Fr.

Sandy soil in pine woods. Delmar. September.

Closely allied to *R. nigricans*, but differing in its thinner, closer and more decurrent lamellæ, which do not assume a reddish color where wounded. The specimens are commonly smaller than either *R. nigricans* or *R. sordida*, and they are less disposed to turn black in drying.

Merulius Corium Fr.

Decorticated wood of deciduous trees. Boiceville, Ulster county. September.

In our specimens the plants are wholly resupinate, slightly reflexed, or they have a well developed pileus. In this case the pileus is villous, concentrically sulcate and white. The hymenium also is somewhat concentrically sulcate. European authors do not agree in their descriptions of the size and shape of the spores of this species. In our specimens they are oblong or lanceolate, .0003 in. long, .00012 broad.

Merulius serpens Tode.

Decaying wood and branches. Lake Pleasant. August.

Odontia lateritia B. & C.

Interior of prostrate much-decayed trunks of deciduous trees, apparently birch, chestnut and oak. Fulton Chain. August. Shokan. September.

Under their description of this species, Berkeley and Curtis remark that *Phlebia hylnoidea* Schweinitz is apparently the same thing. So far as our specimens are concerned Schweinitz's description is far more complete and satisfactory than that of Berkeley and Curtis, although the fungus is more closely allied to *Odontia* than to *Phlebia*. It forms extensive patches, creeping over the surface and following the inequalities of the wood. Although the substance is quite thick it is not separable from the matrix.

The color of the fresh plant is a beautiful orange, but it fades in drying so that it may not inaptly be called brick red. The hymenial warts or protuberances are sometimes arranged in lines or series. In drying, the surface becomes more or less chinky so that the protuberances appear to be collected in fascicles.

Thelephora subochracea *n. sp.*

Resupinate, incrusting, running over fallen leaves and twigs and forming suborbicular patches one to three inches broad, thin, tough, dry, pale-ochraceous, sometimes with a slight whitish byssine border.

Woods. Shokan. September.

The specimens have the appearance of some species of *Corticium* but the dry tough texture indicates a closer relation to *Thelephora*. They are scarcely in perfect condition.

Corticium Kalmiæ *n. sp.*

Effused, thin, tender, inseparable from the matrix; subiculum and indeterminate margin composed of slender whitish filaments; hymenium glabrous, continuous, yellowish-ochraceous; spores smooth, elliptical, .0004 to .0005 in. long, .00024 to .0003 broad.

Dead stems of mountain laurel, *Kalmia latifolia*.

Shokan. September.

This is apparently related to such species as *C. deglubens* and *C. secedens*, but differing from both of these in its inseparable character.

Exobasidium Vaccinii *Wor.*

Living leaves of bearberry, *Arctostaphylos Uva-ursi*. River-head. July.

Tylostoma mammosum *Fr.*

Sandy soil. Delmar. October. A rare species.

Tylostoma campestre *Mory.*

Sandy soil. West Albany. November.

Lycoperdon hirtum *Mart.*

Brewerton and Catskill mountains. This was formerly included by me with *L. atropurpureum*, from which it scarcely differs except in its depressed peridium and cord-like root.

Lycoperdon asterospermum *D. & M.*

North Greenbush and West Albany.

Lycoperdon perlatum *Pers.*

Brewerton, Adirondack and Catskill mountains. August and September. Following the illustrious Fries, I formerly included this with *L. gemmatum*, but it is so well marked by the prevailing form of the peridium and especially by the character of the spines of the cortex that it seems best to consider it a distinct species.

Lycoperdon Curtisii *Berk.*

Ground by roadside. Guilderland. October.

Didymium proximum *B & C.*

Fallen twigs and leaves of pine. Lake Pleasant. August.

Physarum contextum *Rost.*

Bark of trees. Fulton Chain. August.

Peronospora Linariæ *Fekl.*

Living stems and leaves of Canadian toadflax, *Linaria Canadensis*. Riverhead. July. This fungus is described as pure white, but in our specimens the patches have a dirty-white or grayish hue often with a slight violaceous tint. The long and narrowly obovate conidia are quite characteristic.

Phyllosticta Dioscoreæ *Oke.*

Living leaves of yam, *Dioscorea villosa*. Riverhead. July.
 Var. *grisea*. Spots gray with a narrow reddish-brown margin; perithecia epiphyllous, numerous, black; spores globose or ovoid.

Phoma vulgaris *Sacc.*

Dead stems of long-fruited anemone, *Anemone cylindrica*. Delmar. June. The spores in our plant are slightly smaller than in the type.

Macrophoma versabilis *n. sp.*

Perithecia scattered, irregular, globose or compressed and hysteriiform, erumpent or subsuperficial, black; spores oblong-elliptical, colorless, .0005 to .0006 in. long, .00025 to .0003 broad; sporophores generally shorter than the spores.

Dead branches and galls of oak, *Quercus ilicifolia*. Karner. May.

Apparently intermediate in character between *M. dryina* and *M. nervisequa*, having spores like those of the former and perithecia somewhat resembling those of the latter.

Sphæronema Loniceræ n. sp.

Perithecia numerous, scattered uniformly, small, .009 to .012 in. broad, at first covered by the epidermis, then erumpent, narrowed above into a rostrum about as long as the diameter of the perithecium, black; spores numerous, elliptical or oblong, colorless, .00016 to .0003 in. long, .00008 to .00012 broad, oozing out in wet weather and forming a minute hyaline globule.

Living stems of hairy honeysuckle, *Lonicera hirsuta*. Brownville. June.

This is easily distinguished from *Sphaerographium Loniceræ*, which has fusiform curved quadrinucleate spores.

Septoria Trailiana Sacc.

Living leaves of self-heal, *Brunella vulgaris*. Menands. August.

Micropera Nemopanthis n. sp.

Perithecia densely and prominently cæspitose, minute, black, opening on the application of moisture and revealing the whitish, gelatinous contents; spores subfiliform, curved or sigmoid, tapering toward each end, .0016 to .0024 in. long; sporophores short.

Dead branches of mountain holly, *Nemopanthes Canadensis*. Karner. May.

Glæosporium Platani Oud.

Living or languishing leaves of sycamore, *Platanus occidentalis*. Shokan. September.

This is quite distinct from *G. nervisequum*, both in habit and in the size and color of the acervuli.

Glæosporium phomoides Sacc.

Fruit of tomato. Menands. September.

Glæosporium fructigenum Berk.

On grapes. Menands. September and October.

This is destructive to the fruit, causing it to decay.

Cylindrosporium Acori *n. sp.*

Spots numerous, subelliptical, sometimes confluent, blackish, nuclei minute; spores amphigenous, forming minute tufts, white, oblong or subcylindrical, sometimes narrowed toward one end, .0004 to .0008 in. long, about .00016 broad.

Living or languishing leaves of sweet flag, *Acorus Calamus*. Sandlake. September.

The spots, in size and shape, resemble those of *Uromyces pyriformis*. They are sometimes slightly whitened in the center by the confluence of the tufts of spores.

Urocystis Waldsteiniae *n. sp.*

Sori large, oblong, following the nerves of the leaf, commonly near the margin and nearly parallel to each other, surrounded by the ruptured epidermis, black; spores not easily separable, three to six or more in a glomerule, the central and peripheral similar, subglobose or elliptical, often angular, .0005 to .0006 inch long, .0004 to .0005 broad, the glomerules very unequal in size and in the number of component spores.

Living leaves of barren strawberry, *Waldsteinia fragarioides*. Alcove. June. *C. L. Shear*.

This species is apparently closely allied to *U. Filipendulae*. It seems to connect *Urocystis* with *Thecaphora* and to be ambiguous between these two genera. When there are but three spores in a glomerule the central one is usually larger than the others.

Specimens of this fungus have also been received from Professor Dearness, of London, Canada.

Cryptospora Goeppertiana *Kuhn.*

Living stems and branches of Canadian blueberry, *Vaccinium Canadense*. Fulton Chain. August. Also on the same host and on swamp blueberry, *Vaccinium corymbosum*. Sandlake. September.

This fungus is destructive to its host. The affected branches appear to live but one year. Their leaves are dwarfed in size or wholly obliterated, the branches themselves are generally unnaturally multiplied, and appear to form tufts or clusters, and they are unusually thick or swollen and their tissues greatly changed. Sometimes they are much twisted, curved or contorted, but more

often they are straight and erect. In color they are often reddish-brown or chestnut. I have never seen any fruit on an affected branch.

Æcidium Lupini *n. sp.*

Spots numerous, small, orbicular, at first yellowish-green, becoming purplish-brown with age; spermogones epiphyllous, central; peridia hypophyllous, crowded, short; spores globose, verruculose, orange-yellow, .001 to .0016 in. broad.

Living leaves of common lupine, *Lupinus perennis*. Karner. June.

Uredo Chimaphilæ *n. sp.*

Spots none; sori chiefly hypophyllous, scattered or crowded, a long time covered by the epidermis, yellow or pale-orange; spores narrowly ovate oblong or subelliptical, .001 to .0012 in. long, .0005 to .0007 broad.

Living leaves and flowers of spotted wintergreen, *Chimaphila maculata*. Amagansett. July.

The fungus seems to kill the leaves it attacks.

Cylindrium elongatum *Bon.*

Fallen leaves of chestnut. Shokan. September.

Cylindrium griseum *Bon.*

Fallen leaves of chestnut-oak, *Quercus Prinus*. Shokan. September. Much like the preceding species, but distinguished by its gray color.

Verticillium sphærophilum *n. sp.*

Hyphæ minutely and stellately tufted, white, sparingly branched; branches one to three at a node, rather long, gradually tapering upward; spores elliptical, .0003 in. long, .00015 broad.

On *Hypoxylon coccineum*. Shokan. September.

The *Verticillium* appears to develop from the ostiola of its host.

Periconia tenuissima *n. sp.*

Effused, forming a thin indefinite purplish-brown downy stratum on the matrix; fertile hyphæ erect, slender, simple, scarcely septate, .011 to .014 in. long, .00015 thick; spores aggre-

gated into a minute head, globose, .0001 to .00012 in. broad, colored like but paler than the hyphæ.

On a thick stratum of mycelium of some wood inhabiting fungus. Adirondack mountains. July.

Zygodesmus fulvus Sacc.

Decaying bark of maple, *Acer saccharinum*, Lake Pleasant August.

Cladosporium Zeæ *n. sp.*

Mycelial filaments colorless, branched, creeping among the tissues of the matrix and causing the epidermis to rupture; fertile hyphæ slender, sparingly septate, more or less elongate; densely interwoven and forming a grayish-green velvety stratum; spores very variable, globose elliptical or oblong, .00016 to .0008 in. long, continuous or at length with one to three septa.

Unripened grains of Indian corn, *Zea Mays*. Menands. September.

The species of *Cladosporium* are generally saprophytes, but this one appears to attack the living tissues of the grain. The kernel ruptures at the apex, revealing its white starchy contents, which are soon overspread by a grayish-green or olivaceous velvety coating of filaments which give a moldy appearance to the exposed surface. The rupture widens and the contents gradually disappear till the grain is deeply excavated. The fungus is a peculiar and apparently an injurious one.

Napicladium gramineum *n. sp.*

Spots brown, soon elongated and confluent, often occupying the whole leaf; tufts minute, punctiform, black, the hyphæ short, crowded, somewhat nodulose above: spores clavate, having one to three septa, .0012 to .0024 in. long; .0004 to .0005 broad.

Living leaves of rough meadow grass, *Poa trivialis*. Dehwar. June.

This fungus is evidently a harmful one. It kills the leaves attacked by it. It differs from *N. arundinaceum* in its punctiform habit and narrower spores.

Stilbum madidum *n. sp.*

Stems numerous, sometimes caespitose, .02 to .03 in. long, white or whitish, glabrous: head minute, subglobose, pellucid-white; spores oblong, often slightly narrowed toward one end, .0005 to .0006 in. long, about .00016 broad.

Sap-moistened cut surface of a birch stump, *Betula lutea*. Lake Pleasant. August.

The mycelium permeates a gelatinous stratum which overspreads the wood. The species is distinguished from *S. macrocarpum* by its white capitulum and more narrow spores.

Coremium glaucum *Fr.*

Fallen acorns. Shokan. September.

This is considered by some to be a mere form of *Penicillium glaucum*, from which it differs in having a stem composed of compacted filaments.

Fusarium viticolum *Thum.*

Grapes. Menands. September.

Our specimens differ from the type in the smaller superficial sporodochia and in the longer and more acutely pointed spores. They constitute a new variety if not a distinct species. For the present I call them var. *uvicolum*. Sporodochia minute, numerous, gregarious, superficial, depressed, flesh-colored; spores narrowly fusiform, generally curved, acute or acuminate, three to five septate, .0016 to .002 in. long.

Lachnella citrina *n. sp.*

Receptacle minute, .02 to .03 in. broad, sessile or with a very short stem, villose-tomentose, citrine-yellow, the hymenium yellow inclining to orange, generally concealed, when dry, by the connivent margin; asci subcylindrical, about .003 in. long; paraphyses filiform, equaling, or a little surpassing the asci; spores oblong or subfusiform, .0004 to .0005 in. long, .00016 broad.

Bark of chestnut trees. Shokan. September.

In some instances the marginal hairs of the cups are white.

Anthostoma Ontariensis *E. & E.*

Dead branches of willow, *Salix discolor*. Karner. May.

In our specimens the stroma is eutypoid rather than valsoid and the spores are a little broader than in the type.

Stigmatea Geranii *Fr.*

Living and languishing leaves of Carolinian cranesbill, *Geranium Carolinianum*. Brownville. June.

Massariella Xanthoxyli *n. sp.*

Perithecia small, .02 to .028 in. broad, immersed in the bark, scattered or subseriate, slightly elevating and at length piercing the epidermis; asci 8-spored; spores crowded or biseriate, at first colorless, then colored, uniseptate, quadrinucleate, oozing out and forming a conical mass, then distinctly uniseptate but not nucleate, .0024 to .0027 in. long, .0005 to .0007 broad.

Dead stems and branches of prickly ash, *Xanthoxylum Americanum*. Mechanicville. May.

In young specimens the bark has a much smoother and cleaner appearance than in old ones. In these it is roughened and stained by the heaps of ejected spores. The young spores have a strong resemblance to those of *Massaria vomitoria*, but the perithecia are much smaller than in that species and the uniseptate mature spores are quite distinct.

Ophiobolus subolivaceus *n. sp.*

Perithecia numerous, depressed, .012 to .014 in. broad, at first covered by the epidermis, then superficial, black; asci clavate or cylindrical; spores slightly curved, gradually narrowed toward each end, yellowish-brown by transmitted light, five-septate, .002 to .0025 in. long, .00016 broad, the third cell slightly swollen.

Dead stems of herbs, apparently of *Thalictrum polygamum*. Mechanicville. May.

This is closely allied to *O. olivaceus*, from which I have separated it because of its superficial perithecia and constantly five-septate spores.

(D.)

EXTRALIMITAL SPECIES.

The following species of fungi, which are considered new or worthy of mention, have been received from correspondents for identification. They were collected outside the limits of our State and are therefore noticed separately.

Phallus Ravenelii *B. & C.*

Var. *minor*. Plant small, 2 to 3.5 inches high, the part of the veil pendant from the top of the stem about equal to the pileus in length.

Trexlerstown, Pennsylvania. *W. Herbst.*

Queletia mirabilis *Fr.*

Spent oak tan bark. Trexlerstown, Pennsylvania. August. *Herbst.* So far as I know, this rare and interesting fungus has not before been detected in this country. It has the appearance of a large overgrown species of *Tylostoma*. The specimens vary from two to six inches long. The peridium or head is globose, and from one to two and a half inches in diameter. The stem is from four to eight lines thick, and externally is very ragged, shreddy and lacerated. It is easily separable from the head, to which it is attached in a kind of socket as in *Tylostoma*. The genus *Queletia* is especially distinguished from *Tylostoma* in having no apical aperture to the peridium. This, when mature, cracks open, either by a single long fissure or by several. The description of the single known species, as given in *Sylloge*, does not agree fully with our specimens, but these are manifestly the same specifically as a specimen collected in France and communicated to us by Doctor N. Patouillard, who labeled it *Queletia mirabilis* Fr. The dimensions of our specimens considerably exceed those assigned to the species, the spores are smaller and the color of the contents of the peridium is a dull tawny or brownish-ochraceous rather than flavescent or golden

yellow, so that I should have considered them a distinct species, or at least a variety, but for their agreement with the specimen from France.

Phoma exocarpina *n. sp.*

Perithecia gregarious, subsuperficial, .014 in. broad, black; spores narrowly elliptical, hyaline, .0003 to .0004 in. long, .00016 broad.

Exocarp of old pignuts, *Carya porcina*. Michigan. May. *G. H. Hicks.*

Macrophoma Philodendri *n. sp.*

Perithecia scattered or gregarious, small, .007 to .014 in. broad, variable in form, thin, crumpled, black, opening by a wide mouth when moist and revealing the white mass of spores within; spores oblong or subcylindrical, colorless, sometimes binucleate, .0006 to .0008 in. long, .00016 to .0002 broad, supported on slender sporophores about equal to the spores in length.

Var. *maculicola*. Perithecia on definite white spots.

Living and dead leaves of *Philodendron pertusum*, growing in a conservatory. Michigan. May. *Hicks.*

Morchella bispora *Sor.*

Var. *truncata*. Pileus broadly rounded or truncate, its costae slightly prominent, the margin often a little recurved; paraphyses numerous; stem long. Michigan. May. *Hicks.*

Geopyxis Hicksii *n. sp.*

Receptacle about 6 lines broad, infundibuliform, glabrous, brownish, the hymenium adorned with a few costae radiating from the center; stem slender, from 8 to 12 lines long, scarcely 1 line thick, slightly enlarged above and expanding into the receptacle, brown; asci cylindrical, .0006 to .0008 in. long, .0005 broad; spores elliptical, even, .0005 to .0006 in. long, .0003 to .0004 broad.

Ground. Michigan. May. *Hicks.*

Remarkable for the straight radiating ridges of the hymenium, by which the species may easily be recognized.

Urnula Geaster *n. sp.*

Receptacle urceolate or cupulate, 1 to 2.5 inches broad, at length splitting into 4 to 6 rays, narrowed below into a stem-like base 3 to 5 lines thick, externally everywhere clothed with a dense velvety coat of slender, interwoven, minutely papillose brown hairs, flesh white; hymenium white or whitish, .035 in. thick; asci very long, cylindrical, .03 in. long; spores uniseriate, oblong or oblong-fusiform, pointed at each end, colorless, .0025 to .003 in. long, about .0006 broad, often containing a single large nucleus.

Ground. Austin, Texas. November. *L. M. Underwood.*

This species is well marked by its Geaster-like rays, its dense external velvety-tomentose covering, its thick hymenium and its very long spores. These surpass in length the spores of any other species of *Urnula* known to me.

Diatrypella Underwoodii *n. sp.*

Stroma small, .014 to .028 in. broad, prominent, subsuperficial, convex or subconical, uneven, black; perithecia few, 1 to 3 in a stroma, the ostiola obscure; asci fusiform or subclavate, long-pedicellate, the sporiferous part about .003 in. long, often swollen or irregularly tumid in the middle or at the base, the pedicel nearly as long as the sporiferous part; spores allantoid, .0003 in. long, .0001 broad.

Dead branches of mesquit. Austin, Texas. November. *Underwood.*

Distinguished for its very small verrucose stroma with few perithecia, and for its singularly swollen and irregular asci.

Rhytidhysterium Prosopidis *n. sp.*

Perithecia superficial, very hard when dry, subelliptical or trigonal, black, with very obtuse, thick, involute, crenulate or transversely sulcate-costate labiæ, becoming expanded and softer when moistened, suborbicular, revealing the dingy yellowish-green distinctly margined disk; asci slender, cylindrical, .007 to .008 in. long, .00045 to .0005 broad, eight-spored; spores uniseriate, oblong, sometimes slightly curved, at first colorless and uniseptate, then colored and triseptate, .0008 to .0012 in.

long, .0003 to .0004 broad; paraphyses slightly surpassing the asci, several times forked or multifid at the apex.

Dead branches of mesquit, *Prosopis juliflora*. Austin, Texas. November. *Underwood*.

This species is apparently related to *R. Braziliense*, from which I have separated it because of its more slender asci and smaller spores.

Chætophoma setigera n. sp.

Perithecia minute, .003 to .005 in. broad, gregarious, epiphyllous and amphigenous, subglobose, black, seated on a thin effused superficial separable blackish stratum of interwoven filaments and adorned with a few slender erect or divergent black setæ .003 to .0045 in. long; spores numerous, minute, elliptical or oblong, colorless, .00016 to .00024 in. long, .00008 to .0001 broad, often with a minute nucleus at each end.

Living leaves of coast live oak, *Quercus agrifolia*. Berkeley, California. March. *M. B. Howe*.

Cylindrocolla Dendroctoni *Pk.*

(Flora of West Virginia, p. 516.)

Sporodochia minute, forming irregular masses, white or whitish, somewhat waxy; sporophores slender, abundantly branched above, often compacted below into a short stem-like base; spores catenulate, short cylindrical, subtruncate, colorless, .00016 to .0002 in. long, .00008 to .0001 broad.

Dead insects, *Dendroctonus frontalis*, and the inner bark of pine just about them. West Virginia. May. *C. F. Millspaugh*.

The insects are probably killed by the fungus as they lie dead in the furrows which they had excavated in the inner bark of pine trees, *Pinus inops*.

(E.)

NOTES AND OBSERVATIONS.

Anemone Virginiana *L.*

The variety with white obtuse petals was found near Whitehall.

Anemone nemorosa *L.* var. *quinquefolia*.

Common near Delmar, also at Karner. May.

Magnolia glauca *L.*

This small but beautiful tree has long been credited to Long Island, but I have been able to find it in only a single locality. In this place the trees are ten or twelve feet high and very slender, the trunk scarcely exceeding an inch or an inch and a half in diameter. The branches are short, which give the trees a rather strict appearance. The flowers are creamy-white and the fruit globular rather than "oblong." In the N. Y. State Flora its blossoming time is said to be May and June, but the past summer the trees were yet in blossom on the fifteenth of July. It is greatly to be hoped that the owners of the land where these trees grow will not allow them to be destroyed. There are not many of them, and it is possible they may be the only wild representatives of the species in our State.

Arabis perfoliata *Lam.*

This rare plant still exists on the rocky banks of the Black river below Watertown, where it was found more than fifty years ago.

Buda rubra *Dumont.*

Hempstead Plains. July. A small form three or four inches high.

Hypericum Ascyron *L.*

This plant which is not common in our State has been found in Washington county. *Burnham.*

Erodium Cicutarium *L' Her.*

Fields near Schenectady. July. *Wibbe.*

Flœrkea proserpinacoides *Willd.*

Near Syracuse. *Mrs. L. L. Goodrich.*

Vitis æstivalis *Max.* var. *bicolor* *Le Conte.*

Whitehall. July.

Polygala polygama *Walt.*

West side of Mount Defiance on thin soil covering rocks. June. A form having pale-pinkish flowers was collected near Riverhead; also near Amagansett. July.

Polygala sanguinea L.

Alcove. September. A late flowering form springing up in meadows and having the flowers wholly bright-purple. The common form on Long Island, which was in blossom in July, has the flowers greenish-purple.

Vicia sativa L. var. angustifolia Ser.

Adams. June.

Vicia tetrasperma L.

Bethlehem. June. This introduced species of vetch is evidently not limited to places near the sea coast as indicated in the Manual.

Vicia Cracca L.

Roadsides. Ticonderoga and Brownville. June.

Rosa blanda Ait.

Rocky banks of the Black river below Brownville. June. The absence of spines in this species together with its glabrous peduncles and calyx tubes and its persistent sepals, makes it one of the most easily recognizable of our native roses. The stems often have a few prickles toward the base but so far as I have seen they are always glabrous above. The rose found near Westport and which, in this Report I have referred to *R. Sayi*, seems to be intermediate between this species and typical *R. Sayi*. Its fruit is similar to that of *R. blanda*, but its stems and often its branches are very prickly, its stipules which are either narrow or dilated are distinctly glandular-ciliate and its leaflets are more rounded at the base and their serratures occasionally serrulate. The prickly stems usually have slender spines interspersed among the prickles. For these reasons it seems rather to be a variety of *R. Sayi* than of *R. blanda*.

Rosa Carolina L.

This is the only wild rose I have found in the heart of the Adirondack wilderness. It occurs along the inlets of Raquette lake and at Forked lake. It is in flower there in August. In one instance a tendency to the formation of double flowers was shown, the blossom having seven petals. The species occurs in all parts of the State. The fine serratures of the leaflets appear to be the

most available character for distinguishing this species from its allies. The stems are sometimes very prickly, especially when young.

Rosa lucida Ehrh.

“Margins of swamps or moist places” is given in the Manual as the habitat of this species. On Long Island it is not uncommon to find unmistakable forms of it growing in dry places and associated with *R. humilis*. The stout spines, which are either straight or curved, seem to be the most available character by which to distinguish it from *R. humilis*, but it must be confessed that intermediate forms occur which are perplexing. I have not observed prickles on the stem of this species, but they are sometimes present in *R. humilis*.

Amelanchier Canadensis T. & G.

A form of variety *rotundifolia*, three to six feet high, occurs in sandy soil near Karner. Variety *oblongifolia* also grows there, but generally with the leaves rounded or broadly oval. A dwarf form also occurs, three or four feet high and having three to six flowers in a raceme. The petals are short and narrow.

Sedum acre L.

Very plentiful about Brownville, growing in thin soil covering rocks.

Myriophyllum ambiguum Nutt.

Fisher's island, Suffolk county. *Rev. J. L. Zabriskie*. The small variety *limosum*.

Lythrum Salicaria L.

Head of Lake Champlain. July.

Cuphea viscosissima Jacq.

Vaughn's, Washington county. *Burnham*. This is an extension of its range northward.

Opuntia vulgaris Mill.

Specimens of an *Opuntia* found growing in sandy soil near the mouth of Peconic river, with few or no spines, short leaves and fruit not over an inch long appear to be referable to this species, to which they are referred in the State Flora.

Galium pilosum Ait.

A small form six to nine inches high, with short internodes, leaves about half an inch long and flowers crowded in small dense clusters was collected on the north slope of Skylight mountain, one of the Adirondacks. It might be called variety *parvum*.

Galium circæzans Mc. var. **glabrum** Britton.

Leaves and stems nearly glabrous; corolla glabrous. Whitehall, New Scotland and Sandlake. July.

Solidago bicolor L.

A branching form, both of this and its variety *concolor*, is quite common. Each branch is terminated by a spike-like panicle of flowers.

Solidago humilis Pursh.

Top of Bald mountain, near Third lake, Herkimer county. Four distinct forms of this species occur in this limited station. First, a very leafy dwarf form, four to six inches high with a short dense panicle one to two inches long. Second, a very leafy form eight to twelve inches high, with an oblong leafy interrupted but dense panicle. The margins of the lower leaves are often wavy toward the base. These forms make a very close approach to the Western var. *nana*. Third, a still taller form in which the stem is less leafy, the leaves are smaller, more narrow and scattered, and the panicle is elongated, narrow and spike-like, but commonly interrupted either in its entire length or toward the base only. This is one to two feet high. The upper leaves are entire, the lower and radical ones more or less bluntly serrate. The stem is either green or purple and is glabrous below. This is the most abundant form. The fourth form is like this in all respects except that it has a broader, more branched panicle. The panicles in all the forms are so glutinous that they adhere to the drying papers when placed in press.

It is a little remarkable that this species should exhibit such a variety of forms in such a limited locality. All the forms appeared to be growing under the same conditions of soil, temperature, moisture and exposure. I suspect this is the plant which in Paine's Catalogue is referred to *Solidago speciosa* var. *angustata*. It is separable from that species by its glutinous

panicle, more numerous rays and more narrow radical leaves. A large form of this species was collected on the gravelly bank at the outlet of the Lower Ausable pond. It is apparently the same as that credited in the Manual to the "base of the White Mountains"

***Solidago uliginosa* Nutt.**

In a "beaver meadow" about one mile southeast of the Forge House, Fulton Chain, a singular form of this species grows. The lower branches of the panicle are elongated and appressed, thus causing the panicle to take a pompon shape. In this locality the species was in blossom in August, and did not appear to be any earlier than *Solidago arguta*, *S. Canadensis*, *S. rugosa* and *S. lanceolata*, all of which were in flower there at the same time.

***Solidago rugosa* Mill.**

A variety *pallida*, having both ray and disk flowers a pale creamy yellow color, occurs at Shokan, Ulster county.

***Solidago nemoralis* Ait. var. *elongata* Pk.**

Abundant about Shokan.

***Aster Herveyi* Gray.**

Borders of woods. Blue Mountain lake and Voorheesville. August and September.

In the Manual this is indicated as an "ambiguous species" approaching *A. macrophyllus*. It is indeed liable to be mistaken for that species, at least in some of its forms, if I rightly understand it. In the New York specimens the branchlets and peduncles are glandular-hairy and the involucreal scales are glandular and the rays are violet as in *A. Herveyi*, though in some instances the color is pale violet. On the other hand, the leaves are not always lanceolate, but are sometimes ovate and distinctly serrate. They are also rough and rather thick as in *A. macrophyllus*. But this species, as described in the N. Y. State Flora, has a reddish-tawny pappus, while in our violet-rayed specimens the pappus is white or whitish, which is an additional reason for separating them from *A. macrophyllus* if this should prove to be a reliable character. It seems best, therefore, to consider them as a variety of *A. Herveyi*, and to

indicate their character thus: *Aster Herveyi* Gr. var. *intermedia* Pk. Branchlets and peduncles glandular-hairy; heads large; rays violet; involucreal scales glandular, erect, all or all except the longer and more pointed inner ones, green or with green tips; pappus white or whitish; leaves rather thick and rough, ovate or lanceolate, the lower on naked petioles and more or less cordate, the upper sessile, the radical leaves large, broadly ovate-cordate, rough, on long naked petioles.

Apparently intermediate between typical *A. Herveyi* and *A. macrophyllus*. With this it has probably been confused, but from it it may be separated by the larger heads, color of the rays and pappus and glandular peduncles.

***Aster corymbosus* Ait.**

A pale, violet-rayed form with white pappus was obtained at Shokan. In general appearance it is quite like ordinary forms, but the color of the rays and of the pappus indicates a slight variation toward *A. Herveyi*.

***Aster cordifolius* L. var. *lævigatus* Porter.**

This variety, well-marked and easily recognized, though not indicated in the Manual, extends northward to Shokan, in the Catskill mountains.

***Aster lævis* L.**

West Albany. September. A form having rays nearly white. This is apparently the same or nearly the same as the white-rayed form found at Fort Edward by Dr. Vandenburg and mentioned in the Flora of North America. The color of the rays becomes a little more bluish-tinted in drying.

***Aster diffusus* Ait. var. *variifolius* n. var.**

Heads scattered, mostly on bracted peduncles one-half to one inch long; branches horizontally spreading or slightly ascending; leaves sharply serrate with prominent teeth, varying from very long and narrowly lanceolate to oblong-ovate, acuminate, the broadest ones abruptly narrowed towards the base as if into a widely margined petiole.

Sandlake and Catskill mountains. September.

In the Manual this species is described as having the leaves lanceolate or oblong-lanceolate, the lower somewhat serrate in

the middle. In our specimens all the leaves have very distinct serratures and they vary greatly in shape. Because of the scattered heads on long peduncles it seems to connect with *A. Tradescanti*, from which, as well as from *A. diffusus* var. *bifrons*, it differs in the character of its leaves.

Aster prenanthoides *Muhl.*

This species which, in the N. Y. Flora, is credited to the western part of the State only, is abundant and variable in the Catskill mountains. The heads are corymbose or paniculate, the rays are white, bluish-white, violet or blue and the leaves vary from the typical ovate acuminate form with its long abrupt and conspicuously contracted base to a narrowly lanceolate form in which the basal contraction is scarcely noticeable. They vary in length from two and a half to six or seven inches. They are generally distinctly serrate, but in a form which seems sufficiently well marked to merit designation as variety *diffusifolius*, the serratures are less prominent, the leaves are shorter, widest in the middle and less abruptly contracted, so that in shape they are strongly suggestive of those of the ordinary form of *A. diffusus*. The paniculate heads are about three lines high and the scales are less spreading than in the type.

This variety seems to run into *A. prenanthoides* on one hand and into *A. puniceus* on the other. Its agreement with the description of *A. puniceus* var. *leviculobis* is very close, and I have not referred our specimens to this variety because of the character and arrangement of the hairs of the upper part of the stem and its branches and because of its apparently more close connection with *A. prenanthoides* in habitat size and appearance of the heads and shape of the leaves. The plants were associated in locality with both these species and may perhaps be a cross between them.

Senecio aureus *L.* var. **Balsamitæ** *T. & G.*

Rocky bank of Black river below Brownville. June.

Hieracium præaltum *Vill.*

This troublesome weed, recently introduced into the northern part of the State is rapidly spreading. It was found in three places near Adams, Jefferson county. It is evidently not par-

ticular as to soil or surroundings. It grows in sandy, clayey or gravelly soil, in places wet or dry, on naked ground or among grasses and exposed to the full rays of the sun or protected by the shade of trees. It already has a foothold in at least three counties

Vaccinium stamineum L.

The fruit of this species sometimes attains a diameter of five or six lines. Its flavor is similar to that of the cranberry for which it might be made a substitute.

Arctostaphylos Uva-ursi Spreng.

Abundant in sandy soil in the eastern part of Long Island.

Primula Mistassinica Mx.

This rare and local plant is still an inhabitant of the rocky cliffs along Fish creek above Taberg. Its flowers vary in color from white to pink or lilac.

Phlox divaricata L.

Near Sanford's Corners, Jefferson county. June.

Mimulus moschatus Dougl.

Near Middle Grove, Saratoga county. July. *Wibbe.*

Conopholis Americana Walbr.

Woods near Shokan.

Rumex verticillatus L.

Head of Lake Champlain growing in water two or three feet deep and emitting from the submerged joints of the stem numerous rootlets.

Polygonum amphibium L.

In the pond and river which form the outlet of the Fulton Chain of lakes, this species forms circular patches, which, from a little distance, might be taken for small islands. The plants are densely matted and in the central part of the patch they rise above the surface of the water and send up erect shoots, thus giving the aspect of an elevation in the center. Contrary to the Manual description, these plants have flower spikes from one to

three inches long as in *P. Muhlenbergii*. Nor are these always terminal, for the stem is sometimes prolonged or branched near the top in such a way as to leave the flower spikes lateral or axillary. I label the specimens var. *longispicatum*.

Polygonum acre *H. B. K.*

Sea shore near Amagansett. July. This is a form in which the leaf has a dark colored central spot.

Polygonum cilinode *Max.*

A small form, variety *erectum*, eight to twelve inches high, was discovered on the top of Bald mountain. Not finding anything on which to climb it assumes an erect mode of growth. It is either simple or sparsely branched. Its behavior is in marked contrast to that of the woodbine, *Cissus Ampelopsis*, another climbing plant, which, when growing in places where it finds nothing on which to climb, trails over the ground.

Aplectrum hiemale *Nutt.*

This rare plant occurs sparingly near Vaughn's, Washington county. *Burnham*.

Habenaria lacera *R. Br.*

Border of woods. Selkirk. July. This is a peculiar form worthy of designation as var. *elongata*. Flower spike eight to ten inches long, bracts narrow, linear-lanceolate, the lower ones much longer than the flowers, segments of the corolla, longer and more slender than usual, the middle segment of the lip linear, scarcely widened at the tip.

Aletris farinosa *L.*

Abundant on Hempstead Plains in open fields. July.

Juncus tenuis *Willd.* var. *secundus* *Engelm.*

Riverhead and Amagansett. July. Blue Mountain lake. August. The branches of the panicle are not always incurved, but the second capsules give to the plant a very distinct appearance. Var. *congestus*, or its eastern analogue, was collected at Amagansett.

Juncus Greenii *O. & T.*

Riverhead, Amagansett and Hempstead Plains. July.

Juncus militaris *Bigel.*

Near Riverhead. July.

Scirpus polyphyllus *Vahl.*

Shandaken, Ulster county. Some of the plants emit leafy tufts or shoots among the rays after flowering.

Eriophorum cyperinum *L.*

Of var. *lucum* there is a form in which the spikelets are collected or crowded into a more or less dense somewhat gobular head. Blue Mountain slide. August. Sandlake. September. In the Sandlake specimens the spikelets are more tawny in color. It might be called form *condensatum*.

Scleria pauciflora *Muhl.*

Hempstead Plains. July.

Carex intumescens *Rudge.*

In the Manual this is said to have two fertile spikes. Specimens having three fertile spikes were collected at Blue Mountain lake; also in Alcove by Mr. Shear. They do not appear to be very unusual with us.

Carex lurida *Wahl.*

This species usually has but one staminate spike, but Dr. Howe finds, at Lansingburgh, specimens having two; a short one just below the base of the long one. In some instances the short one is pistillate at the apex. Variety *altior* was collected on Montauk Point. Dr. Howe also finds *Carex hystericina* with two staminate spikes. A small form of this species occurs near Adams. It has but one or two small and very short fertile spikes. In the latter case they are often very distant.

Carex torta Boott.

Three quite distinct forms of this species grow along Fish creek, near Taberg. In one the fertile spikes are long, loosely flowered at the base, and distant, and the lowest bract is long and leaf-like, much surpassing the spike and nearly equaling the culm in length. In the second the spikes are approximate with the bracts very slender and shorter than the spikes. In the third form the fertile spikes are shorter, about one inch long, more compactly flowered, approximate and erect or merely spreading. All are more or less staminate at the apex and the scale equals or exceeds the perigynium. The bracts are shorter than the spikes. This form approaches *Carex stricta* in appearance and is so well marked that I would call it var. *staminata*.

Carex Hitchcockiana Dew.

Slopes of Mt. Defiance. This is a few-flowered form having one to three perigynia in a spike, with the scales barely equaling, or shorter than the perigynia.

Carex Pennsylvanica Lam.

This is a very variable species, and some of the forms seem to be worthy of special designation, as forms if not varieties.

Form *bracteata*. Bract of the lowest spike green, elongated, generally exceeding its spike. Oak woods. Voorheesville.

Form *paleacea*. Scale large, ovate-lanceolate, longer than the perigynium. Sandy soil. Karner.

Variety *distans*. Fertile spikes four to eight lines apart. Sandy soil. Lerayville.

Variety *angustifolia*. Leaves very narrow, one-half to two-thirds of a line wide, mostly longer than the culm. Long Island.

This appears to be a good variety. By its narrow leaves it approaches *Carex varia* Muhl., but the character of the spikes and of the perigynia require its reference to *C. Pennsylvanica*. Form *bracteata* makes an approach toward *C. communis*.

Carex cephaloidea Dew.

Woods near Adams. June. Rare in the eastern part of the State.

Carex canescens L.

Montauk Point. July. This is a singular form in which the uppermost spike is wholly staminate or nearly so. I call it var. *staminata*.

Carex foenea Willd var. perplexa Bailey.

Rocky hills near Whitehall. July. In our specimens the spikes are distinctly narrowed at the base, the heads are sometimes slightly nodding and the inner face of the perigynium is less prominently nerved. They appear to approach more nearly *C. straminea*.

Carex tribuloides Wahl. var. Bebbii Bailey.

Lansingburgh. *Howe*. Variety *reducta* Bailey was collected at Blue Mountain lake in a form with the spikes aggregated in an oblong head, an inch or an inch and a half long. It might be called form *aggregata*.

Setaria Italica Kunth.

Raquette lake. A dwarf form with spikes scarcely half an inch long, apparently the result of an attempt to cultivate the Hungarian grass in a cold climate and an uncongenial soil.

Agrostis alba L. var. minor Vasey.

Lansingburgh. *Howe*. A form closely resembling this in external appearance, but having an awn as long as the flower and a palet about one-fourth as long as the flowering glume, was collected at Riverhead. It is well marked by the awn, which rises near the base of the flower and is somewhat bent in the middle, but other forms also have the same kind of an awn, notably the one which in the Flora of New York is referred to *A. stricta*.

Calamagrostis Canadensis Bv.

In the Adirondack region this common grass often has the panicle contracted both before and after flowering.

Trisetum subspicatum Bv. var. molle Gr.

Abundant on the rocky banks of Black river below Brownville. June.

Poa serotina Ehrh.

On dry rocky hillsides near Whitehall is a form having panicles of comparatively few two-flowered spikelets.

Glyceria nervata Trin.

Woods near Adams. June. This is a leafy form with small green flowers and spikelets for which Dr. Vasey suggests the name var. *parviflora*.

Glyceria grandis Wats.

Whitehall. July. A form with green spikelets. It grew in the shade.

Aspidium spinulosum Sw.

The typical form of this fern is said to be rare in this country. It is very abundant near the top of Blue mountain. August.

Lygodium palmatum Sc.

McDonough, Chenango county. Mrs. D. B. Fitch. This is the second station in which this fern has been found in our State.

Botrychium ternatum Sw.

Alcove. Shear. A singular form with two fertile fronds.

Amanita muscaria L. var. alba Pk.

This variety is common about Alcove. Shear. It also occurs on Long Island in two forms, the normal one and a smaller one in which the warts of the pileus are evanescent or wanting. Not infrequently it makes a close approach to white forms of *A. pantherina*, in having the upper part of the bulb uniformly margined by the remains of the definitely circumsessile volva, but this margin is more acute than in that species.

Armillaria mellea Vahl.

There seems to be no end to the variations of this most polymorphous species. A well marked variety, var. *bulbōsa*, has the stem rather short and terminating below in a large bulb. Two

patches of this variety were found near Shokan. The plants were growing on the ground under hemlock trees, *Tsuga Canadensis*, and were generally cæspitose. There were scores of these tufts and in all, the plants had bulbous stems. This is the direct counterpart to var. *radicata*, in which the stem ends below in a long root-like point which penetrates the earth deeply, and resembles the tap-root of *Collybia radicata*. Varieties *obscura flava* and *glabra* of Gillet all occur in our State, and to these may be added also var. *albida* Pk. in which the pileus is white or whitish. I have also received from Dr. Taylor of Washington, D. C., and from Dr. Jelliffe of Brooklyn, a densely cæspitose, slender-stemmed form with no annulus, it being evanescent or entirely wanting. This I call var. *exannulata*. It is scarcely distinguishable from *Clitocybe aquatica* Banning, and *Clitocybe monatelpha* Morg., which, I suspect, will yet have to be referred to this species. According to Quelet, *Clitocybe socialis* DC., and *Agaricus gymnopodius* Bull, also probably belong here.

The abortive form often associated with *A. mellea* and in no way distinguishable from the abortive form of *Clitopilus abortivus*, has a farinaceous taste, but this is lost in cooking. When cooked and properly seasoned this abortive form is quite as well-flavored and as good to eat as the normal form.

Armillaria viscidipes Pk.

This fine large species was found near Shokan, growing on the banks of a stream. The stem sometimes penetrates the earth quite deeply and the annulus at first conceals the lamellæ.

Tricholoma terreum Schæff.

Var. *atrosquamosum* (*T. atrosquamosum* Chev.), occurs near Shokan.

Tricholoma fumescens Pk.

Fine specimens of this rare species were found near Shokan. The plants sometimes attain a size considerably larger than the dimensions of the typical form, the pileus being even two or three inches broad and the stem six lines thick. The taste is at first farinaceous, then sweetish. The lamellæ in the dried specimens are almost as black as in mature *Agaricus campester*.

Pholiota discolor *Pk.*

Var. *minor*. Small; pileus 6 to 10 lines broad, chestnut color when young or moist; stem about 1 line thick, at first clothed with whitish fibrils. Among mosses about or on the base of stumps. Shokan. September.

Galera teneroides *Pk.*

This species is not rare in the Adirondack woods. It often grows on decaying wood and branches. The color, though approaching that of *G. tener*, is more dull or brownish both when moist and when dry. The moist pileus is sometimes striatulate almost to the disk.

Agaricus silvicola *Vitt.*

The New York specimens heretofore referred to this species differ in some respects from the European plant if we may rely upon the published descriptions. The stem is quite constantly abruptly bulbous at the base, and the annulus is usually double, the lower or exterior one being of a floccose texture, smaller and split in a radiating manner as in that of *A. arvensis*. The very young lamellæ are also whitish as in that species and wounds or bruises of the flesh are apt to become yellowish, all of which indicate a closer affinity in our plant to *A. arvensis* than to *A. campester*. It seems to me, therefore, that greater scientific accuracy will be attained by referring our plant to *A. arvensis* as a var. *abruptus*, and considering it distinct from the European *A. silvicola*, which is described as having a simple annulus and which is figured as having the stem slightly and gradually thickened at the base. The name *abruptus* will indicate the character of the bulb in our plant. I have made trial of its edible qualities and find it very good eating, though scarcely as highly flavored as the common mushroom.

Psilocybe squalidella *Pk.*

Var. *cæspitosa*. Densely cæspitose; pilei often irregular from mutual pressure, firm but flexible and elastic, pale-alutaceous or watery-brown when moist, ochraceous or reddish-yellow when dry; stem subcartilaginous, somewhat fibrous, stuffed or hollow, frequently wavy, reddish-brown or rufescent, paler at the top,

especially when young, usually with a dense whitish or gray villosity at the base.

In wet places. Shokan. September.

The typical form of the species was referred to *Hypholoma*, but the absence of any well-developed veil and the subcartilaginous texture of the stem indicate that its true place is in *Psilocybe*, in the vicinity of *P. spadicea*.

***Cortinarius pulchrifolius* Pk.**

Delmar and Shokan. September. This rare species, which is well-marked by the peculiar color of the young lamellæ which resembles that of the lamellæ of *Clitocybe laccata* or *C. ochropurpurea*, was discovered on Long Island in 1880, but until this year I had not observed it again. The filaments of the veil are sometimes very opious.

***Paxillus involutus* Fr.**

In the uncooked state this fungus has a harsh unpleasant flavor, but it loses this to a great extent in cooking. The flesh also assumes a dark color in cooking, for which reason, together with its want of delicious flavor, I should class it as a secondary edible species.

***Boletus affinis* Pk.**

Sandy soil. Amagansett. July. This has been tested as to its esculent properties. It has an agreeable flavor and is moderately tender. The flesh is white, at first firm but becoming softer with age. The color of the pileus also becomes paler with age.

***Polyporus circinatus* Fr.**

Var. *proliferus*. Like the typical form but having one or more pilei developed from the upper surface of the first one. Fulton Chain. August.

***Polyporus cuticularis* Fr.**

Standing trunk of maple, *Acer saccharinum*. Shokan. September. The incurved margin of the pileus is a very noticeable and good distinguishing feature of this species.

***Polyporus sulphureus* Fr.**

If taken when fresh and young, before the pores have formed, and carefully cooked, this fungus makes a very palatable dish.

Trametis Sepium Berk.

This species often occurs in a resupinate form, which, when growing in the woods, is sometimes several inches in extent. The pileate form is generally very narrow though sometimes greatly elongated laterally by the confluence of several individuals.

Stereum complicatum Fr.

Var. *laceratum*. Margin of the pileus lacerated or multifid. Shokan. September.

Pterula setosa Pk.

Dr. Patouillard has founded a new genus, *Hirsutella*, to which he has transferred this species. He also transfers *Thelephora pedicellata* Schw. to a new genus, *Septobasidium*.

Comatricha aqualis Pk.

Mr. Geo. Masee, in his Monograph of the Myxogastres, concludes that the genus *Comatricha* is so intimately connected with the genus *Stemonitis* that it is untenable. He therefore places this and other species of *Comatricha* in *Stemonitis*. This species is sometimes abundant on decaying wood of sugar maple in the Adirondack forests. The thin fugacious walls of the sporangia have a silvery luster.

Trichia reniformis Pk.

Bark of striped maple, *Acer Pennsylvanicum*. Fulton Chain. August. A rare but well-marked and very distinct species. The clustered or subcaespitose mode of growth, the brown color of the peridia and the short elaters are peculiar features. It has also occurred at Karner on bark of red maple, *Acer rubrum*.

Didymium microcarpum. Rost.

An apparent variety of this species has spores a little larger than in the type and on smooth surfaces the stem rises from a circular hypothallus, which is adorned with radiating lines as in *D. radiatum*.

Chrysomyxa Pyrolae Rost.

Living leaves of *Pyrola chlorantha*. Delmar. June. The uredo form on this host has the sori much more scattered than on the leaves of *Pyrola rotundifolia*.

Plowrightia morbosa Sacc.

This noxious fungus is subject to considerable variation in its behavior and in its time of fruiting. Specimens were collected on choke cherry, *Prunus Virginiana*, near Karner, May 16th, in which conidia and ascospores were both present in abundance. Conidia-bearing excrescences were also found which were evidently due to the sowing of spores, as they were alone on branches containing no others. These probably were due to last year's sowing of spores, for if of the present year's sowing they must have developed with unusual rapidity. Specimens of this fungus were also collected on the wild red cherry, *Prunus Pennsylvanica*, on the slopes of Blue mountain. The excrescences were mostly single on the branches and gave no evidence of a disposition to spread by the extension of the mycelium. In many cases the affected branch was already dead or in a dying condition, in which cases there would, of course, be no spread of the disease by the mycelium.

Cryptospora suffusa Tul.

Var. *nuda*. Stroma not suffused with a yellowish dust. On dead stems of alder and hazel-nut. Karner and West Albany. The black circumscribing line is also apparently absent in some cases.

(F.)

NEW YORK SPECIES OF PLUTEOLUS.

Pluteolus Fr.

Pileus slightly fleshy, conical or campanulate, then expanded, viscid, the margin at first straight, appressed to the stem; stem subcartilaginous, distinct from the hymenophorum; lamellæ rounded-free. *Hym. Europ.*, p. 266.

This genus corresponds to the genus *Pluteus* in the pink-spored series. The species are similar in structure to the species of that genus, but they differ somewhat in the character of the stem and in the color of the lamellæ and spores. Its species were separated by Fries from the genus *Galera* because of their viscid pileus and free lamellæ. I have included in it two species formerly referred to *Galera* by me. They are *Galera expansa*

and *G. callista*. They do not quite fully meet the requirements of the generic character inasmuch as their lamellæ are not entirely free, but in other respects, and especially in the viscid pileus, they agree better with this genus than with *Galera*. The attachment of the lamellæ to the stem is very slight, but just enough to show the intimate relationship of the two genera.

SYNOPSIS OF THE SPECIES.

- | | |
|---|----------------------|
| Lamellæ wholly free..... | 1 |
| Lamellæ slightly adnexed..... | 2 |
| 1. Plant growing on dung or rich soil..... | <i>coprophilus</i> . |
| 1. Plant growing on decaying wood..... | <i>reticulatus</i> . |
| 2. Plant growing on damp soil in exsiccated water
holes..... | <i>callistus</i> . |
| 2. Plant growing on decaying wood or rich soil... | <i>expansus</i> . |

***Pluteolus coprophilus* n. sp.**

DUNG-LOVING PLUTEOLUS.

Pileus thin, submembranous, fragile, conical or campanulate, becoming nearly plane, somewhat viscid when moist, finely striate on the margin, pinkish-grey; lamellæ narrow, crowded, free, pale cinnamon; stem long, straight or somewhat flexuous, hollow, white, sometimes tinged with pink; spores elliptical, dark-ferruginous, .0005 to .0006 in. long, about .0003 in. broad.

Pileus 1 to 1.5 in. broad; stem 2 to 3.5 in. long, 1 to 2 lines thick.

Dung heaps. Albany and Warren counties. May and June.

The plants sometimes are cæspitose. The striations of the pileus are similar to those of *Galera lateritia*, from which this species is separated by its more expanded viscid pileus, different color and free lamellæ.

***Pluteolus expansus* Pk.**

EXPANDED PLUTEOLUS.

(*Galera expansa* Pk. Twenty-sixth State Mus. Rep., p. 58.)

Pileus submembranaceous, becoming nearly plane or centrally depressed, viscid, plicate-striate on the margin, brownish-ochraceous, often tinged with yellow, grey, pink or greenish hues; lamellæ narrow, close, rounded behind, slightly adnexed, pale

cinnamon or ferruginous; stem rather long, slender, fragile, equal or slightly tapering upward, hollow, faintly striate, pruinose, yellow or greenish-yellow; spores .00045 to .0005 in. long, .00025 to .0003 broad.

Pileus 1 to 1.5 in. broad; stem 3 to 4 in. long, 1 to 2 lines thick.

Decaying wood and rich ground. Onondaga and Rensselaer counties. June to August.

Var. *terrestris*. Pileus grayish-yellow, tinged with green, stem greenish-yellow. Growing on rich or well-manured soil. The plicate striations of the pileus are similar to those of *Galera flava* and *G. coprinoides*. The species has been removed to this genus because of the viscosity of the pileus, nevertheless it must be confessed that such a feature is scarcely satisfactory for generic distinction.

Pluteolus callistus Pk.

MOST BEAUTIFUL PLUTEOLUS.

(*Galera callista* Pk. Twenty-sixth State Mus. Rep., p. 59.)

Pileus thin, expanded, subumbonate, smooth, viscid, striatulate on the margin, olivaceous or ochraceous, the umbo bright chestnut color; lamellæ thin, close, ventricose, adnexed, easily separating from the stem, yellowish becoming bright ferruginous; stem equal, hollow, pruinose, yellow; spores elliptical, .00035 to .0004 in. long, .0002 to .00025 broad.

Pileus 6 to 10 lines broad; stem 1 to 1.5 in. long, .5 line thick.

Exsiccated water holes in low swampy woods. Lewis county. September.

This pretty little agaric was discovered in 1872, but has not since been rediscovered. It may, therefore, be regarded as very rare. In the dried specimens the lamellæ are white on the edge, and the pileus has assumed a dull metallic green color. The species is placed in this genus because of its expanded and viscid pileus.

Pluteolus reticulatus Pers.

RETICULATED PLUTEOLUS.

(Hym. Europ., p. 266. Sylloge vol. v., p. 859.)

Pileus slightly fleshy, campanulate, then expanded, viscous, reticulate with anastomosing veins, pale violaceous, striate on the margin; lamellæ free, ventricose, crowded, saffron-ferruginous;

stem hollow, fragile, fibrillose, mealy at the top, white; spores elliptical, ferruginous, .0004 to .0005 in. long, .0002 to .00025 broad.

Pileus 1 to 2 in. broad; stem 1 to 2 in. long, 1 to 2 lines thick. Decaying wood. Cattaraugus county. September.

The specimens which I have referred to this species appear to be a small form with the pileus scarcely more than an inch broad and merely rugose on the disk, not distinctly reticulate as in the type. In the dried specimens the pileus has assumed a dark violaceous color. The dimensions of the spores have been taken from the American plant. I do not find them given by any European author.

NEW YORK SPECIES OF GALERA.

Galera Fr.

Veil none or fibrillose. Stem subcartilaginous, continuous with the hymenophorum, tubular. Pileus more or less membranaceous, conical or oval, then expanded, striate, the margin at first straight and appressed to the stem. Lamellæ not decurrent. *Hym. Europ.*, p. 266.

The species of this genus are small and mostly rather fragile. The pileus is thin and when young is conical, oval or bell-shaped, but in some at least, it becomes expanded with age. When young or moist it has a watery, or hygrophanous appearance, and is then either striate or striatulate because of its thinness. The colors are either whitish, yellow, ochraceous, cinnamon or ferruginous in nearly all of our species, but owing to the hygrophanous character these generally become paler in the dry plant. The lamellæ are commonly yellowish, tawny, cinnamon or ferruginous. The stem is slender, often straight, fragile and hollow and colored like the pileus. The genus holds the same place in the ochraceous-spored series that *Mycena* holds in the white-spored series and *Nolanea* in the pink-spored series. Some grow on dung or in rich grassy, ground, others are found in woods, either on naked soil or on decaying leaves, wood or branches and others still occur habitually in wet or damp places among *Sphagnum* or other mosses.

The species have been arranged by Fries in three groups or sections. Of the first section we have six representatives, of the second, three, and of the third, one. An additional section has been formed which contains two species. One-half of our twelve species appear to be peculiar to this country.

SYNOPSIS OF THE SPECIES.

Plants growing among mosses.....	1
Plants not growing among mosses.....	4
1. Pileus commonly 4 to 6 lines broad.....	2
1. Pileus commonly 9 to 12 lines broad.....	Sphagnorum.
2. Margin of the pileus naked or not fibrillose.....	3
2. Margin of the pileus adorned with white fibrils...	rufipes.
3. Stem pruinose at the top.....	Hypnorum.
3. Stem naked at the top.....	aquatilis.
4. Plant growing on dung or in grassy places.....	5
4. Plant growing in uncultivated places.....	8
5. Pileus plicate-sulcate.....	coprinoides.
5. Pileus not plicate-sulcate.....	6
6. Pileus ferruginous when moist.....	ovalis.
6. Pileus paler, yellowish or tawny-cinnamon when moist..	7
7. Pileus narrowly conical, striate when dry.....	lateritia.
7. Pileus broadly conical, not striate when dry.....	tener.
8. Plant growing on hulls of buckwheat.....	sulcatipes.
8. Plant having some other habitat.....	9
9. Pileus pale-yellow.....	flava.
9. Pileus some other color.....	10
10. Lamellæ narrow, close.....	teneroides.
10. Lamellæ broad, subdistant.....	inculta.

CONOCEPHALÆ. Pileus conic-campanulate, hygrophalous, nearly even, when dry sprinkled with soft atoms; stem straight; lamellæ ascending, inserted in the top of the cone, somewhat crowded. Veil none.

Galera lateritia Fr.

BRICK-RED GALERA.

(Hym. Europ., p. 237. Sylloge Vol. v, p. 860.)

Pileus thin, narrowly conical or acorn-shaped, often becoming campanulate, hygrophalous, yellowish when moist, whitish or ochraceous when dry, finely striate on the margin; lamellæ

narrow or linear, crowded, ascending, nearly free, pale-cinnamon or tawny-ferruginous; stem straight, slender, fragile, hollow, minutely striate, sprinkled with minute mealy particles or clothed with a minute villosity, white; spores elliptical, ferruginous, .0005 to .00055 in. long, .0003 to .00035 broad.

Pileus 6 to 12 lines broad; stem 2 to 3 in. long, scarcely 1 line thick.

Dung or rich grassy ground. Albany and Rensselaer counties. June to September.

This may be separated from the next following species by its more elongated narrowly conical pileus distinctly striate on the margin and by its narrower linear lamellæ. The striations are fine and close and often reach half way to the center of the pileus. In our specimens they are distinct even in the dried plant. We have seen no specimens having the pileus as dark colored as in the Friesian figure of the moist plant, but many of our American agarics are paler or have paler forms than the European figures indicate for the same species. The hygrophanous character of the pileus is less clearly shown than in *Galera tener*. As in that species, there are forms in which both pileus and stem are clothed with a minute downy pubescence. When partly dry the pileus feels sticky when pressed between the thumb and fingers.

Galera tener Schaff.

TENDER GALERA.

(Hym. Europ., p. 267. Sylloge Vol. v, p. 860.)

Pileus thin, conical broadly and obtusely conical or campanulate, hygrophanous, pale-ferruginous or tawny-cinnamon color and striatulate when moist, whitish or creamy-yellow when dry, often sprinkled with shining atoms; lamellæ broad, rather close, ascending, adnate, cinnamon color; stem straight, slender, fragile, hollow, somewhat shining, commonly finely striate, colored like the pileus; spores elliptical, dark ferruginous, almost rubiginous, .0005 to .00065 in. long, .0003 to .0004 broad.

Pileus 4 to 10 lines broad; stem 1.5 to 3 in. long, scarcely 1 line thick.

Dung and rich grassy ground. Common. June to September.

This is our most common species of *Galera*. It sometimes grows in great abundance where cattle have been yarded and in

rich lawns or pastures. It is often found growing on dung in company with *Panæolus campanulatus*. It varies much in size. A small form, form *minor*, occurs having the pileus hemispherical and only three or four lines broad.

Var. *pilosella* (*Agaricus pilosellus* Pers.), has both pileus and stem clothed with a minute erect pubescence when moist. A form is sometimes found in which the center of the pileus is brown or blackish-brown.

Galera teneroides Pk.

WOOD-LOVING GALERA.

(Twenty-ninth State Museum Report, p. 39.)

Pileus thin, campanulate or expanded, hygrophanous, brownish-cinnamon and striatulate when moist, paler when dry; lamellæ narrow, close, yellowish-cinnamon; stem straight, slender, hollow, colored like the pileus; spores nearly elliptical, subluteus, .0003 to .00035 in. long, .00016 to .0002 broad.

Pileus 6 to 12 lines broad; stem 1 to 2 in. long, about half a line thick. Ground, dung and decaying wood and branches in woods. Adirondack mountains and in Albany county. June to September.

This species is closely related to *Galera tener* as may be inferred from the name, but it is nevertheless distinct in its more brown or smoky-tinted color, more expanded mature pileus, more narrow lamellæ and smaller paler spores.

Galera ovalis Fr.

OVAL GALERA.

(Hym. Europ., p. 263. Sylloge Vol. v, p. 862.)

Pileus somewhat membranaceous, oval or campanulate, hygrophanous, brownish-ferruginous and obscurely striatulate on the margin when moist, paler and even when dry, fragile; lamellæ nearly free, very broad, ventricose, ferruginous; stem straight, slender, hollow, slightly striate, colored nearly like the pileus; spores elliptical, dark-ferruginous, .0004 to .0005 in. long, .00025 to .0003 broad.

Pileus 8 to 12 lines broad; stem 3 to 4 in. long, about 1 line thick.

Dung. Albany county. June.

The specimens which I have referred to this species were collected many years ago. I have not found any like them since. They differ from *Galera tener* chiefly in their larger size and darker color, both when moist and when dry. The species is evidently a very rare one.

***Galera sulcatipes* Pk.**

SULCATE-STEMMED GALERA.

(Thirty-fifth State Mus. Rep., p. 132.)

Pileus thin, ovate, conical or subcampanulate, hygrophanous chestnut-colored and mostly striatulate on the margin when moist, paler when dry; lamellæ ascending, subdistant, adnate, whitish becoming ferruginous-cinnamon; stem slender, straight or flexuous, equal, hollow, rather tenacious, striate-sulcate, silky, floccose-pruinose toward the base, white; spores elliptical, ferruginous-cinnamon, .00025 to .0003 in. long, .00016 broad.

Pileus 5 to 8 lines broad; stem 1.5 to 3 in. long, about 1 line thick.

Gregarious on a pile of buckwheat bran lying on the ground in woods. Albany county. August.

The white and almost shining stem is striate and silky above, pulverulent or floccose-pruinose toward the base where it generally assumes a greenish-blue color if handled when moist. The pileus fades in drying to subochraceous. The lamellæ are sometimes white on the edge. Found in 1881 but not detected since. A rare species but very distinct in the character of its stem and in its peculiar habitat.

***Galera inculta* Pk.**

RUDE GALERA.

(Forty-first State Mus. Rep., p. 69.)

Pileus thin, somewhat fragile, campanulate, then convex or nearly plane, obtuse or rarely with a small umbo, hygrophanous, cinnamon color and striatulate when moist, buff color and atomate when dry, sometimes minutely pitted or corrugated, rarely rimose-squamulose; lamellæ broad, subdistant, ventricose, adnexed, white crenulate on the edge, at first pallid, then pale-cinnamon; stem straight or subflexuous, hollow, brittle, slightly silky, reddish-brown, sometimes mealy or pruinose at the top and

white-villose at the base; spores subelliptical, pointed at each end, brownish-ferruginous, .0006 to .0005 in. long, .0003 broad.

Pileus 6 to 12 lines broad; stem 1 to 1.5 in. long, .5 to 1 line thick.

Damp ground under willows and alders. Catskill mountains. September.

The moist pileus resembles in color that of the small glabrous striatulate form of *Clitocybe laccata*, the dry one that of *Galera tener*. The specimens were found growing with *Naucoria paludosa*, from which they may be distinguished by the more campanulate pileus, the broader and more distant lamellæ and the larger spores.

BRYOGENÆ. Pileus membranaceous, campanulate, striate, glabrous, hygrophanous, even when dry, opaque, slightly silky; stem thin, lax, flexile; lamellæ broadly and plainly adnate, broad, subdenticulate. Slender, growing among mosses, the veil very fugacious.

Galera aquatilis Fr.

AQUATIC GALERA.

(Hym. Europ., p. 270. Sylloge Vol. v, p. 869.)

Pileus membranaceous, campanulate or convex, glabrous, watery, hygrophanous, pallid-honey color and striatulate on the margin when moist, soft and whitish when dry, often with a yellowish papilla; lamellæ distant, triquetrous, plane, adnate, pallid; stem very long, slender, even, glabrous, whitish or yellowish; spores elliptical, .0004 in. long, .00024 broad.

Pileus 5 to 6 lines broad; stem (in our specimens) 2 to 3 in. long, scarcely 1 line thick.

Among mosses in wet places. Catskill mountains. July. A rare species. In our specimens the stem is less elongated than in the European plant.

Galera Sphagnorum Pers.

SPHAGNUM GALERA.

(Hym. Europ., p. 270. Sylloge Vol. v, p. 869.)

Pileus thin, conical convex or expanded, sometimes with a small umbo or papilla, hygrophanous, tawny or subochraceous and usually striatulate on the margin when moist, pale-ochraceous or buff when dry; lamellæ thin, subdistant, tawny-ochraceous;

stem slender, hollow, more or less fibrillose, subflexuous, colored like the pileus; spores elliptical or subovate, .0004 to .0005 in. long, .00025 to .0003 broad.

Pileus 6 to 12 lines broad; stem 2.5 to 5 in. long, 1 to 1.5 lines thick.

In marshes among Sphagnum. Fulton, Rensselaer and Seneca counties and Adirondack mountains. June to August.

This is easily distinguished from *Galera Hypnorum*, to which it has sometimes been subjoined as a variety, by its larger size, more expanded pileus, fibrillose stem and peculiar place of growth. There is a notable form with a well-developed veil which may be designated var. *velata*. Veil white, webby or almost membranous, breaking up on the upper part of the stem and forming floccose scales, often evanescent with age. In this variety the moist pileus is sometimes chestnut color or bay red, being darker than in the ordinary forms of the species. Very often the fibrils of the stem are grouped in flakes or patches in such a way as to give a wavy appearance to the stem itself.

Galera Hypnorum Batsch.

HYPNUM GALERA.

(Hym. Europ., p. 270. Sylloge Vol. v, p. 868.)

Pileus membranaceous, conical or campanulate, obtuse or papillate, glabrous, hygrophanous, watery-cinnamon or subochraceous and striatulate when moist, paler when dry, often fading to yellowish or buff; lamellæ broad, adnate, ventricose, distant, tawny or cinnamon color, often whitish flocculose on the edge; stem slender, hollow, flexuous, smooth, pruinose at the top, commonly colored like the pileus; spores elliptical, .0004 to .0005 in. long, .00024 to .0003 broad.

Pileus 3 to 6 lines broad; stem 1 to 2 in. long, less than a line thick.

Among mosses in woods, either on the ground or on prostrate decaying trunks. Common in hilly or mountainous districts. June to September.

This is a small species but it varies considerably in size and color. Var. *nigripes* has a blackish-brown stem.

ERIODERMÆ. Pileus submembranaceous, the veil manifest, superficial, separating, at first silky or squamulose, especially on the margin.

Galera rufipes *Pk.*

REDDISH-STEMMED GALERA.

(Forty-second State Mus. Rep. p. 20. Botanist's Edition.)

Pileus campanulate or convex, hygrophonous, reddish-tawny and striatulate when moist, whitened on the margin by the remains of the white fibrillose veil, pale-ochraceous when dry; lamellæ broad, subdistant, emarginate, yellowish or subochraceous, slightly crenulate on the whitish edge; stem slender, hollow, slightly fibrillose below, pruinose at the top, reddish-brown; spores elliptical, subochraceous, .00025 to .0003 in. long, .00016 to .0002 broad.

Pileus 4 to 6 lines broad; stem about 1 in. long, .5 line thick.

Mossy ground in woods. Essex county. September.

This species is easily separated from *Galera Hypnorum* by the whitened fibrillose margin of the pileus and by its smaller spores.

PLICATELLÆ *sec. nov.* Pileus membranous, conical or campanulate, more or less expanded in maturity, plicate-striate.

The two species here described differ so much in the character of the pileus and its striations from the other species of the genus that I have thought it best to institute a new Section for their reception. I find no description of any similar European species. They are probable peculiar to this country.

Galera flava *Pk.*

PALE-YELLOW GALERA.

(Forty-fifth State Mus. Rep., p. 19.)

Pileus membranous, ovate or campanulate, moist or subhygrophonous, obtuse, plicate-striate on the margin, yellow; lamellæ thin, narrow, crowded, adnate, at first whitish, then yellowish-cinnamon; stem equal or slightly tapering upward, hollow, slightly striate at the top, sprinkled with white mealy particles, white or yellowish; spores ovate or subelliptical, brownish-ferruginous, .0005 in. long, .0003 broad.

Pileus 6 to 12 lines broad; stem 2 to 3 in. long, 1 to 1.5 lines thick.

Damp vegetable mold in woods. Tompkins county. July.

This species is well marked by the pale-yellow color of the pileus and its plicate striations which are very distinct even in

the dried specimens. They extend half way to the disk or more. When dry the pileus is seen to be sprinkled with shining atoms as in some other species of the same genus. Occasionally the yellow cuticle cracks into squamules or small scales.

Galera coprinoides *Pk.*

COPRINUS-LIKE GALERA.

(Twenty-sixth State Mus. Rep. p. 59. *Agaricus plicatellus* Twenty-ninth Rep. p. 66.)

Pileus membranous, campanulate, soon expanded, often split on the margin, plicate-sulcate to the small even disk, yellowish or ochraceous-yellow; lamellæ narrow, close, rounded behind, colored like the pileus; stem slender, equal, hollow, minutely hairy or pruinose, white; spores elliptical, .00028 to .0003 in. long, .0002 broad.

Pileus about 6 lines broad; stem about 1 in. long, half a line thick.

Grassy ground. Cayuga county. August.

This small plant was discovered in 1872, but I have not found it since. It is manifestly very rare. The structure of the pileus and its plications are strongly suggestive of the character of the pilei of some of the small species of *Coprinus*, as is indicated by the name.

The name *Agaricus plicatellus* was substituted for *Agaricus coprinoides* when it was found that the latter name had been previously applied to another species, but since the former subgenus *Galera* has been raised to generic rank it permits the restoration of the original specific name.