

Education Department Bulletin

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No. 495

ALBANY, N. Y.

MAY 15, 1911

New York State Museum

JOHN M. CLARKE, Director

CHARLES H. PECK, State Botanist

Museum Bulletin 150

REPORT OF THE STATE BOTANIST 1910

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ALBANY

UNIVERSITY OF THE STATE OF NEW YORK

1911

STATE OF NEW YORK
EDUCATION DEPARTMENT

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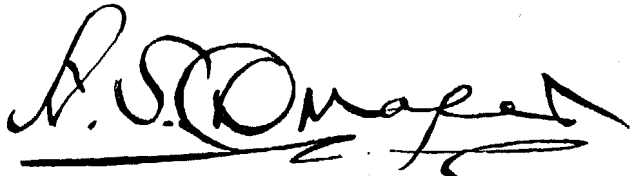
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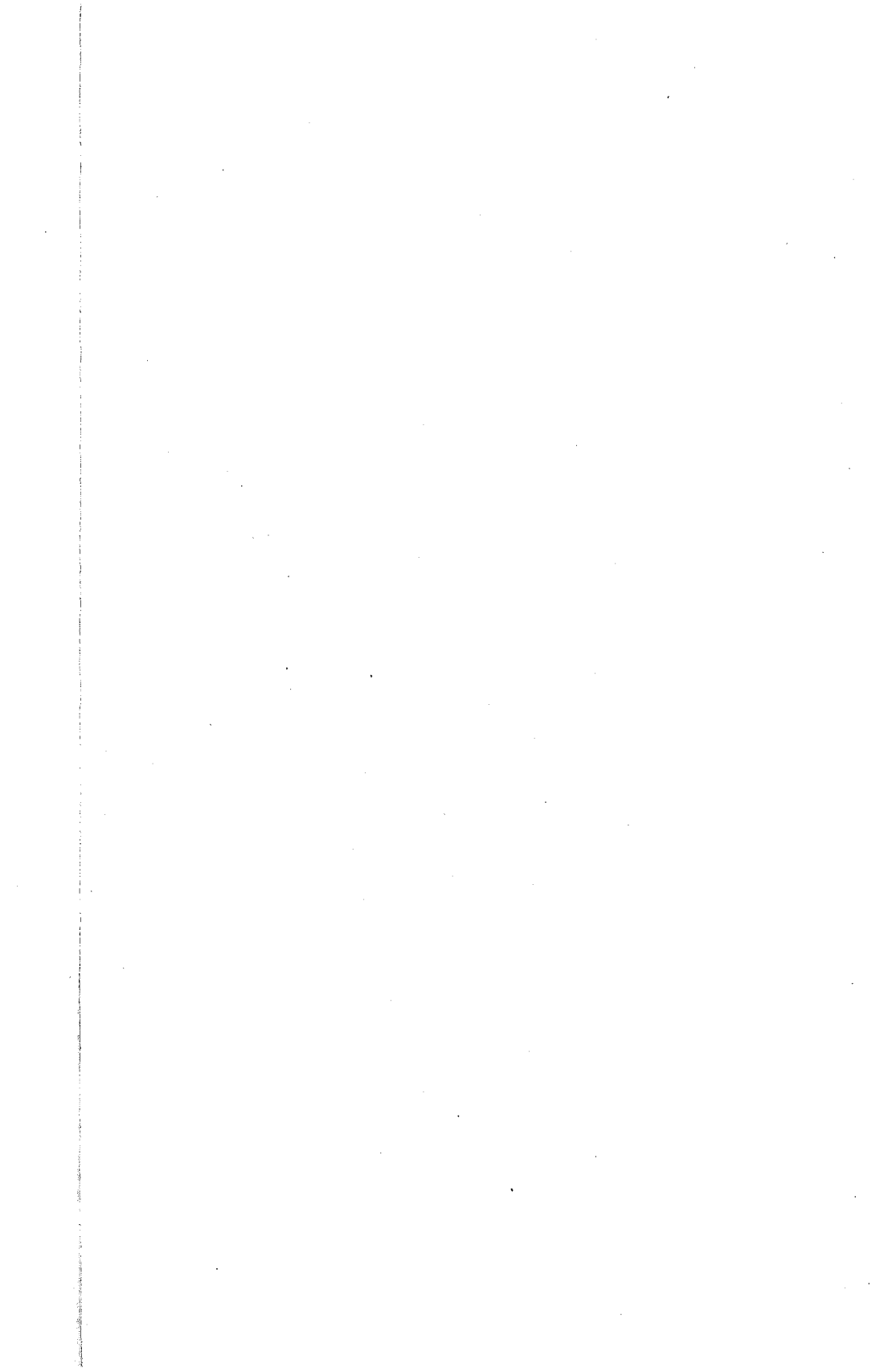
SIR: I have the honor to transmit herewith the report of the State Botanist for the fiscal year ending September 30th, 1910, and to recommend the same for publication as a bulletin of the State Museum.

Very respectfully
JOHN M. CLARKE
Director

STATE OF NEW YORK
EDUCATION DEPARTMENT
COMMISSIONER'S ROOM

Approved for publication this 27th day of January 1911


Commissioner of Education



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JOHN M. CLARKE, Director

CHARLES H. PECK, State Botanist

Museum Bulletin 150

REPORT OF THE STATE BOTANIST 1910

Dr. John M. Clarke, Director of State Museum:

I have the honor to submit the following report of work done in the botanical section of the State Museum:

Since the date of my last report specimens of plants for the State herbarium have been collected in the counties of Albany, Chemung, Columbia, Essex, Greene, Livingston, Rensselaer, Saratoga, St Lawrence, Steuben, Ulster and Warren. There have been contributed specimens of plants that were collected in the counties of Albany, Cayuga, Cortland, Delaware, Essex, Franklin, Fulton, Greene, Genesee, Hamilton, Herkimer, Monroe, Nassau, Oneida, Onondaga, Ontario, Orleans, Oswego, Saratoga, Schoharie, St Lawrence, Suffolk, Tompkins, Warren, Washington, Wayne and Wyoming.

There have been received specimens of extralimital species of plants that were collected in Alabama, Colorado, Connecticut, District of Columbia, Florida, Indiana, Kansas, Kentucky, Maine, Massachusetts, Maryland, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Brunswick, New Jersey, New Mexico, North Carolina, Nova Scotia, Ohio, Ontario, Pennsylvania, Texas, Utah, Washington and Wisconsin.

The number of species of which specimens have been added to the herbarium is 270. This includes contributed and collected specimens. Of this number, 79 species are new to the herbarium and 23 species are believed to be new to science. The new species are all fungi. A list of the added species is marked "Plants added to the herbarium."

The number of those who have contributed specimens is 176. This includes those who sent specimens merely for identification

if the specimens were collected in our State and were desirable additions to the herbarium. The number of identifications made of specimens sent or brought to the office by inquirers is 2419. The number of persons for whom identifications were made and the number of identifications made exceed the corresponding numbers, 152 and 1717, for last year. This indicates a gratifying increase in the general desire for botanical information. A list of the names of the contributors and their respective contributions is marked "Contributors and their contributions."

Names and notices of species new to our New York flora and descriptions of new species are given in a chapter marked "Species not before reported."

New localities of rare plants, descriptions of new varieties and any facts of interest that may have been observed are given in a chapter entitled "Remarks and observations."

Species of fungi collected outside our State limits are frequently sent for identification. Sometimes specimens are received that do not correspond to any published description. In such cases the fungus is given a name and a description of it prepared. These names and descriptions make a chapter with the heading "New species and varieties of extralimital fungi."

Specimens of five species of *Crataegus*, or thorn bushes, have been added to the large number already represented in the herbarium. Four of these have not before been reported and are new to our flora.

Specimens of five species of mushrooms have been collected and their edible qualities tried and approved. These make the whole number of our New York edible species and varieties 205. Three plates have been prepared on which the five added species are represented by colored figures, natural size. Descriptions of these species may be found in a chapter on "Edible fungi." Two other plates have been prepared on which three new species of mushrooms are represented.

One species has been tried which, when eaten freely, causes a profuse perspiration but no other inconvenience. Its flavor, texture and digestibility are faultless, but its effects are such as to place it among medicinal; not edible, mushrooms. My attention was first called to this peculiar character of the mushroom by Mr F. G. Howland and through his kindness in furnishing me samples of it I have been able to verify its sudorific properties. Perhaps experimentation may prove it to be useful in cases of illness where a sudorific medicine is desirable. An account of my experiment

may be found under the name *Clitocybe dealbata sudorifica*, in the chapter entitled "Remarks and observations."

Having been informed that the raspberry patches of the fruit growers in the vicinity of Marlboro, Ulster county, were suffering from disease and wishing to know the cause of it, a visit was made to that place in July. An examination of the diseased canes showed that they were suffering from an attack of a parasitic fungus whose botanical name is *Sphaerella rubina* Pk. The fruiting canes develop their leaves and flowers as usual but before the fruit ripens it withers and dries on the branches. The dryness of the season and an attack of "red spider" on the foliage were apparently contributing causes of the failure of the crop and the loss was severe. The diseased canes bore patches of the fungus. It matures its spores early in the season. In the type specimens they were found in May. The young canes showed brown or blackish patches one or two inches long on the lower part. In some cases they were near the ground, thereby indicating a probable infection while they were but a few inches tall. These spots had not yet developed their perithecia or spore cases but doubtless would toward the end of the season and next spring be ready to shed their spores and renew the species in the succeeding crop of young canes. Theoretically the disease should be prevented by spraying the young canes with a good fungicide like Bordeaux mixture or lime sulfur mixture, but it would be necessary to give the first spraying when the young shoots are only three or four inches high. This should be repeated once a week till the canes of the previous year begin to blossom.

While there, my attention was called to a diseased chestnut tree. It was a young tree with sickly looking foliage and a few dead branches. It was suffering from the chestnut bark disease caused by a parasitic bark fungus. Both branches and trunk were affected by the fungus, the latter but a few feet above the ground. It was my first opportunity to see a tree affected by this disease about which much that appears to me to be overdrawn and needlessly alarming has recently been published in magazines and newspapers. Remarks concerning its distribution in our State are given under the name *Valsonectria parasitica* (Murr.) Rehm in the chapter headed "Remarks and observations."

In 1899 a census of the flowering plants and ferns of Bonaparte swamp was taken and a list of the species was published in the report of the Botanist for that year. The swamp is a large one

lying in the northern part of Lewis county a short distance east of Lake Bonaparte. It is about two miles in diameter where the Carthage and Adirondack Railroad crosses it. The number of species of flowering plants and ferns found in it is 128.

The swamps and peat marshes of the State are a part of our natural resources. When cleared, drained, and properly cultivated they constitute some of our most valuable agricultural lands. Their gradual formation from a water surface to a land surface is interesting and due chiefly to the agency of plants. If the original pond or lake is very shallow its whole surface, except the central channel through which the stream flows, is occupied by aquatic plants. These by their annual growth and partial decay form a sedimentary deposit which gradually fills the lake until water-loving mosses, sphagnum, and other marsh plants take possession. When this has taken place we have a sphagnum marsh. If the lake is deep in the center the marsh forms only along the shallow margins. By the yearly growth and decay of the plants of the sphagnum marsh its surface gradually becomes firmer and small shrubs and herbs of wet places take possession. When the shrubs predominate it is called a shrubby marsh; when marsh grasses and sedges are the prevailing vegetation it is a grassy marsh. In due time the surface of the shrubby marsh becomes sufficiently firm to sustain and support certain kinds of trees whose roots do not object to an abundant and constant supply of moisture. When this stage has been reached we have a swamp, a low wet piece of woods covered with trees and tall shrubs. The border of a marsh may be and often is a wooded swamp which is itself merely an older part of the marsh. The grassy marsh appears to be less inviting to the advent of trees than the sphagnum marsh, and prairielike, it often remains open an indefinite time. Among the natural products of our marshes are the two species of cranberries, the large or common cranberry and the small cranberry, the mosses used by florists and nurserymen for packing material and the peat used as an absorbent or bedding in stables and ultimately in this way as a component of the stable manure. The more firm and fibrous peat from bushy marshes is used for various purposes requiring a fibrous material and for heating purposes. The grasses and sedges of the grassy marsh are sometimes cut for hay, but this is rarely done except in cases of scarcity or very high prices of hay of better quality. The sedges of certain species are sometimes utilized in making "crex carpets" and various articles of furniture.

That we may have a more definite knowledge of the species of plants that are most prevalent in our marshes, and consequently the most common agents in transforming our marshes into a more useful condition, a list of the flowering plants and ferns of two of our marshes has been made. This list, with a description of the marshes, will be found in a chapter entitled "Cranberry and Averyville marshes."

In accordance with the plan previously adopted, a revision of our species of *Hypholoma* and *Psathyra* has been made. The descriptions have been rewritten and the species arranged in the groups or sections in which they were distributed by Fries, and the usual "keys" prepared. The chapters containing these descriptions are respectively entitled "New York species of *Hypholoma*" and "New York species of *Psathyra*."

The coincidence between a plentiful crop of wild mushrooms and good crops of staple agricultural products has been noticed in previous reports. The past season has furnished a noticeable confirmation of the results of previous observations. While the usual summer drouth in the eastern and southeastern parts of the State was quite severe and wild mushrooms correspondingly scarce, in other parts of the State the rainfall has been more abundant and the crop of wild mushrooms has been plentiful. One correspondent writing from Silver Springs, Wyoming county, in speaking of one of his collecting excursions, says, "I am swamped with the number and variety of mushrooms now growing in the woods. It seems that I find a new kind at almost every step. I had a market basket full of specimens which comprised about fifty species." Another correspondent writing from Fourth lake, Herkimer county, says, "Mushroom hunting has been very delightful here this season. I have found so many fine specimens I could not keep pace with them."

The season has been specially favorable to the development of the giant puffball, *Calvatia gigantea* (Batsch). They have appeared in unusual numbers and, in some cases, of unusual size. A correspondent writing from Pittsford, Monroe county, says, "I am sending you a specimen of *Calvatia gigantea* weighing seven pounds. They are very plentiful here this season. I have seen thirty-five or more, one weighing twelve pounds." A single one of medium size, that is, eight to ten inches in diameter, is sufficient to afford a meal to a family of ordinary size. The same correspondent says "Puffballs are growing here by the hundred and we are enjoying them very much. Mushrooms in

this part of the country are very plentiful." The giant puffball usually grows in open places and but one or two in a place, but in New Lebanon, Columbia county, there is a station shaded by young deciduous trees where I saw about a dozen specimens growing in close proximity to each other.

Mr S. H. Burnham, my assistant, has continued the clerical work of the office, doing all the typewriting of labels, letters and reports, attending to the correspondence of the office during my absence on collecting trips, preparing, disinfecting, labeling and arranging the specimens in their proper places, and aiding in the identification of specimens. He has also aided in the investigation of the pine rust that has been proving injurious to young plantations of white pine.

Respectfully submitted

CHARLES H. PECK

State Botanist

Albany, December 28, 1910

PLANTS ADDED TO THE HERBARIUM

New to the herbarium

<i>Amanita bisporigera</i> <i>Atk.</i>	<i>Lactarius boughtoni</i> <i>Pk.</i>
<i>A. floccocephala</i> <i>Atk.</i>	<i>Lentinus piceinus</i> <i>Pk.</i>
<i>A. velatipes</i> <i>Atk.</i>	<i>Lychnis coronaria</i> (<i>L.</i>) <i>Desr.</i>
<i>Ascochyta menyanthis</i> <i>Oud.</i>	<i>Machaeranthera pulverulenta</i> (<i>Nutt.</i>)
<i>Aulographum ledi</i> <i>Pk.</i>	<i>Macrosporium heteronemum</i> (<i>Desm.</i>)
<i>Biatora coarctata</i> (<i>Sm.</i>) <i>Nyl.</i>	<i>Marasmius contrarius</i> <i>Pk.</i>
<i>Calvatia craniiformis</i> (<i>Schw.</i>)	<i>Myxosporium carpini</i> <i>Pk.</i>
<i>Camelina sativa</i> (<i>L.</i>) <i>Crantz</i>	<i>Naemospora croceola</i> <i>Sacc.</i>
<i>Cercospora phlogina</i> <i>Pk.</i>	<i>Naucoria sororia</i> <i>Pk.</i>
<i>Cladosporium paeoniae</i> <i>Pass.</i>	<i>Oidium asteris-punicei</i> <i>Pk.</i>
<i>Climacium kindbergii</i> (<i>R. & C.</i>)	<i>Oxybaphus floribundus</i> <i>Chois.</i>
<i>Clitocybe bififormis</i> <i>Pk.</i>	<i>Pertusaria leioplaca</i> (<i>Ach.</i>)
<i>C. maxima</i> <i>G. & M.</i>	<i>Pholiota terrigena</i> <i>Fr.</i>
<i>Cortinarius croceofolius</i> <i>Pk.</i>	<i>Phoma piceina</i> <i>Pk.</i>
<i>C. glaucopus</i> (<i>Schaeff.</i>)	<i>P. simillima</i> <i>Pk.</i>
<i>C. napus</i> <i>Fr.</i>	<i>P. stictica</i> <i>B. & Br.</i>
<i>C. triumphans</i> <i>Fr.</i>	<i>Phyllosticta betae</i> <i>Oud.</i>
<i>Crataegus aristata</i> <i>S.</i>	<i>P. subtilis</i> <i>Pk.</i>
<i>C. brainerdi</i> <i>S.</i>	<i>Physcia hispida</i> (<i>Schreb.</i>)
<i>C. calvini</i> <i>S.</i>	<i>Picris hieracioides</i> <i>L.</i>
<i>C. longipedunculata</i> <i>S.</i>	<i>Pilocratera abnormis</i> <i>Pk.</i>
<i>C. nemorosa</i> <i>S.</i>	<i>Placodium ferrug. discolor</i> <i>Willey</i>
<i>Crepis setosa</i> <i>Hall. f.</i>	<i>Plasmodiophora elaeagni</i> <i>Schroet.</i>
<i>Cryptosporium macrospermum</i> <i>Pk.</i>	<i>Pleurotus approximans</i> <i>Pk.</i>
<i>Cycloloma atriplicifolium</i> (<i>Spreng.</i>)	<i>Ramalina rigida</i> (<i>Pers.</i>) <i>Tuck.</i>
<i>Cytospora microspora</i> (<i>Cd.</i>) <i>Rabenh.</i>	<i>Rhabdospora physostegiae</i> <i>Pk.</i>
<i>Diplodia linderæ</i> <i>B. & E.</i>	<i>Scirpus occidentalis</i> (<i>Wats.</i>) <i>Chase</i>
<i>Eccilia mordax</i> <i>Atk.</i>	<i>Sideranthus gracilis</i> (<i>Nutt.</i>) <i>Rydb.</i>
<i>Eurotium subgriseum</i> <i>Pk.</i>	<i>Sphaeropsis smilacis latispora</i> <i>Pk.</i>
<i>Gloeosporium caryae</i> <i>E. & D.</i>	<i>Sporotrichum grisellum</i> <i>Sacc.</i>
<i>G. divergens</i> <i>Pk.</i>	<i>Theloschistes flavicans</i> <i>Wallr.</i>
<i>Grindelia squarrosa</i> (<i>Pursh</i>) <i>Dunal</i>	<i>Thlaspi perfoliatum</i> <i>L.</i>
<i>Helianthus petiolaris</i> <i>Nutt.</i>	<i>Trichothecium subgriseum</i> <i>Pk.</i>
<i>Heterothecium pezizoideum</i> (<i>Ach.</i>)	<i>Triosteum perfoliatum</i> <i>L.</i>
<i>Hygrophorus caprinus</i> (<i>Scop.</i>) <i>Fr.</i>	<i>Usnea trichodea</i> <i>Ach.</i>
<i>Hypericum prolificum</i> <i>L.</i>	<i>Vermicularia beneficiens</i> <i>Pk.</i>
<i>Hypholoma delineatum</i> <i>Pk.</i>	<i>V. pomicola</i> <i>Pk.</i>
<i>Hypochnus tristis</i> <i>Karst.</i>	<i>Verticillium agaricinum</i> (<i>Lk.</i>) <i>Cd.</i>
<i>Inocybe rimosoides</i> <i>Pk.</i>	<i>Viburnum venosum</i> <i>Britton</i>
	<i>Vicia villosa</i> <i>Roth</i>

Not new to the herbarium

<i>Acalypha virginica</i> <i>L.</i>	<i>Ambrosia artemisiifolia</i> <i>L.</i>
<i>Agaricus abruptibulbus</i> <i>Pk.</i>	<i>Amelanchier oblongifolia</i> (<i>T. & G.</i>)
<i>A. arvensis</i> <i>Schaeff.</i>	<i>Antennaria neglecta</i> <i>Greene</i>
<i>Alisma plantago-aquatica</i> <i>L.</i>	<i>Apocynum cannabinum</i> <i>L.</i>

- Arabis laevigata* (Muhl.) Poir
Arceuthobium pusillum Pk.
Aristolochia clematilis L.
Artemisia biennis Willd.
Asclepias syriaca L.
Aspidium thelypteris (L.) Sw.
Aster laevis L.
A. schreberi Nees
A. undulatus L.
Astragalus neglecta (T. & G.) Sheld.
Barbarea stricta Andr.
Boletinus paluster Pk.
Boletus clintonianus Pk.
B. elbensis Pk.
B. parasiticus Bull.
Brassica arvensis (L.) Ktze.
Broussonetia papyrifera (L.)
Calvatia gigantea (Batsch)
Calyptospora goeppertiana Kuehn
Camelina microcarpa Andr.
Cantharellus infundibuliformis (Scop.)
Cardamine parviflora L.
Carex canescens L.
C. longirostris Torr.
Centaurium umbellatum Gilib.
Cerastium viscosum L.
Ceratiomyxa fruticulosa (Muell.)
Cladosporium carpophilum Thuem.
Cinna arundinacea L.
C. latifolia (Trev.) Griseb.
Collybia butyracea (Bull.) Fr.
Cornus canadensis L.
Coronilla varia L.
Cortinarius sanguineus Fr.
Crataegus apposita S.
C. colorata S.
C. dissociabilis S.
C. dissona S.
C. foetida Ashe
C. grayana Eggle.
C. inopinata S.
C. inusitata S.
C. leiophylla S.
C. plectra S.
C. punctata Jacq.
C. recta S.
C. spatifolia S.
C. succulenta Lk.
C. tenuiloba S.
Cryptotaenia canadensis (L.)
Cynoglossum officinale L.
Cynosurus cristatus L.
Cyperus grayi Torr.
Daphne mezereum L.
Daucus carota L.
Desmodium canescens (L.) DC.
Epilobium hirsutum L.
Erechtites hieracifolia (L.) Raf.
Eriophorum callitrix Cham.
E. virginicum L.
Erysiphe polygoni DC.
Eupatorium hyssopifolium L.
E. purpureum L.
Euphorbia corollata L.
E. peplus L.
Fusicladium dendriticum (Wallr.)
Galium aparine L.
G. palustre L.
Gentiana quinquefolia L.
Gerardia maritima Raf.
G. purpurea L.
G. virginica (L.) BSP.
Gnaphalium uliginosum L.
Habenaria dilatata (Pursh) Gray
Hedeoma hispida Pursh
Helvella crispa (Scop.) Fr.
H. gracilis Pk.
Herpotrichia diffusa (Fckl.)
Hieracium canadense Mx.
H. murorum L.
Hordeum jubatum L.
H. trifurcatum Jacq.
Hydrastis canadensis L.
Hygrophorus eburneus (Bull.) Fr.
Hypholoma appendiculatum (Bull.)
Hex verticillata (L.) Gray
Ilex verticillata (L.) Gray
Juncus bufonius L.
Kalmia polifolia Wang.
Lechea racemulosa Mx.
Lenzites sepiaria Fr.
Leontodon nudicaulis (L.) Banks
Lepidium campestre (L.) R. Br.
L. draba L.
Lepiota procera (Scop.) Fr.
L. rubrotincta Pk.
Liatris scariosa Willd.
Lithospermum arvense L.
L. officinale L.
Lotus corniculatus L.
Luzula spicata (L.) DC.

- Lycoperdon atropurpureum *Vitt.*
 Massariella scoriadea (*Fr.*) *Sacc.*
 Melissa officinalis *L.*
 Mitrula cucullata *Fr.*
 Monarda fistulosa *L.*
 Monilia crataegi *Diedicke*
 Mycogone cerv. subincarnata *Pk.*
 Myrica asplenifolia *L.*
 Oidium destruens *Pk.*
 Onosmodium hispidissimum *Mack.*
 Osmorhiza slaytoni (*Mx.*) *Clarke*
 Osmunda cinnamomea *L.*
 Panax quinquefolium *L.*
 Panicum agrostoides *Spreng.*
 P. amarum *Ell.*
 P. boreale *Nash*
 P. scribnerianum *Nash*
 P. spretum *Schultes*
 Paspalum circulare *Nash*
 P. muhlenbergii *Nash*
 P. setaceum *Mx.*
 Phyllosticta podophylli (*Curt.*)
 Picea mariana (*Mill.*) *BSP.*
 Plantago elongata *Pursh*
 P. media *L.*
 Polygonum prolificum (*Small*)
 Polypodium vulgare *L.*
 Polyporus circinatus *Fr.*
 P. frondosus *Fr.*
 P. pubescens (*Schum.*) *Fr.*
 Potamogeton americanus *C. & S.*
 Prunus cuneata *Raf.*
 P. pennsylvanicus *L. f.*
 Puccinia rubigo-vera (*DC.*) *Wint.*
 Ribes prostratum *L'Her.*
 Roestelia aurantiaca *Pk.*
 Rudbeckia laciniata *L.*
 Rumex hastatulus *Baldw.*
 Russula brevipes *Pk.*
 Sabatia stellaris *Pursh*
 Sagina decumbens (*Ell.*) *T. & G.*
 Viola pallens (*Banks*) *Brain.*
 Salix petiolaris *Sm.*
 S. purpurea *L.*
 S. rostrata *Richards.*
 S. tristis *Ait.*
 Scirpus olneyi *Gray*
 Sedum purpureum *Tausch*
 Septoria violae *West.*
 Serapias helleborine *L.*
 Setaria verticillata (*L.*) *Br.*
 Solidago neglecta *T. & G.*
 Sparganium minimum *Fr.*
 Spartina patens juncea (*Mx.*)
 Spergularia marina (*L.*)
 Sphaeronema acerinum *Pk.*
 Sphaerotheca humuli (*DC.*)
 Sphenopholis pallens (*Spreng.*)
 Spirea latifolia *Borkh.*
 Sporobolus cryptandrus (*Torr.*)
 Steironema ciliatum (*L.*) *Raf.*
 Stipa avenacea *L.*
 Teucrium canadense *L.*
 T. occidentale *Gray*
 Thaspium barbinode (*Mx.*) *Nutt.*
 Thymus serpyllum *L.*
 Tilia michauxii *Nutt.*
 Tricholoma vaccinum (*Pers.*) *Fr.*
 Trichostemma dichotomum *L.*
 Tridens flavus (*L.*) *Hitchc.*
 Urtica lyalli *Wats.*
 Ustilago longissima (*Sow.*)
 U. zeae (*Beckm.*) *Ung.*
 Vaccinium atrococcum (*Gray*)
 V. macrocarpon *Ait.*
 V. oxycoccus *L.*
 Valsonectria parasitica (*Murr.*)
 Veronica anagallis-aquatica *L.*
 Viburnum dentatum *L.*
 V. pauciflorum *Raf.*
 Vicia americana *Muhl.*
 V. angustifolia (*L.*) *Reich.*
 Viola Blanda *Willd.*

CONTRIBUTORS AND THEIR CONTRIBUTIONS

Miss L. C. Allen, Newtonville, Mass.

Lentinus spretus *Pk.*

Lepiota allenae *Pk.*

Miss H. C. Anderson, Lambertville, N. J.

Boletus albus *Pk.*

Psathyrella graciloides *Pk.*

Miss F. Beckwith, Rochester

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|---------------------------------|-------------------------------------|
| Aster laevis L. | Lotus corniculatus L. |
| Helianthus petiolaris Nutt. | Machaeranthera pulverulenta (Nutt.) |
| Leontodon nudicaulis (L.) Banks | Sideranthus gracilis (Nutt.) Rydb. |

Mrs E. B. Blackford, Boston, Mass.

- | | |
|-------------------------|-------------------------|
| Clavaria pulchra Pk. | Hebeloma mesophacum Fr. |
| Flammula graveolens Pk. | Naucoria myosotis Fr. |

Miss E. S. Blunt, Elizabethtown

- Ambrosia artemisiifolia L.

Miss G. S. Burlingham, New York

- Lactarius glyciosmus Fr.

Miss M. C. Burns, Middleville

- Lepiota procera (Scop.) Fr.

Mrs C. F. Davis, Portland, Me.

- Peziza aurantia Pers.

Mrs E. P. Gardner, Canandaigua

- | | |
|----------------------------------|-------------------------------|
| Astragalus neglectus (T. & G.) | Melissa officinalis L. |
| Cryptataenia canadensis (L.) DC. | Monarda fistulosa L. |
| Lychnis coronaria (L.) Desr. | Steironema ciliatum (L.) Raf. |
| | Teucrium occidentale Gray |

Mrs L. L. Goodrich, Syracuse

- | | |
|------------------------------|--------------------|
| Centaureum umbellatum Gilib. | Daphne mezereum L. |
| | Lepidium draba L. |

Miss A. Hibbard, West Roxbury, Mass.

- | | |
|---------------------------|---------------------------|
| Entoloma cyaneum Pk. | Naucoria myosotis Fr. |
| Lactarius colorascens Pk. | Pholiota duroides Pk. |
| | Russula bresadolae Schulz |

Mrs S. Manning, St Paul, Minn.

- Flammula flavida Pers.

Miss E. W. Mische, Syracuse

- Daphne mezereum L.

Mrs C. E. Putnam, St Paul, Minn.

- Flammula flavida Pers.

Mrs S. W. Russell, Glens Falls

Polypodium vulgare L.

Mrs F. C. Sherman, Syracuse

Clitocybe maxima G. & M.

Stropharia depilata Pers.

Miss A. Van Horne, Montreal, Can.

Cantharellus brevipes Pk.

Miss E. C. Webster, Canandaigua

Crataegus calvini S.

Plantago media L.

C. gemmosa S.

Puccinia rubigo-vera (DC.) Wint.

C. longipedunculata S.

Scirpus occidentalis (Wats.)

Cynosurus cristatus L.

Serapias belleborine L.

Hieracium murorum L.

Setaria verticillata (L.) Bv.

Vicia americana Muhl.

Miss H. Whalen, Ballston Spa

Agaricus campester hortensis Cke.

Mrs M. E. Whetstone, Minneapolis, Minn.

Flammula pulchrifolia Pk.

Psathyrella caudata Fr.

Lentinus tigrinus (Bull) Fr.

Tubaria inquilina Fr.

Lepiota rubrotincta Pk.

Volvaria peckii Atk.

Mycogone cerv. subincarnata Pk.

V. speciosa Fr.

F. H. Ames, Brooklyn

Amanita radicata Pk.

Lactarius torminosus Fr.

Boletus vermiculosus Pk.

Usnea trichodea Ach.

G. F. Atkinson, Ithaca

Amanita bisporigera Atk.

Hypholoma boughtoni Pk.

A. floccocephala Atk.

Kuehneola albida (Kuhn) Magn.

A. velatipes Atk.

Lactarius camphoratus (Bull.)

Bubakia crotonis (Cke.) Arth.

Naucoria sororia Pk.

Collybia familia Pk.

Panacolus papilionaceus Fr.

Craterellus cornucopioides (L.)

Pholiota terrigena Fr.

Eccilia mordax Atk.

Plasmopara halstedii (Farl.)

Eocronartium typhuloides Atk.

Polyporus caeruleoporus Pk.

Hygrophorus caprinus (Scop.) Fr.

Russula crustosa Pk.

H. chryson (Batsch)

Sporotrichum grisellum Sacc.

H. luridus B. & C.

Uromyces appendiculatus (Pers.)

G. G. Atwood, Albany

Cryptosporium macrospermum Pk.

Roestelia aurantiaca Pk.

Sphaerotheca humuli (DC.) Burr.

H. J. Banker, Greencastle, Ind.

Hydnum combinans <i>Pk.</i>	Hydnum populinum <i>Pk.</i>
H. farinaceum <i>Pers.</i>	Irpex ambiguus <i>Pk.</i>

E. Bartholomew, Stockton, Kan.

Basidiophora kellermanii (<i>E. & H.</i>)	Hyoxylon fuscum (<i>Pers.</i>) <i>Fr.</i>
B. kell. paupercola <i>Pk.</i>	Leptosphaeria sambuci <i>Faustr.</i>
Bertia querceti <i>Rehm</i>	Leptothyrium punctiforme <i>B. & C.</i>
Bispora effusa <i>Pk.</i>	Macrosporium sarcinula <i>Berk.</i>
Cercospora clavata (<i>Ger.</i>) <i>Pk.</i>	Melanconis anomala <i>Pk.</i>
C. verbenae-strictae <i>Pk.</i>	Melanconium bicolor candidum <i>Pk.</i>
Coniosporium arundinis (<i>Cd.</i>) <i>Sacc.</i>	Melanomma pulvis-pyrius (<i>Pers.</i>)
C. perplexum <i>Pk.</i>	Merulius corium <i>Fr.</i>
Crucibulum vulgare <i>Tul.</i>	Microdiplodia viciae <i>Pk.</i>
Cyathus striatus schweinitzii <i>Tul.</i>	Microsphaera alni (<i>Wallr.</i>) <i>Salm.</i>
Cylindrosporium conservans <i>Pk.</i>	Ovularia rigidula <i>De'ac.</i>
C. padi cerasina <i>Pk.</i>	O. stachydis-ciliatae <i>Pk.</i>
Daedalea umicolor (<i>Bull.</i>) <i>Fr.</i>	Phleospora mori (<i>Lev.</i>) <i>Sacc.</i>
Dasyscypha bicolor (<i>Bull.</i>) <i>Fckl.</i>	Phyllosticta paupercola <i>Pk.</i>
Diaporthe alnea <i>Fckl.</i>	Polystictus abietinus <i>Fr.</i>
D. callicarpae <i>Pk.</i>	Ramularia virgaurea <i>Thuem.</i>
Diatrype bullata (<i>Hoffm.</i>) <i>Fr.</i>	Septoria aceris-macrophylli <i>Pk.</i>
Diplodia alni-rubrae <i>Pk.</i>	S. ficarioides <i>Pk.</i>
Eutypella ailanthi <i>Sacc.</i>	S. samarae <i>Pk.</i>
E. stellulata (<i>Fr.</i>) <i>Sacc.</i>	Sphaerella gaultheriae <i>C. & P.</i>
Helminthosporium macrocarpum <i>Grev.</i>	S. rumicis (<i>Desm.</i>) <i>Cke.</i>
H. subapiculatum <i>Pk.</i>	Sphaeromyces delphinii <i>Pk.</i>
Hormiscium ambrosiae <i>Pk.</i>	Sphaeropsis melanconioides <i>Pk.</i>
Hymenochaete rubiginosa (<i>Schrad.</i>)	Trimmatostroma americana <i>Thuem.</i>
H. tabacina (<i>Sow.</i>) <i>Lev.</i>	Uredo quercus <i>Broud.</i>
Hypochnus sambuci (<i>Pers.</i>) <i>Fr.</i>	Valsa minutella <i>Pk.</i>
Hyoxylon bartholomaei <i>Pk.</i>	V. salicina tetraspora (<i>Curr.</i>)
	Valsella salicis <i>Fckl.</i>

M. S. Baxter, Rochester

Cinna arundinacea <i>L.</i>	Panicum spretum <i>Schultes</i>
Epilobium hirsutum <i>L.</i>	Paspalum muhlenbergii <i>Nash</i>
Euphorbia corollata <i>L.</i>	Rynchospora alba (<i>L.</i>) <i>Vahl</i>
Helianthus petiolaris <i>Nutt.</i>	Sideranthus gracilis (<i>Nutt.</i>) <i>Rydb.</i>
Hieracium canadense <i>Mx.</i>	Solidago neglecta <i>T. & G.</i>
Onosmodium hispidissimum <i>Mack.</i>	Sphenopholis pallens (<i>Spreng.</i>)
Panicum boreale <i>Nash.</i>	Tilia michauxii <i>Nutt.</i>
P. scribnerianum <i>Nash</i>	Tridens flavus (<i>L.</i>) <i>Hitchc.</i>

C. E. Bessey, Lincoln, Neb.

Pholiota squarrosa *Muell.*

E. Bethel, Denver, Colo.

Allantonectria yuccae <i>Earle</i>	Peridermium harknessiana <i>Moore</i>
Pholiota comosa <i>Fr.</i>	Septoria samarae <i>Pk.</i>

E. F. Bigelow, Sound Beach, Conn.

Calostoma cinnabarinum Desv.

E. S. Black, Little Sitver, N. J.

Broussonetia papyrifera (L.) Vent.

F. S. Boughton, Pittsford

<i>Agaricus sylvaticus Schaeff.</i>	<i>Inocybe modesta Pk.</i>
<i>Boletus albus Pk.</i>	<i>Lactarius boughtoni Pk.</i>
<i>Calvatia gigantea (Batsch)</i>	<i>Lepiota rugoso-reticulata Lorin.</i>
<i>Cortinarius napus Fr.</i>	<i>Thelephora willeyi Clinton</i>
	<i>Verticillium agaricinum (Lk.) Cd.</i>

E. L. Bradley, Cato

Hydrastis canadensis L.

F. J. Braendle, Washington, D. C.

Clitopilus washingtoniensis Braend.

S. H. Burnham, Hudson Falls

<i>Acalpha virginica L.</i>	<i>Hygrophorus minutulus Pk.</i>
<i>Ascochyta menyanthis Oud.</i>	<i>Hypoxyton morsei B. & C.</i>
<i>Aster undulatus loriformis Burg.</i>	<i>Lepiota clypeolaria (Bull.) Fr.</i>
<i>Biatora coarctata (Sm.) Nyl.</i>	<i>L. rubrotincta Pk.</i>
<i>Boletus felleus Bull.</i>	<i>Massariella scoriadea (Fr.) Sacc.</i>
<i>Clitocybe candida Bres.</i>	<i>Oxybaphus floribundus Chois.</i>
<i>Clitopilus caespitosus Pk.</i>	<i>Pertusaria leioplaca (Ach.)</i>
<i>Collybia zonata Pk.</i>	<i>Placodium cerin. sideritis Tuck.</i>
<i>Cortinarius aureifolius Pk.</i>	<i>Pleurotus atropellitus Pk.</i>
<i>Cronartium ribicola F. de W.</i>	<i>P. ulmarius Fr</i>
<i>Cycloloma atriplicifolium (Spreng.)</i>	<i>Psilocybe camptopoda Pk.</i>
<i>Desmodium canescens (L.) DC.</i>	<i>Puccinia hieracii (Schum.) Mart.</i>
<i>Diplodia linderæ E. & E.</i>	<i>Sedum purpureum Tausch</i>
<i>Eupatorium purpureum L.</i>	<i>Septoria sedicola Pk.</i>
<i>Hedeoma hispida Pursh</i>	<i>S. violae West.</i>
<i>Heterothecium pezizoideum (Ach.)</i>	<i>Tricholoma terreum Schaeff.</i>
<i>Hordeum jubatum L.</i>	<i>Triosteum perfoliatum L.</i>
	<i>Veronica anagallis-aquatica L.</i>

H. P. Burt, New Bedford, Mass.

Collybia maculata (A. & S.) Fr. *Stropharia semiglobata Batsch*

G. H. Chadwick, Canton

Vicia villosa Roth.

S. Davis, Boston, Mass.

Boletus chrysen. sphagnorum <i>Pk.</i>	Hebeloma discomorbidum <i>Pk.</i>
Clavaria fusiformis <i>Sow.</i>	H. parvifructum <i>Pk.</i>
C. grandis <i>Pk.</i>	Hygrophorus coloratus <i>Pk.</i>
C. pallescens <i>Pk.</i>	H. hypothejus <i>Fr.</i>
C. platyclada <i>Pk.</i>	Inocybe flocculosa (<i>Berk.</i>)
Clitocybe centralis <i>Pk.</i>	I. geophylla (<i>Sow.</i>) <i>Fr.</i>
C. compressipes <i>Pk.</i>	I. umboninota <i>Pk.</i>
C. maculata <i>Pk.</i>	Leptonia longistriata <i>Pk.</i>
Discina leucoxantha <i>Bres.</i>	L. strictipes <i>Pk.</i>
Entoloma cyaneum <i>Pk.</i>	Microglossum rufum (<i>Schw.</i>)
Geoglossum difforme <i>Fr.</i>	Naucoria myosotis <i>Fr.</i>
G. glabrum <i>Pers.</i>	Nolanea delicatulus <i>Pk.</i>
Gomphidius gracilis <i>Berk.</i>	Pholiota autumnalis <i>Pk.</i>
G. vinicolor <i>Pk.</i>	Tricholoma ustale <i>Fr.</i>

B. O. Dodge, Madison, Wis.

Boletus elbensis <i>Pk.</i>	Lycoperdon cepiforme (<i>Wallr.</i>) <i>Bon.</i>
Collybia lacunosa <i>Pk.</i>	Marasmius minutus <i>Pk.</i>
Discina orbicularis <i>Pk.</i>	Polyporus guttulatus <i>Pk.</i>
Lactarius zonarius (<i>Bull.</i>) <i>Fr.</i>	P. lentus <i>Berk.</i>
	Steccherinum adustulum <i>Banker</i>

J. Dunbar, Rochester

Aster schreberi <i>Nees</i>	Sporobolus cryptandrus (<i>Torr.</i>) <i>Gray</i>
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J. Dearness, London, Can.

Cladosporium triostei <i>Pk.</i>	Lachnella fraxinicola (<i>B. & Br.</i>)
Discosia artocreas (<i>Tode</i>) <i>Fr.</i>	Lophiostoma triseptatum <i>Pk.</i>
Hypoxylon perforatum (<i>Schw.</i>)	Ombrophila thujina <i>Pk.</i>
	Pezicula acericola <i>Pk.</i>

C. E. Fairman, Lyndonville

Aleurodiscus oakesii (<i>B. & C.</i>) <i>Cke.</i>	Polyporus adustus (<i>Willd.</i>) <i>Fr.</i>
Cytospora microspora (<i>Cd.</i>) <i>Rabenh.</i>	P. adus. carpineus <i>Sow.</i>
Dinemasporium acerinum <i>Pk.</i>	P. resinus (<i>Schrad.</i>)
Glocosporium caryae <i>E. & D.</i>	Poria aurea <i>Pk.</i>
Hymenula olivacea <i>Pk.</i>	Rhodospora physostegiae <i>Pk.</i>
Naemospora croceola <i>Sacc.</i>	Sphaeronema acerinum <i>Pk.</i>
Peziza griseo-rosea <i>Ger.</i>	Sphaeropsis smil. latispora <i>Pk.</i>
Plasmodiophora elaeagni <i>Schroet.</i>	Stereum complicatum <i>Fr.</i>

W. G. Farlow, Cambridge, Mass.

Polyporus sulphureus semialbinus <i>Pk.</i>

G. C. Fisher, DeFuniak Spa., Fla.

Agaricus floridanus <i>Pk.</i>

M. J. French, Utica

<i>Boletus parasiticus</i> Bull.	<i>Lentinus lepideus</i> Fr.
<i>Hygrophorus chlorophanus</i> Fr.	<i>Stropharia bilamellata</i> Pk.
<i>Polyporus radicans</i> Schw.	<i>Thelephora willeyi</i> Clinton

H. Garman, Lexington, Ky.

Macrophoma suspecta Pk.

A. O. Garrett, Salt Lake City, Utah

<i>Discula runcinata</i> E. & E.	<i>Lophodermium pinastri</i> (Schrad.)
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N. M. Glatfelter, St Louis, Mo.

<i>Helvella macropus brevis</i> Pk.	<i>Psathyra umbonata</i> Pk.
<i>Panaecolus retirugis</i> Fr.	<i>Russula eccentrica</i> Pk.

G. S. Graves, Newport

Fuligo ovata (Schaeff.) Macbr.

S. J. Greenfield, Ilion

Clavaria coralloides L.

J. G. Grossenbacher, Geneva

Myxosporium carpini Pk.

C. C. Hanmer, East Hartford, Conn.

Lepiota densifolia Gill.

F. D. Heald, Austin, Tex.

Cercospora kaki E. & E.

G. T. Howell, Rockville, Ind.

<i>Merulius tremellosus</i> Schrad.	<i>Polyporus radicans</i> Schw.
<i>Nolanea howellii</i> Pk.	<i>Trichia scabra</i> Rost.

F. G. Howland, Saratoga Spa

Clitocybe dealbata sudorifica Pk.

M. E. Jones, Salt Lake City, Utah

<i>Accidium psoraleae</i> Pk.	<i>Puccinia clarkiae</i> Pk.
<i>Cystopus candidus</i> (Pers.) Lev.	P. <i>gayophyti</i> Billings
<i>Hyalospora polypodii</i> (DC.) Magn.	P. <i>gentianae</i> (Str.) Link.
<i>Melampsoropsis pyrolae</i> (DC.) Arth.	P. <i>jonesii</i> Pk.
<i>Phyllosticta arnicae</i> Fckl.	<i>Septoria lacustris</i> S. & T.
<i>Puccinia aberrans</i> Pk.	<i>Thecaphora deformans</i> D. & M.
P. <i>asteris</i> Duby.	<i>Uredo bigelowii</i> Thuem.
P. <i>balsamorhizae</i> Pk.	<i>Uromyces astragali</i> (Opiz) Sacc.
P. <i>circaeae</i> Pers.	U. <i>borealis</i> Pk.

C. H. Kauffman, Ann Arbor, Mich.
Pilocratera abnormis *Pk.*

F. D. Kern, Lafayette, Ind.
Septoria angustissima *Pk.*

L. C. C. Krieger, Cambridge, Mass.
Boletinus castanellus *Pk.*

W. T. Lakin, Cumberland, Md.
Boletus caespitosus *Pk.* Boletus subtomentosus *L.*

H. Lansing, Albany
Agaricus placonomyces *Pk.*

R. Latham, Orient Point

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| Apocynum cannabin. pubescens (<i>R. Br.</i>) | Parmelia saxatilis sulcata <i>Nyl.</i> |
| Asclepias syriaca <i>L.</i> | Paspalum circulare <i>Nash</i> |
| Buellia myriocarpa (<i>DC.</i>) <i>Mudd</i> | P. setaceum <i>Mx.</i> |
| Calvatia craniiformis (<i>Schw.</i>) <i>Morg.</i> | Phaeangella deformata (<i>Pk.</i>) |
| Camelina sativa (<i>L.</i>) <i>Crantz</i> | Physcia granulifera (<i>Ach.</i>) <i>Tuck.</i> |
| Cardamine parviflora <i>L.</i> | P. hispida (<i>Schreb.</i>) <i>Tuck.</i> |
| Carex canescens disjuncta <i>Fernald</i> | P. stellaris (<i>L.</i>) <i>Tuck.</i> |
| Carya alba (<i>L.</i>) <i>Koch</i> | Physma luridum (<i>Mont.</i>) <i>Tuck.</i> |
| Cinna latifolia (<i>Trev.</i>) <i>Griseb.</i> | Picris hieracioides <i>L.</i> |
| Cladonia boryi <i>Tuck.</i> | Placodium cerinum (<i>Hoffm.</i>) <i>N. & H.</i> |
| Climacium kindbergii (<i>R. & C.</i>) <i>Grout</i> | P. ferrug. discolor <i>Willey</i> |
| Coronilla varia <i>L.</i> | Plantago elongata <i>Pursh</i> |
| Crepis setosa <i>Hall. f.</i> | Pleospora herbarum (<i>Pers.</i>) <i>Rabenh.</i> |
| Cyperus grayi <i>Torr.</i> | Polygonum prolificum (<i>Small</i>) |
| Erechtites hieracifolia (<i>L.</i>) <i>Raf.</i> | Polyporus giganteus (<i>Pers.</i>) <i>Fr.</i> |
| Fomes annosus <i>Fr.</i> | Poria subacida vesiculosa (<i>B. & C.</i>) |
| Gerardia maritima <i>Raf.</i> | Ramalina calicaris fraxinea <i>Fr.</i> |
| G. purpurea <i>L.</i> | R. rigida (<i>Pers.</i>) <i>Tuck.</i> |
| Glonium parvulum (<i>Ger.</i>) <i>Sacc.</i> | Sabatia stellaris <i>Pursh</i> |
| Gymnosporangium macropus <i>Link</i> | Sagina decumbens (<i>Ell.</i>) <i>T. & G.</i> |
| Herpotrichia diffusa (<i>Fckl.</i>) <i>E. & E.</i> | Salix purpurea <i>L.</i> |
| Hysterium pulicare <i>Pers.</i> | Scirpus olneyi <i>Gray.</i> |
| Juncus bufonius <i>L.</i> | Scleroderma flavidum <i>E. & E.</i> |
| Lecanidium indigoticum (<i>C. & P.</i>) | Smilacina racemosa (<i>L.</i>) <i>Desf.</i> |
| Lecanora varia saepicola <i>Fr.</i> | Spartina patens juncea (<i>Mx.</i>) |
| Lechea racemulosa <i>Mx.</i> | Spergularia marina (<i>L.</i>) <i>Griseb.</i> |
| Lenzites betulina (<i>L.</i>) <i>Fr.</i> | Sporobolus cryptandrus (<i>Torr.</i>) |
| Liatris scariosa <i>Willd.</i> | Stipa avenacea <i>L.</i> |
| Osmorhiza claytoni (<i>Mx.</i>) <i>Clarke</i> | Teucrium canadense <i>L.</i> |
| Panicum agrostoides <i>Spreng.</i> | Theloschistes conc. effusus <i>Tuck.</i> |
| P. amarum <i>Ell.</i> | T. flavicans <i>Wallr.</i> |
| Parmelia borreri rudecta <i>Tuck.</i> | Trametes pini (<i>Brot.</i>) <i>Fr.</i> |
| P. borr. hypomela <i>Tuck.</i> | Trichostemma dichotomum <i>L.</i> |
| P. cetrata <i>Ach.</i> | Usnea trichodea <i>Ach.</i> |
| P. colopodes (<i>Ach.</i>) <i>Nyl.</i> | Viburnum dentatum <i>L.</i> |
| P. perforata (<i>Jacq.</i>) <i>Ach.</i> | V. venosum <i>Britton</i> |
| P. perfor. hypotropa <i>Nyl.</i> | Vicia angust. segetalis (<i>Thuill.</i>) |

C. E. Lewis, Orono, Me.

Phoma mali Schulz. & Sacc.

C. A. Mabie, Holley

Clitocybe multiceps tricholoma Pk. *Lepiota rhacodes* (Vitt.) Fr.
Flammula flavida Pers. *Pholiota squarrosa* Muell.
Hypholoma sublateritium Schaeff. *Pleurotus terrestris* Pk.
Polyporus radicans Schw.

A. H. Mackay, Halifax, Can.

Armillaria ventricosa Pk. *Clitocybe vilescens* Pk.
Helvella sulcata Afzel.

J. A. Maney, Geneva

Peridermium pyriforme Pk.

E. R. Memminger, Flat Rock, N. C.

Craterellus cornucopioides (L.) Pers.

G. E. Morris, Waltham, Mass.

Boletus parasiticus Bull. *Lepiota rubrotincta* Pk.
Pholiota autumnalis Pk.

M. V. Munger, Malone

Specimen of fruit of English walnut, *Juglans regia* L., with 3-valved shell
and 3-lobed seed.

J. B. S. Norton, College Park, Md.

Psathyrella disseminata (Pers.) Fr.

J. F. Peck, Rexford Flats

Two connected trunks of *Ostrya virginiana* (Mill.) Koch

F. T. Pember, Granville

Alisma plantago-aquatica L. *Grindelia squarrosa* (Pursh) Dunal

L. H. Pennington, Syracuse

Fomes fraxineus (Bull.) Fr. *Poria floccosa* Fr.
Guepinia palmiceps Berk. P. *mutans* Pk.
Irpex mollis B. & C. P. *obducens* Pers.

D. Reddick, Ithaca

Lysurus borealis (Burt) C. G. Lloyd

L. D. Rhind, Gloversville

Peridermium pyriforme *Pk.*

W. H. Ropes, Salem, Mass.

Agaricus campester *L.*

Flammula pulchrifolia *Pk.*

Cortinarius intrusus *Pk.*

Ornithogalum nutans *L.*

L. L. Shaff, Hannibal

Hypericum prolificum *L.*

P. Spaulding, Washington, D. C.

Cryptosphaeria populina (*Pers.*)

Cryptosporium macrospermum *Pk.*

F. C. Stewart, Geneva

Fusarium roseum *Link*

Phoma simillima *Pk.*

Gymnosporangium globosum *Farl.*

P. stictica *B. & Br.*

Hordeum trifurcatum *Jacq.*

Phyllosticta betae *Oud.*

Myxosporium castan. quercus *Pk.*

Stereum complicatum *Fr.*

Thlaspi perfoliatum *L.*

W. G. Stover, Columbus, Ohio

Marasmius delectans *Morg.*

Pleurotus corticatus *Fr.*

D. R. Sumstine, Pittsburg, Pa.

Hebeloma flexuosipes *Pk.*

K. F. Symonds, Utica.

Panus torulosus *Fr.*

Stropharia bilamellata *Pk.*

R. Thaxter, Cambridge, Mass.

Chaetomium indicum *Cd.*

C. Thom, Storrs, Conn.

Boletus subluteus *Pk.*

J. A. Thompson, Rochester

Roestelia aurantiaca *Pk.*

H. L. True, McConnelsville, Ohio

Gyromitra brunnea *Underw.*

L. Tucker & Son, Albany

Vermicularia beneficiens *Pk.*

D. B. Van Buren, Albany

Cladosporium paeoniae Pass. *Roestelia aurantiaca* Pk.

J. M. Van Hook, Bloomington, Ind.

Sporotrichum chryseum Pk. *Stropharia thrausta* Kalchb.

H. L. Wells, New Haven, Conn.

Boletus gertrudiae Pk. *Pholiota dura* Bolt.

H. H. Whetzel, Ithaca

Phoma simillima Pk.

T. E. Wilcox, Washington, D. C.

Boletus bicolor Pk. *Boletus gracilis* Pk.
Melanogaster durissimus Cke.

C. L. Williams, Glens Falls

Fusicladium dendriticum (Wallr.) *Polypodium vulgare* L.

D. B. Young, Albany

Cytospora salicis (Cd.) Rabenh. *Eurotium subgriseum* Pk.
Phoma piceina Pk.

SPECIES NOT BEFORE REPORTED

Amanita bisporigera Atk.

Ithaca. G. F. Atkinson. Collected by C. H. Kauffman. This appears like a dwarf white form of *A. phalloides* Fr.

Amanita floccocephala Atk.

Ithaca. G. F. Atkinson.

Amanita velatipes Atk.

Cortland. July. G. F. Atkinson.

Ascochyta menyanthis Oud.

Living leaves of buckbean, *Menyanthes trifoliata* L.
Near Clemons, Washington co. August. S. H. Burnham.

Aulographum ledi n. sp.

Spots orbicular, grayish white, surrounded by a brown or purplish brown border; perithecia epiphyllous, few on a spot, elliptic

or oblong, often substellately lobed by confluence, erumpent, black, context whitish; asci obovate or subglobose; spores ovate or oblong, continuous, at length uniseptate, hyaline, 12-15 μ long, 6-8 μ thick.

Upper surface of leaves of Labrador tea, *Ledum groenlandicum* Oeder. Fine, St Lawrence co. August.

Remarkable and very distinct by its subglobose asci.

Maculae orbiculares, griseo-albidae, margine brunneo vel purpureo-brunneo circumdatae; perithecia epiphylla, pauca, elliptica oblongave, saepe confluentia et substellatim lobata, erumpentia, atra, contexta albida; asci obovati subglobose; spores ovatae oblongave, continuae, demum uniseptatae, hyalinae, 12-15 x 6-8 μ .

Biatora coarctata (Sm.) Nyl.

On nodules in drifting sand. Karner, Albany co. November. S. H. Burnham.

Calvatia craniiformis (Schw.) Morg.

Ground. Orient Point, Suffolk co. November. R. Latham.

Camelina microcarpa Andrz.

Grain fields. Bergen, Genesee co. June. This plant was erroneously reported as *Camelina sativa* (L.) Crantz. Specimens of the true *C. sativa* with broader seed vessels have been collected in oat fields near Orient Point by R. Latham and contributed by him to the herbarium.

Cercospora phlogina n. sp.

Spots orbicular or nearly so, .5-1 cm broad, sometimes confluent, blackish brown, usually with a small grayish center on the upper surface; hyphae epiphyllous, densely tufted, flexuous or irregular, 30-40 μ long, commonly aseptate, slightly colored; spores oblong or slightly narrowed toward the apex, 2-4-septate, 35-60 μ long, 3-4 μ thick.

Leaves of cultivated phlox. Floral Park, Nassau co. June. F. C. Stewart.

This species is related to *C. omphacodes* E. & H., but it differs in the characters of the spots, the position of the fungus and the thicker spores with fewer septa.

Maculae suborbiculars, .5-1 cm latae, aliquando confluentes, fuscoatrae, in centro supra griseae; hyphae epiphyllae, dense caes-

pitosae, flexuosae vel irregulares, 30-40 μ longae, vulgo aseptatae, leviter coloratae; sporae oblongae vel ad apicem attenuatae, 2-4-septatae, 35-60 x 3-4 μ .

Cladosporium paeoniae Pass.

Living leaves of paeonia. Batavia. August. D. B. VanBuren. Collected by Alice G. Fisher. The fungus forms large brown spots on the leaves. It sometimes occupies the entire leaf and kills it

Climacium kindbergii (R. & C.) Grout

Roots of trees in swampy places. Orient Point. December R. Latham.

Clitocybe bififormis n. sp.

Plate VI, figures 9-15

Pileus fleshy, thin, firm, broadly convex or nearly plane, becoming centrally depressed, subumbilicate or broadly infundibuliform, glabrous, even or slightly striate on the margin, pale buff, sometimes more brightly colored in the center, flesh white or whitish, margin at first involute; lamellae thin, close, narrow, decurrent, whitish, becoming pallid or subcinnamon with age or in drying; stem equal or nearly so, firm, solid or stuffed, often curved, sometimes eccentric, tomentose at the base, colored like the pileus; spores subglobose or broadly elliptic, 5-6 μ long, 4-5 μ broad.

Pileus 2.5-7.5 cm broad; stem 2.5-3.5 cm long, 4-8 mm thick.

In mixed woods. Growing in arcs of circles. North Elba. Essex co. September.

When young the pileus is convex, when old it is centrally depressed or sometimes broadly infundibuliform. This change of shape has suggested the specific name. The change in the color of the lamellae is more remarkable. The species is closely allied to *Clitocybe gilva* (Pers.) Fr. from which it may be separated by the whitish color of the flesh and the peculiar change of color in the lamellae. This passes from whitish to fawn color or pale cinnamon. Its habit of growing in circles is also peculiar. The mycelium binds together a mass of dirt and decaying vegetable matter. These adhere closely to the base of the stem when the mushroom is pulled from its place of growth, and make the stem appear as if bulbous.

Pileus carneus, tenuis, firmus, late convexus vel subplanus. deinde centro depressus, subumbilicatus vel late infundibuliformis.

glaber, margine levis vel striatulus, pallide luteolus, in centro aliquando luteus, carne alba albidave; lamellae tenues, confertae, angustae, decurrentes, in senectute siccitateve pallide cinnamomeae; stipes subaequalis, firmus, solidus, farctusve, aliquando curvus vel eccentricus, basi tomentosus, in colore pileo similis; spora subglobosae vel late ellipsoideae, $5-6 \times 4-5 \mu$.

Clitocybe maxima G. & M.

Catskill mountains. September. Mrs F. C. Sherman. North Elba. C. H. Peck. This is a large and rare species, appearing as if it might be a luxuriant development of *Clitocybe infundibuliformis* (Schaeff.) Fr.

Cortinarius croceofolius n. sp.

Plate VI, figures 1-8

Pileus fleshy, thin, broadly convex or nearly plane, obtuse or obtusely umbonate, dry, slightly fibrillose specially on the margin, brownish cinnamon, often paler or saffron yellow on the margin, flesh pale yellow, grayish or dingy when dry; lamellae thin, close, saffron yellow verging to orange, then brownish cinnamon, often yellow crenulate on the margin; stem equal or slightly thickened at the base, fibrillose above, saffron yellow, hollow, veil similarly colored; spores broadly ellipsoid, $6-7 \mu$ long, $4-5 \mu$ broad.

Pileus 2.5-5 cm broad; stem 2.5-4 cm long, 4-6 mm thick.

Mossy ground in or on the borders of woods of spruce and balsam fir trees. North Elba. September.

This species belongs to the section *Dermocybe* and is closely related to *Cortinarius cinnamomeus* (L.) Fr. and *C. semisanguineus* (Fr.) Kauffm. but in the color of the lamellae it is intermediate between them and from both it is readily separated by its smaller spores. From *C. croceocolor* Kauffm., of which I have seen no specimens, it may be separated by the darker color of the pileus and the different colors of the lamellae.

Pileus carneus, tenuis, late convexus vel subplanus, obtusus vel obtuse umbonatus, siccus, leviter fibrillosus, fusco-cinnamomeus, saepe margine pallidior vel croceus, carne flava, in siccitate grisea; lamellae tenues, confertae, croceae aurantiacaeve, demum fusco-cinnamomeae, saepe acie flavo-crenulatae; stipes aequalis vel leviter basi incrassatus, supra fibrillosus, cavus, croceus, velo croceo; spora late ellipsoideae, $6-7 \times 4-5 \mu$.

Cortinarius glaucopus (Schaeff.) Fr.

Woods. North Elba. September.

Cortinarius napus Fr.

Pittsford, Monroe co. September. F. S. Boughton.

Cortinarius triumphans Fr.

In groves of young deciduous trees. New Lebanon, Columbia co. September. The pileus in our specimens was viscid but glabrous.

Crataegus aristata n. sp. Sarg.

(Pruinosae)

Glabrous with the exception of the hairs on the young leaves and calyx-lobes. Leaves ovate to oval, long-pointed and acuminate at the apex, cuneate at the entire base, finely often doubly serrate above, with straight glandular teeth and slightly divided into 4 or 5 pairs of small acuminate lobes; more than half-grown when the flowers open early in June and then yellow green, smooth and furnished with a few hairs on the midribs above, and pale below, and at maturity thick, bluish green, paler on the lower surface than on the upper surface, 4.5-6 cm long and 3-5 cm wide, with thin midribs and primary veins; petioles slender, narrowly wing-margined at the apex, slightly hairy on the upper side early in the season, soon becoming glabrous, 1-1.2 cm in length; leaves on vigorous shoots broadly ovate to slightly obovate, rounded or cuneate at the base, more coarsely serrate, conspicuously lobed, and often 7-8 cm long and 5.5-6 cm wide, with stout rose-colored midribs and petioles. Flowers 1.8-2 cm in diameter, on long slender pedicels, in 6-15-flowered corymbs, the lower peduncles from the axils of upper leaves; calyx-tube narrowly obconic, the lobes gradually contracted from the base, short, broad, acuminate, glandular-serrate near the middle, slightly hairy on the inner surface, reflexed after anthesis; stamens 20; filaments persistent on the fruit; anthers pink; styles 3 or 4. Fruit ripening early in October, on long slender drooping pedicels, in few-fruited clusters, subglobose, slightly 5-angled, pruinose, bright red, marked by occasional pale dots, about 1 cm in diameter; calyx prominent with a long tube, a deep broad cavity wide and tomentose in the bottom, and spreading and reflexed lobes; flesh thick, yellow, dry and mealy; nutlets 3-5, narrowed and rounded at the apex, broader

and rounded at the base, 5.5-6 mm long and 4-4.5 mm wide, the narrow hypostyle extending to below the middle of the nutlet.

A shrub 3-4 m high, with numerous wide spreading branches and slender zigzag branchlets dark orange green and marked by pale lenticels when they first appear, becoming pale orange brown in their first season and light brown the following year, and armed with numerous stout straight or slightly curved purple spines 3.5-4.5 cm long.

Roadsides near Rossie, St Lawrence co. C. H. Peck (~~№~~ 12 Re), June 12 and September 29, 1909.

Crataegus brainerdi Sarg.

Rocky places. Rossie. June. The plant reported under this name in Bulletin 75, page 12, was later decided by Professor Sargent to be a distinct species and was described and reported under the name *Crataegus mellita* Sarg.

Crataegus longipedunculata Sarg.

Near Canandaigua. June and October. Miss E. C. Webster.

Crataegus nemorosa n. sp. Sarg.

(Medioximae)

Glabrous. Leaves ovate, acuminate, rounded or abruptly cuneate at the base, sharply often doubly serrate with straight glandular teeth and deeply divided into 3 or 4 pairs of slender acuminate lobes usually pointing toward the apex of the leaf; about one-half grown when the flowers open at the end of May or early in June and then very thin and yellow green, and at maturity thin, blue green and lustrous on the upper surface, pale on the lower surface, 4.5-5 cm long and 3-3.5 cm wide, with thin midribs and primary veins, turning deep vinous red in the autumn on the upper side and remaining pale below; petioles slender, slightly wing-margined at the apex, glandular, with minute persistent glands, 1.5-2 cm in length; leaves on vigorous shoots broadly ovate, acute, long-pointed at the apex, rounded or truncate at the entire base, coarsely serrate, deeply lobed and often 8-9 cm long and broad. Flowers 1.5-1.8 cm in diameter, on long slender pedicels, in small 5-8-flowered corymbs, the lower peduncles from the axils of upper leaves; calyx-tube broadly obconic, the lobes gradually narrowed from a wide base, short, acuminate, entire or furnished near the

middle with 1 or 2 minute glandular teeth, reflexed after anthesis; stamens 5-10; anthers pink; styles 3 or 4. Fruit on slender drooping pedicels, in few-fruited clusters, short-oblong to obovate, crimson, slightly pruinose, marked by dark dots, about 1 cm in diameter; calyx little enlarged, with a wide shallow cavity pointed in the bottom and spreading and appressed persistent lobes; flesh thin, dry and hard, green tinged with red; nutlets 2-4, broad and rounded at the apex, acute at the base, rounded and only slightly ridged on the back, 5.5-6 mm long and 3-3.5 mm wide.

A shrub 2-3 m high, with small stems covered with dark gray bark and numerous ascending and spreading branches, and slender slightly zigzag branchlets dark orange green and marked by pale lenticels when they first appear, becoming bright chestnut brown and lustrous in their first season and dark reddish brown the following year, and armed with numerous slender straight chestnut brown spines 3.5-6 cm long.

Hillsides near Painted Post, Steuben co., G. D. Cornell (* 119 type), September 22, 1907, May 26, 1908; C. H. Peck, June 2 and September 21, 1909; G. D. Cornell (* 119 A with 6-10 stamens and larger short-oblong fruit a little if at all narrowed at the base), Painted Post, September 22, 1907, May 28, 1908.

Crepis setosa Hall. f.

Orient Point. September. R. Latham.

Cryptosporium macrospermum n. sp.

Heaps scattered, at first covered by the epidermis, then erumpent through orbicular or elliptic apertures, about 1 mm broad, black, sometimes capped by a whitish or greenish white globule of spores, the spore mass enlarged and softened when moist; spores slender, fusiform, falcate or rarely sigmoid, generally subulate at one end, acute or subacute at the other, hyaline and often 2-6 nucleate, 60-80 μ long, 5-6 μ broad.

Dead bark of balsam fir, *Abies balsamea* (L.) Mill. Adirondack mountains, Franklin co. May. G. G. Atwood and P. Spaulding.

The fungus has so far developed only where the bark is dead and it is therefore uncertain that it causes the death of the bark and the wood beneath.

Acervuli sparsi, primus epidermide tecti, deinde per aperturas orbiculares ellipticasve erumpentes, 1 mm lati, nigri, aliquando

sporarum globulum albidum exudantes; sporae graciles, fusiformes, falcatae, rare sigmatoideae, vulgo apice subulatae, basi acutae sub-acutaeve, hyalinae, saepe 2-6-nucleatae, 60-90 x 5-6 μ .

Cycloloma atriplicifolium (Spreng.) Coult.

Waste places. Albany. September. S. H. Burnham.

Cytospora microspora (Cd.) Rabeuth.

Dead branches of thorn bush. Medina, Orleans co. October. C. E. Fairman.

Diplodia linderiae E. & E.

Dead branches of spice bush, *Benzoin aestivale* (L.) Nees. Tripoli, Washington co. April. S. H. Burnham.

Eccilia mordax Atk.

Near Ithaca. July. G. F. Atkinson. Collected by C. O. Smith.

Eurotium subgriseum n. sp.

Perithecia minute, 100-125 μ in diameter, densely clustered, globose or subglobose, pale yellow; spores globose, greenish yellow in mass, 6-8 μ in diameter.

Dead wood and bark of sycamore branches, *Platanus occidentalis* L. Brooklyn. March. D. B. Young.

This is found growing with and among the conidial form, *Aspergillus subgriseus* Pk. Torrey Bot. Club Bul. 22: 210. The color of this mold varies from whitish to grayish or bluish gray. The fertile hyphae are erect, continuous, 100-125 μ long and 7-8 μ thick, terminating in a subglobose vesicle 30-40 μ in diameter, on which strings of globose hyaline spores or conidia are borne. These conidia are 3.5-4 μ broad. They are smaller than those of the *Aspergillus glaucus* (L.) Link, the conidial form of *Eurotium herbariorum* (Wigg.) Link. The branches were collected in Brooklyn by J. J. Levison, May 12, 1909 but were kept in a moist atmosphere under cover for several months and the fungus probably developed during this time.

Perithecia minuta, 100-125 μ in diam., dense caespitosa, globosa subglobosave, flava; sporae globosae, flavido-virides, 6-8 μ in diam.

Gloeosporium caryae E. & D.

Leaves of hickory. Lyndonville, Orleans co. October. C. E. Fairman.

Gloeosporium divergens n. sp.

Spots large, irregular, commonly occupying the lobes and margin of the leaves, definite, pale brown, either with or without a slight inconspicuous reddish brown margin on the upper surface; heaps mostly hypophyllous, rarely epiphyllous and then chiefly along the veinlets, 120-160 μ broad, darker colored than the spots; spores narrowly elliptic or oblong, often 2-nucleate, hyaline, 10-15 μ long, 4-6 μ broad.

Living leaves of white oak, *Quercus alba* L. Menands, Albany co. July.

Maculae magnae, irregulares, foliorum lobas marginemque occupantes, definitae, pallide brunneae, interdum supra margine angusto inconspicuo, rufescento-brunneo; acervuli vulgo hypophylli, rare epiphylli et tunc ad venulas, 120-160 μ lati, maculis brunniore; sporae anguste ellipsoideae oblongaeve, saepe 2-nucleatae, hyalinae, 10-15 x 4-6 μ .

Grindelia squarrosa (Pursh) Dunal

Dry pastures on hillsides. Granville, Washington co. September. F. T. Pember. A showy introduced plant.

Mr Pember remarks concerning it, "I can only suggest that it may have been introduced in western grass seed. It is scattered about over two acres, and in some places constitutes nearly all the vegetation. There must be several thousand plants of it."

Helianthus petiolaris Nutt.

In a lawn. Rochester. July. M. S. Baxter. Introduced from the West. Determined by Dr P. A. Rydberg. Possibly not permanently established.

Heterothecium pezizoideum (Ach.) Flot.

Spruce bark. Black mountain, Washington co. August. S. H. Burnham.

Hygrophorus caprinus (Scop.) Fr.

Near Ithaca. November. G. F. Atkinson. Collected by C. H. Kauffman.

Hypericum prolificum L.

Hannibal, Oswego co. August. L. L. Shaff.

This is a large shrubby plant and it seems strange that it should so long have escaped detection in our State unless it is very local.

The station is on or near its northern limits. Mr Shaff writes that he first discovered the plant about 25 years ago. At that time and for 8 years after he kept sheep and the plant did not spread much. For 17 years he has kept no sheep and during this time it has spread over his pastures and now occupies about five acres.

Hypochnus tristis Karst.

On the base of young spruce trees. North Elba. September. The specimens are sterile and to this extent are doubtful. Professor E. A. Burt, specialist in this group of fungi, decides that it is probably this species.

Inocybe rimosoides n. sp.

Pileus thin, broadly campanulate or expanded, umbonate, glabrous, shining, substriate, radiately cracked, pale yellow; lamellae close, sinuate, adnexed or nearly free, pallid becoming brownish ferruginous; stem equal, glabrous, hollow, pallid; spores even, 8-10 μ long, 5-6 μ broad, cystidia none.

Pileus 2-3.5 cm broad; stem 2.5-4.5 cm long, 2-3 mm thick.

Grassy ground. Menands. August.

Related to *Inocybe rimososa* (Bull.) Fr. from which it may be distinguished by its paler and more acutely umbonate pileus, its hollow stem, smaller spores and the absence of cystidia.

Pileus tenuis, late campanulatus expansusve, umbonatus, glaber, nitidus, substriatus, radiate rimosus, luteolus; lamellae confertae sinuatae, adnexae vel subliberae, pallidae deinde brunneo-ferrugineae; stipes aequalis, glaber, fistulosus, pallidus; sporae leves, 8-10 x 5-6 μ cystidia nulla.

Lactarius boughtoni n. sp.

Plate VI, figures 1-7

Pileus fleshy, firm, becoming fragile with age, broadly convex nearly plane or centrally depressed, often deflexed on the margin, dark brownish red (walnut brown), flesh whitish, subconcolorous when moist, milk white very scanty or sometimes none, taste acrid; lamellae thin, close, adnate or slightly decurrent, whitish becoming pale buff or darker with age; stem firm, nearly equal, hollow, glabrous, colored like but often paler than the pileus, generally paler at the top than below and there slightly pruinose; spores subglobose, 8-9 μ long, 7-8 μ broad.

Pileus 5-10 cm broad; stem 4-10 cm long, 6-12 mm thick.

Ground in woods and in swamps. Old Forge, Herkimer co. August. F. S. Boughton. North Elba. September. C. H. Peck.

Closely allied to *Lactarius rufus* (Scop.) Fr. but separated by its paler lamellae, hollow stem, absence of an umbo and very scanty milk. The stem is often pointed at the base. Edible according to F. S. Boughton, who says it "entirely lost its acidity in cooking and was very fine in flavor." I have not tried it.

Pileus carneus, firmus, senectute fragilis, late convexus subplanus vel centro depressus, saepe margine deflexus, lateritius, carne albidus, lacte albo, parco vel nullo, sapore acris; lamellae tenues, confertae, adnatae vel subdecurrentes, albiae vel lutescentes; stipes firmus, subaequalis, cavus, glaber, pileo in colore similis vel pallidior; sporae subglobosae, 8-9 x 7-8 μ .

Lentinus piceinus n. sp.

Pileus thin, dimidiate, sessile or with a very short stem, broadly convex or nearly plane, glabrous, pale alutaceous; lamellae few, distant, unequal, serrate-dentate, pallid; stem when present very short; spores minute, subglobose, 4-5 μ in diameter.

Pileus 8-12 mm broad; stem about 2 mm long.

Bark of red spruce, *Picea rubra* (DuRoi) Dietr. Long Lake, Hamilton co. July.

A small and rare species. Found but once.

Pileus tenuis, dimidiatus, sessilis vel breviter stipitus, late convexus subplanusve, glaber, subalutaceus; stipes brevissimus; sporae minutae, subglobosae, 4-5 μ in diam.

Lychnis coronaria (L.) Desr.

Canandaigua. July. Mrs E. P. Gardner. An introduced plant cultivated for ornament but sometimes escaping from cultivation.

Machaeranthera pulverulenta (Nutt.) Greene

Cobbs hill near Rochester. July. Miss F. Beckwith. Introduced from the West. Determined by Dr P. A. Rydberg.

Macrosporium heteronemum pantophaeum Sacc.

In gardens on young decaying summer crookneck squashes. Menands. August.

Marasmius contrarius n. sp.

Pileus submembraneous, broadly convex or nearly plane, often slightly uneven, glabrous, whitish or white with a brown center becoming grayish or subalutaceous in drying; lamellae thin, subdistant, sometimes branched or irregular, adnate or slightly decurrent, whitish, the interspaces slightly venose; stem slender, solid, downy, grayish-tawny, with tawny tomentum at the base, white within; spores 7-9 μ long, 4-5 μ broad.

Pileus 4-10 mm broad; stem 2-3 cm long, 1-1.5 mm thick.

Gregarious. Damp mossy places under spruce and balsam fir trees to the fallen leaves of which the stem is commonly attached. North Elba. June.

The texture of both pileus and stem is tough. The brown center often disappears in drying. This, and the whitish color changing to pale tan in drying, are such an unusual occurrence as to suggest the specific name. Related to *M. ramulinus* Pk. but at once separated from it by its pileus changing color in drying, its longer solid stem being more downy and tawny with a distinctly tomentose base and by its habitat.

Pileus submembraneus, late convexus subplanusve, saepe subrugosus, glaber, albus albidusve in centro brunneus, in siccitate griseus vel subalutaceus; lamellae tenues, subdistantes, aliquando irregulares vel ramosae, adnatae vel leviter decurrentes, albidae, interstitiis venosis; stipes gracilis, solidus, pubescens, fulvo-griseus, basi fulvo-tomentosus, intra alba; sporae 7-9 x 4-5 μ .

Myxosporium carpini n. sp.

Heaps minute, greenish black, nestling in the bark, covered by the epidermis; spores oblong or elliptic oblong, exuding in pale yellow tendrils, binucleate, hyaline, 8-12 μ long, 3.5-4 μ broad.

On bark of water beech, *Carpinus caroliniana* Walt. Geneva. June. J. G. Grossenbacher.

Acervuli minuti, in cortice nidulantes, epidermide tecti, olivaceo-nigri; sporae oblongae vel oblongo-ellipsoideae, binucleatae, hyalinae, 8-12 x 3.5-4 μ , in cirrhis exudantes.

Naemospora croceola Sacc.

Oak bark. Lyndonville. October. C. E. Fairman.

Naucoria sororia Pk.

Growing on manure. McLean, Tompkins co. September. G. F. Atkinson. This species is doubtless often confused with

Naucoria suborbicularis (Bull.) Fr. from which it is separated by its farinaceous odor and taste, its fragile character, lacunose or pitted pileus and its stem striated at the top.

***Oidium asteris-punicei* n. sp.**

Amphigenous indeterminate, widely and thinly effused, whitish; fertile hyphae suberect, hyaline, septate, simple; spores terminal catenulate, ellipsoid or oblong, rounded or subtruncate at the ends, hyaline, 30-60 μ long, 15-20 μ broad.

Living or languishing leaves of red stemmed aster, *Aster puniceus* L. Letchworth Park, Wyoming co. September.

Related to *Oidium erysiphoides* Fr., but I find no rosy tinted tufts and the hyphae are nearly as broad as the spores. Perhaps it is the conidial stage of *Erysiphe cichoracearum* DC.

Amphigenum, indeterminatum, late et tenuiter effusum, albidum; hyphae fertiles suberectae, hyalinae, septatae, simplices; spores catenulatae, acrogenae, ellipsoideae oblongaevae, utrinque obtusae subtruncataevae, hyalinae, 30-60 x 15-20 μ .

***Oxybaphus floribundus* Chois.**

Waste places. Albany. September. S. H. Burnham. Introduced from the West but apparently well established.

***Pertusaria leioplaca* (Ach.) Schaer.**

Bark of hop hornbeam. *Ostrya virginiana* (Mill.) Koch. Helderberg mountains, Albany co. May. S. H. Burnham.

***Pholiota terrigena* Fr.**

Grassy ground. Utica. October. G. F. Atkinson. In drying, this mushroom is said to emit an odor similar to that of mice.

***Phoma piceina* n. sp.**

Perithecia few, scattered, prominent but minute, black; spores ellipsoid or oblong, hyaline, 8-12 μ long, 4-5 μ broad.

On leaves of red spruce *Picea rubra* (DuRoi) Dietr. Adirondack mountains near Lake Pleasant, Hamilton co. May. D. B. Young.

In these specimens the leaves have been injured by some insect which has caused a swelling at the base and may have been the primary cause of the death of the leaves.

Perithecia pauca, sparsa, prominentia, minuta, atra; sporae ellipsoideae oblongaeve, hyalinae, 8-12 x 4-5 μ .

Phoma simillima n. sp.

Perithecia densely gregarious, slightly prominent, at first covered by the epidermis, then erumpent, convex or depressed, minute, black; spores ellipsoid, hyaline, 8-12 long, 5-8 μ broad.

Dead bark of pear trees, *Pyrus communis* L. Ithaca. H. H. Whetzel. Rochester. April. F. C. Stewart.

This differs from *Cytospora piri* Fckl., which inhabits branches of pear trees, by its much smaller spores. The perithecia commonly burst through transverse apertures in the epidermis.

Perthecia dense gregaria, leviter prominentia, primus epidermide tecta, deinde erumpentia, convexa vel depressa, minuta, atra; sporae ellipsoidea, hyalinae, 8-12 x 5-8 μ .

Phoma stictica B. & Br.

On leaves of common box tree, *Buxus sempervirens* L. Geneva. January. F. C. Stewart. Collected by S. M. McMurrin. This *Phoma* is said to be the spermogonium of *Diaporthe retecta* (F. & N.) Sacc.

Phyllosticta betae Oud.

Living leaves of beet, *Beta vulgaris* L. Flint, Ontario co. August. F. C. Stewart.

Phyllosticta subtilis n. sp.

Spots suborbicular, .5-3 cm broad, sometimes confluent, indefinite, reddish brown; perithecia numerous, densely gregarious, hypophyllous, minute, 80-120 μ broad, blackish; spores minute, oblong, straight or curved, hyaline, 8-12 μ long, 1.5-2 μ broad.

Leaves of *Carya*. Painted Post. September.

This species departs from the ordinary character of the genus in its narrow spores.

Maculae suborbiculares, .5-3 cm latae, aliquando confluentes, indeterminatae, fuscae; perithecia numerosa, dense gregaria, hypophylla, minuta, 80-120 μ lata, nigra; sporae minutae, oblongae, rectae curvaevae, hyalinae, 8-12 x 1.5-2 μ .

Physcia hispida (Schreb.) Tuck.

On red cedar wood, *Juniperus virginiana* L. Orient Point. April. Sterile form. R. Latham.

Picris hieracioides L.

Orient Point. August and September. R. Latham. An introduced plant.

Pilocratera abnormis n. sp.

Cups scattered, stipitate, small, 1-4 mm broad, obconic or saucer-shaped, pale grayish, obscurely pubescent; stem 1-3 mm long, inserted or swollen at the base into a minute hairy bulb, colored and adorned like the cup; asci subcylindric, 160-200 μ long, 10-12 μ broad, spores oblong or subfusiform, straight or slightly curved, slightly narrowed toward each end, commonly containing a single large central nucleus, 25-40 μ long, 8-10 μ broad, paraphyses filiform.

Decorticated wood of yellow birch, *Betula lutea* Mx. Fine. August. Found also on decaying wood at Ishpeming, Michigan. August. C. H. Kauffman.

The minute pubescence is somewhat compacted into tufts on the margin but the tufts are not long enough to give a fimbriate or ciliate appearance to the margin.

Cupulae sparsae, stipitatae, parvae, 1-4 mm latae, obconicae vel acetabuliformes, pallido-griseae, minute pubescentes; stipes 1-3 mm longus, insititius vel basi bulbillosus, hirtus, cupulae in colore similis; asci subcylindranei, 160-200 x 10-12 μ ; sporae oblongae subfusiformesve, rectae vel leviter curvatae, utrinque leviter angustatae, vulgo uninucleatae, 25-40 x 8-10 μ , paraphyses filiformes.

Placidium ferrugineum discolor Willey

On bark of red cedar, *Juniperus virginiana* L. Orient Point. April. R. Latham.

Plasmodiophora elaeagni Schroeter

On roots of *Elaeagnus longipes* Gray. Lyndonville. November. C. E. Fairman.

Pleurotus approximans n. sp.

Pileus thin, tough, subgelatinous, dimidiate or subflabelliform or with a short stemlike base, at first involute on the margin and more or less strigulose hairy, specially toward the base, becoming pruinose or subglabrous with the thin even margin expanded or slightly recurved, pallid, grayish brown or smoky brown, 6-12 mm broad; lamellae narrow, close, tapering toward each end, converging to a

basal point, creamy yellow, minutely bristly on the edge and sides with the projecting hyaline pointed cystidia which are 60-80 μ long, 15-20 μ broad.

On decaying wood and bark, apparently of red maple, *Acer rubrum* L. Sylvan Beach, Oneida co. July.

This species is closely related to *Pleurotus spiculifer* Berk., a species founded on specimens collected on decaying wood on New Ireland island in the Pacific ocean, and described as having the pileus very glabrous membranous and pellucidly striate, characters not applicable to our specimens. For this reason we have considered our mushroom distinct, though in other respects the characters are very similar. Our specimens revive on the application of moisture and then the flesh is colored like the surface of the pileus and subgelatinous, .4-.5 mm thick. When dry it is white, slightly thinner, and appearing to have a thin upper gelatinous layer. The spores are not known in our specimens nor described in *P. spiculifer*.

Pileus tenuis, lentus, subgelatinous, dimidiatus aut subflabelliformis, sessilis vel substipitatus, primo margine involutus, hirtus praesertim ad basem, demum pruinosis vel subglaber, margine tenue expanso vel leviter recurvato pallidus, griseo-brunneus vel fumoso-brunneus, 6-12 mm latus; lamellae angustae, acie lateribusque cystidiis minute setulosus; cystidia hyalina lageniformia, 60-80 x 15-20 μ .

Ramalina rigida (Pers.) Tuck.

On red cedar, *Juniperus virginiana* L. Orient Point. December. R. Latham.

Rhabdospora physostegiae n. sp.

Perithecia caulicolous, scattered or seriate, erumpent, globose-depressed, black; spores filiform, hyaline, nearly or quite straight, 25-30 μ long, 1-1.5 μ broad.

Dead stems of *Physostegia virginiana* (L.) Benth. Lyndonville. May. C. E. Fairman.

Perithecia sparsa vel seriatim posita, erumpentia, globosa depressave, atra; spores filiformes, hyalinae, subrectae, 25-30 x 1-1.5 μ .

Sideranthus gracilis (Nutt.) Rydb.

In a lawn. Rochester. July. M. S. Baxter. Near the reservoir on Cobbs hill. Miss F. Beckwith. Introduced from the West and possibly not permanently established.

Sphaeropsis smilacis latispora n. var.

Dead branches of hispid greenbrier, *Smilax hispida* Muhl. Yates, Orleans co. March. C. E. Fairman.

This variety differs from the typical form in its broader spores. Spores 17-20 μ long, 11-13 μ broad. In the type they are 15-20 long, 6-8 μ broad.

Sporae 17-20 x 11-13 μ .

Sporotrichum grisellum Sacc.

Dead bark. Ithaca. G. F. Atkinson. Collected by C. O. Smith.

Theloschistes flavicans Wallr.

On red cedar, *Juniperus virginiana* L. Orient Point. April. R. Latham. This is a beautiful lichen but the specimens are sterile.

Thlaspi perfoliatum L.

Geneva. May. F. C. Stewart. A rare plant introduced from Europe.

Trichothecium subgriseum n. sp.

Hyphae thinly effused, covering the matrix with a very thin grayish buff subvelvety stratum, sparsely branched, septate, hyaline, 6-8 μ thick; spores obovate or oblong-elliptic, simple or obscurely uniseptate, hyaline, 16-24 μ long, 8-10 μ broad.

Decaying wood of yellow birch, *Betula lutea* Mx. and sugar maple, *Acer saccharum* Marsh. Fine. August.

Apparently related to *Trichothecium griseum* Speng. but differing in its branching hyphae and more narrow and often simple spores.

Hyphae tenuiter effusae, matricem strato tenue, griseo-luteolo subvelutino obducentes, sparse ramosae, septatae, hyalinae, 6-8 μ latae; sporae obovatae oblongae vel ellipsoideae, continuae vel obscure uniseptatae, hyalinae, 16-24 x 8-10 μ .

Triosteum perfoliatum L.

Glenmont, Albany co. June. S. H. Burnham. The specimens formerly attributed to this species are now referred to *Triosteum aurantiacum* Bickn. which is the more common species in the northern part of the State.

Usnea trichodea Ach.

Orient Point. December. R. Latham. The specimens are sterile.

Vermicularia beneficiens n. sp.

Perithecia thin, depressed, orbicular or ellipsoid, .3-.5 mm broad, densely gregarious, at first covered by the epidermis, then erumpent, black, adorned with numerous black setae, sometimes paler at the top, 80-240 μ long, 4-6 μ broad; spores cylindrical, straight or slightly curved, acute at one or both ends, sometimes pseudouniseptate, hyaline, 20-30 μ long, 4-4.5 μ broad; sporophores cylindrical or subclavate, obtuse, crowded, 12-15 μ long.

On living stems of live-forever, *Sedum purpureum* Tausch. Davenport, Delaware co. July. Luther Tucker & Son. Collected by W. Gillander.

The fungus attacks the stem at or near the base which soon turns brown both without and within and becomes hollow in the affected part. The leaves, being deprived of their necessary nourishment, gradually wither, fade and drop, beginning at the lower part of the stem and gradually advancing upward until the stem is nearly or wholly denuded and finally dies. The root also early becomes discolored and must necessarily cease to perform its natural functions.

The species is similar to *Vermicularia herbarum* West. and may possibly have been previously confused with it, since that species has been reported as occurring on *Sedum acre* L., *S. album* L., *S. maximum* Suter and *S. reflexum* L. Our plant, however, differs not only in its host plant, but also differs from the characters assigned to *V. herbarum* in having the perithecia larger and densely gregarious and in having the spores longer, acute at the ends, and often spuriously septate. It also appears to be specially distinct in its parasitic character. On this account it has been announced as a beneficial fungus because of its availability as a destructive agent in destroying a weed so tenacious of life as the live-forever. This character of the fungus has suggested the specific name here assigned to it.

Perithecia tenua, depressa, orbicularia vel ellipsoidea, .3-.5 mm lata, dense gregaria, circumambientia, primum epidermide tecta, deinde erumpentia, atra, setis numerosis, rigidis, erectis vel divergentibus, acutis, atris ornata, quae aliquando apice pallescentes, 80-240 x 4-6 μ ; sporae cylindratae, rectae vel leviter curvatae, vulgo utrinque acutae, aliquando pseudouniseptatae, hyalinae, 20-30 x 4-5 μ , basidia cylindrata subclavatae, obtusa, conferta, 12-15 μ longa.

Vermicularia pomicola n. sp.

Perithecia gregarious, hemispheric or subglobose, bristly with numerous subulate black erect or divergent setae, 120-280 μ long, 7-8 μ broad; spores straight or slightly curved, pointed at each end, 25-35 μ long, 4-5 μ broad.

On apples lying on the ground. New Lebanon. September.

Spores longer than in *Vermicularia pomona* Sacc. which occurs on apple tree leaves and is considered a variety of *V. trichella* Fr.

Perithecia gregaria, hemisphaerica subglobose, setis numerosis subulatis, atris, erectis divergentibusve ornata, 120-280 x 7-8 μ ; sporae rectae vel leviter curvae, utrinque acutae, 25-35 x 4-5 μ .

Verticillium agaricinum (Lk.) Cd.

On *Flammula squalida* Pk. Thompsons lake, Albany co. September. The parasite forms a thin whitish pruinosity on the surface of the deformed pileus. It occurs also on the pileus of *Tricholoma russula* (Schaeff.) Fr. at Pittsford, Monroe co. September. F. S. Boughton. The spores of the parasite are very variable, 6-12 μ long and 4-5 μ broad. The mycelium causes the pileus to become enlarged, irregular or deformed and the lamellae to become irregular and sometimes branched or even anastomosing and discolored. It is perhaps the conidial stage of some species of *Hyphomyces*.

Viburnum venosum Britton

Orient Point. July. R. Latham. The species is well named, the veins of the leaves being very prominent and conspicuous on the lower surface.

Vicia villosa Roth

Canton, St Lawrence co. June. G. H. Chadwick. Introduced and cultivated for fodder, but escaping from cultivation and manifesting a tendency to become naturalized. The flowers are commonly blue and resemble those of *Vicia cracca* L. but a white flowered form occurs.

REMARKS AND OBSERVATIONS

Aster laevis L.

A very noticeable form or possibly a variety of this species occurs on Pinnacle hill near Rochester. November. Miss F. Beckwith. It differs from the common forms in its late flowering and in its long narrow panicle the branches of which are suberect, 2.5-5 cm long.

Aster undulatus loriformis Burg.

West Fort Ann, Washington co. October. S. H. Burnham.

Boletinus paluster Pk.

This beautiful small species often grows on decaying wood and the mossy bases of trees. It has a white mycelium and pale yellow flesh. Wounds of the flesh often become red after long exposure. The flavor is tardily but sharply acrid.

Brassica arvensis (L.) Ktze.

A white flowered form occurs occasionally. Menands. July.

Cantharellus infundibuliformis nigricans n. var.

Pileus blackish; hymenium very decurrent, the decurrent part destitute of lamellae. Otherwise as in the common form with which it grows.

Among mosses in swamps. North Elba. September.

Pileus nigricans; hymenium valde decurrens, pars decurrens lamellis carens.

Ceratiomyxa fruticulosa (Muell.) Macbr.

Decaying wood. Edwards, St Lawrence co. June. A yellow form occurs growing with the common white form and sometimes confluent with it.

Clitocybe multiceps tricholoma n. var.

Flesh of the pileus rather thin, taste mild; lamellae rounded behind, slightly adnexed, otherwise like the type. Holley, Orleans co. September. C. A. Mabie.

This variety, by the attachment of the lamellae, connects the species with the genus *Tricholoma*, to which at first sight it is likely to be

referred. The naked margin of the pileus and its close agreement in general characters with *Clitocybe multiceps* Pk. lead me to refer it to this species. Like it, it is edible but scarcely first quality.

Pileus tenuior, sapor mitis; lamellae adnexae.

Clitocybe dealbata sudorifica n. var.

Pileus whitish, not shining, sudorific when eaten freely. Otherwise like the typical form. Grassy ground. Saratoga Springs. November. F. G. Howland.

Pileus albidus, non nitens; sudorificus.

Mr F. G. Howland recently reported to me that the white washed mushroom, *Clitocybe dealbata* Sow. when eaten freely caused profuse perspiration. I, with others, had eaten sparingly of this mushroom several years ago without experiencing any ill effects. At my request he kindly sent me a good supply of the fresh mushrooms that I might try them myself. Eight caps of average size were fried slightly in butter with a little milk and flour added. These were eaten at supper time. In texture and flavor no fault could be found with them. In about half an hour perspiration began to appear on my forehead, and gradually spread over the whole body. It lasted about five hours. It was unaccompanied by any pain or distress of any kind. There seemed to be a slight acceleration of the pulse, an unusual catarrhal discharge from the nostrils, a little stimulation of the salivary glands and an occasional hiccup. At the end of five hours the perspiration ceased, I fell asleep and slept till morning when I arose feeling as well as usual. This peculiar action of the mushroom suggested the thought that possibly I had erroneously referred our mushroom to *C. dealbata*; that it must be some other closely related species for no record of such effects had been attributed to the white washed mushroom by those writers who have published it as edible. A careful comparison of our specimens with the published descriptions of the white washed mushrooms revealed no well-marked characters by which to separate them. In the color of the cap alone does there appear to be any available mark of distinction. This, in the white washed mushroom, is described as white and rather shining, or as one writer expresses it, "exceedingly like ivory." In our plant it is better described as whitish, or dull white, not at all shining. So close is the morphologic relationship that it appears to me to be better to separate the mushroom under con-

sideration as a mere variety of the white washed mushroom and not as a distinct species. I would not class it as an edible mushroom but rather as a medicinal one. Its physiologic effects apparently separate it more decidedly than any of its external characters.

Clitocybe morbifera Pk., collected by F. J. Braendle near Washington, D. C., is a closely related species. Its name was suggested by the fact that those eating it had been made sick. In the dried state it is scarcely distinguishable from our sudorific mushroom in external appearance, but its stem is hollow. When fresh its pileus is tinged with grayish brown, but it becomes paler in drying. This has also been collected near Minneapolis, Minn., whence it was sent by Mrs M. E. Whetstone with an account of a case of short illness caused by it in one who ate freely of it for breakfast. Dr O. E. Fisher has sent specimens of it from Detroit, Mich., with an account of the sickness it produces and the accompanying symptoms. From these cases it appears that the ill effects of the sickening mushroom are much more serious and uncomfortable than those of the sudorific mushroom.

Cornus canadensis elongata n. f.

Stem elongated, bearing a pair of opposite leaves at each of three or four nearly equidistant nodes, or bearing a whorl of four leaves near the base and two or three pairs of opposite leaves above, instead of the usual peduncle and flower cluster. Cranberry marsh, Sand Lake, Rensselaer co. and Averyville marsh, North Elba. July and September. Sterile.

This peculiar form has the appearance of *Cornus suecica* L., the northern dwarf cornel, but its leaves have the venation of the common dwarf cornel. No flowering or fruiting specimens were seen.

Crataegus grayana Eggleston

This rare thorn bush occurs in a single clump on Crown Point west of the ruins of Fort Frederick. At Rossie it is represented by several clumps near the Laidlaw house and a single outlying clump about two miles south of the village.

Cronartium ribicola F. de W.

Leaves of red currant, *Ribes vulgare* Lam. West Fort Ann. October, 1909. S. H. Burnham. This is an interesting discovery of a new locality for this fungus of which the uredo

form is the white pine rust *Peridermium strobil Kleb.*, a pernicious pest destructive to young white pines. This station is far removed from the one originally discovered at Geneva. Fortunately it is apparently very scarce in this new locality. In neither instance was any white pine found to be affected by the rust. The question arises in each case. Whence came the spores that infected the currant leaves? Can the fungus perpetuate itself without the intervention of the white pine rust?

Daphne mezereum L.

This early spring flowering shrub is quite hardy and escaping from cultivation it becomes established in pastures and waste places. It is beautiful both in flower and in fruit. Fine specimens were contributed by Miss E. W. Mische and Mrs L. L. Goodrich. They were collected near Homer, Cortland co. and were so abundant on a hillside near the cemetery that they were cut with a scythe as if they were noxious weeds.

Euphorbia corollata L.

Sandy barrens near Bushnell's Basin and Perinton, Monroe co. July and August. M. S. Baxter. This rare plant is apparently limited to the western part of the State.

Fuligo ovata (Schaeff.) Macbr.

This is one of our largest slime molds and one of the most variable in external color. A specimen found near Newport, Herkimer co. by G. S. Graves was 25 cm long, 20 cm broad and about 6 cm thick.

Glonium parvulum (Ger.) Sacc.

Decorticated wood. Orient Point. January. R. Latham. Rare.

Herpotrichia diffusa (Schw.) Ellis

In Sylloge this species stands under the name *Herpotrichia rhodomphala* (Berk.) Sacc. Under this name it was recorded in the Annual Report of the State Botanist for 1889, page 34. Specimens found at Orient Point in March by R. Latham have some of the perithecia wholly red, others partly so. They were growing on decaying wood of locust, *Robinia pseudacacia* L.

Hordeum trifurcatum Jacq.

Cultivated specimens from Medina were contributed by F. C. Stewart. It is cultivated under the name of beardless barley and is said to be very productive. It sometimes springs up spontaneously. Such specimens were erroneously reported under the name *Hordeum hexastichon* L.

Hydrastis canadensis L.

This valuable medicinal plant has become exceedingly rare in our State. It is therefore very gratifying to know that it still exists in Cayuga co., whence fruiting specimens were sent by E. L. Bradley.

Lecanora varia saepicola Fr.

On fence rails. Orient Point. April. R. Latham.

Lepidium draba L.

Waste ground in Syracuse near Onondaga creek. June. Mrs L. L. Goodrich. Collected by Miss Belle Douglass. This introduced plant was found many years ago near Astoria, Queens co. by Prof. D. C. Eaton, but that station for it has since been reported as destroyed.

Mycogone cervina subincarnata Pk.

In State Museum Report 32, page 44 this fungus was reported as a *Sepedonium*. It should be referred to the genus *Mycogone* and is a mere variety of *Mycogone cervina* Ditm. differing only in its smaller spores and more pinkish color. Its habitat is the same as that of the typical form. The spores are 20-28 μ long, 12-20 μ broad in the widest part. The upper cell is globose, verrucose, and much larger than the smooth lower cell.

Sporae subincarnatae, 20-28 x 12-20 μ .

Myxosporium castaneum quercus n. var.

Heaps slightly prominent, orbicular or oblong, erumpent through transverse chinks of the epidermis. Otherwise like the type.

Branches of chestnut oak, *Quercus prinus* L. Riverhead, Suffolk co. October. F. C. Stewart.

Acervuli minuti, orbiculares oblongive, per rimulas transversas in epidermide erumpentes.

Oidium destruens Pk.

This destructive parasitic fungus begins its work early in the season. Young leaves of the shad bush *Amelanchier oblongifolia* (T. & G.) Roem. were found near Albany affected by it the last week in April.

Parmelia borrieri hypomela Tuck.

Bark of red cedar, *Juniperus virginiana* L. Orient Point. April. R. Latham.

Parmelia perforata hypotropa Nyl.

Bark of red cedar, *Juniperus virginiana* L. Orient Point. April. R. Latham.

Peronospora ficariae Tul.

Living leaves of buttercup, *Ranunculus acris* L. Meadows. May.

Plantago media L.

Near Canandaigua. August. Miss E. C. Webster. This introduced plantain is rare. Its spikes resemble those of the English plantain but it is easily distinguished from that species by the broad, hoary pubescent leaves.

Polypodium vulgare L.

A singular small sterile fern which, on account of its venation has been referred to this species, was collected near Lake George and specimens were contributed by C. L. Williams and Mrs S. W. Russell.

The fronds are 5-12 cm long, 1-2 cm broad, sinuate lobed or irregularly pinnatifid, the lobes being broad, obtuse and unequal.

Ramalina calicaris fraxinea Fr.

Orient Point. November. R. Latham.

Roestelia aurantiaca Pk.

The orange colored rust occurs on various species of shad bush, *Amelanchier*, and of thorn bushes and trees, *Crataegus*. Also on quince trees. It attacks the leaves, fruit and sometimes the twigs. Its alternate form is *Gymnosporangium clavipes*

C. & P. which lives on red cedar, *Juniperus virginiana* L. and the common juniper, *J. communis depressa* Pursh. The spores of the Gymnosporangium are produced in spring and serve to infect species of shad bushes, thorn bushes and quince bushes or trees, but instead of reproducing the Gymnosporangium in them, they develop into the orange rust or *Roestelia*, whose spores are carried back to the red cedar or common juniper and produce in them the Gymnosporangium. The *Roestelia* frequently causes great loss to quince growers by attacking the young quinces and rendering them worthless. Fine specimens of it were contributed by Messrs J. A. Thomson, D. B. VanBuren, and G. G. Atwood. Quince fruits from 1-1.5 inches in diameter were practically covered by the cups of the fungus filled with their orange colored spores. In some cases even the twigs bearing the fruit had been invaded and were swollen by the fungus. This rust appears to have been unusually abundant the past season, in the western part of the State. Mr D. B. Van Buren found quince orchards there badly infested by it, even in localities where no red cedar trees were known to exist within many miles. This would indicate that the orange rust has some way of reproducing itself without the intervention of the red cedar or that some unnoticed juniper trees may exist in the vicinity of these orchards and furnish the Gymnosporangium spores. Experiments should be made by which the fact can be ascertained if the orange rust can reproduce itself in the quince either the same or the following year. Also if the mycelium may live in the twigs during the winter and renew the development of the rust in the leaves and fruit developing from the infested twigs.

Sagina decumbens (Ell.) T. & G.

Orient Point. June. R. Latham. This is a rare and delicate little plant.

Scirpus occidentalis (Wats.) Chase

Canandaigua. August. Miss E. C. Webster. The longer spikes separate this species from its near relative *Scirpus validus* Vahl. The plant previously reported under this name proves to be a mere form of *S. validus* Vahl.

Sphaerotheca humuli (DC.) Burr.

Living leaves and aments of hop vines. Middleburg, Schoharie co. G. G. Atwood. The fungus attacks the leaves, diminishing their vigor; also the aments or fruit, arresting their proper development and causing partial or sometimes serious failure of the crop.

Sporobolus cryptandrus (Torr.) Gray

Sandy soil. Webster, Monroe co. September. J. Dunbar.
Orient Point. September. R. Latham. Not common.

Thaspium barbinode (Mx.) Nutt.

Rocky places near Corning. May. Rare or wanting in the
eastern part of the State.

Theloschistes concolor effusus Tuck.

On bark of trees. Orient Point. January. R. Latham.

Valsonectria parasitica (Murrill) Rehm

Bark of chestnut, *Castanea dentata* (Marsh.) Borkh.
Marlboro, Ulster co. July.

This fungus was described under the name *Diaporthe parasitica*, but it does not well agree with the character of that genus, inasmuch as it has a bright colored perithecium instead of a black one. It agrees much better in this respect with the genus *Valsonectria*. The locality here mentioned is the most northern, with one exception, of any known to me. It is also the first one in which I have seen a tree affected by this fungus, though I have looked for it for three seasons whenever I have been where chestnut trees are common. Specimens have been seen that were collected at Visher Ferry, Saratoga co. This is the most northern station for it known to me. It has been reported to have been found at Cooperstown but no specimens from that locality have been seen by me.

Viburnum dentatum L.

A form with leaves decidedly acuminate was found at Orient Point in July by R. Latham.

Vicia angustifolia segetalis (Thuill.) Koch

Orient Point. July. R. Latham.

Viola pallens (Banks) Brainerd

In woods. Edwards. May. This violet was formerly confused with *Viola blanda* Willd. It is separated from it by the dull reddish spots of the petioles and scapes, the bearded lateral petals and the broader upper petals. In our specimens the capsules are subglobose and about twice as long as the sagittate sepals.

NEW SPECIES AND VARIETIES OF EXTRALIMITAL FUNGI

Agaricus floridanus

Pileus hemispheric or campanulate, becoming nearly plane, rimosely areolate or slightly strigose, becoming glabrous, whitish with a yellow or yellowish center; lamellae at first white, then pink, finally dark brown or blackish; stem easily separable from the pileus, equal or slightly thickened at the base, solid, becoming fibrous when old, whitish, annulus small; spores globose or broadly elliptic, 5-6 μ long, 4-5 μ broad.

Pileus 9-15 cm broad; stem 5-10 cm long, 1.5-3 cm thick.

Single or subcespitose. Grassy fields of sandy soil. DeFuniak Springs, Florida. March. G. Clyde Fisher.

The mycelium often binds the particles of sand into a globose mass which adheres to the base of the stem. This gives the stem a bulbous appearance, though it is not strictly bulbous. This species is apparently closely allied to *Agaricus campester americanus* Speg. a South American species. It may be separated from that variety by its rimosely areolate pileus, its stem easily separating from the pileus, solid and not bulbous, and by its smaller annulus. The spores are the same size in both and smaller than in the common mushroom. In both the lamellae are at first white.

Pileus hemisphericus campanulatusve, deinde subplanus, rimose areolatus substrigosus, demum glaber, albidus, in centro luteus vel flavidus; lamellae primo albae, deinde incarnatae, postremo atrobrunneae vel nigricantes; stipes ex pileo facile separabilis, aequalis vel basi subincrassatus, solidus, in senectute fibrosus, albidus, annulus parvus; sporae globosae vel late ellipsoideae, 5-6 x 4-5 μ .

Boletus gertrudiae

Pileus fleshy, broadly convex, glabrous, soft, dry or nearly so, orange yellow or brownish yellow, rarely bright yellow, flesh white, unchangeable; tubes long, bright yellow when young, brownish yellow when mature, adnate or but slightly rounded at the stem, the mouths minute; stem rather long, equal or nearly so, solid, glabrous, yellow above, white below, white within or sometimes more or less yellow within the upper part; spores oblong fusiform, 15-20 μ long, 5-6 μ broad.

Pileus 5-12 cm broad; stem 10-15 cm long, 12-24 mm thick.

Ground in woods. Old Lyme, Connecticut. August. H. L. Wells.

This is a fine large species with a beautifully colored stem, the upper half usually bright yellow, the lower half white. The two colors sometimes blend into each other and sometimes are quite definitely terminated. They grow scattered but sometimes two with stems united at the base. The pileus is apt to be badly infested by insect larvae. This species may well commemorate Miss Gertrude Wells who, though young in years, has already manifested a remarkable interest in mushrooms and a wonderful proficiency in the knowledge of them.

Pileus carneus, late convexus, glaber, mollis, siccus, aurantiacoluteus vel brunneo-luteus, rare flavidus, carne alba, immutabile; tubuli longi, primus flavidi, deinde fulvo-ochraeei, adnati vel circum stipitem leviter depressi, pori minuti; stipes longus, subaequalis, solidus, glaber, supra flavidus, infra albus, carne intra alba, vel supra flavida; sporae oblongae vel fusiformes, 15-20 x 5-6 μ .

Cercospora verbenae-strictae

Spots numerous, small, angular, yellowish green; hyphae hypophyllous, tufted, short, simple, slightly colored, 20-40 μ long, 4-5 μ broad; spores slender, commonly tapering upward, obscurely 3-6-septate, hyaline, 20-100 μ long, 3-4 μ broad.

Lower surface of living or languishing leaves of *Verbena stricta* Vent. Stockton, Kansas. August. E. Bartholomew and W. T. Swingle.

Maculae numerosae, parvae, angulares, luteo-virides; hyphae hypophyllae, caespitosae, breves, simplices, leviter coloratae, 20-40 x 4-5 μ ; sporae graciles, vulgo sursum attenuatae, obscure 3-6-septatae, hyalinae, 20-100 x 3-4 μ .

Clitocybe subnigricans

Pileus fleshy in the center, thin toward the margin, convex becoming nearly plane, glabrous, whitish or smoky white, flesh whitish, slowly changing to grayish on exposure to the air, taste slightly and tardily aërid, odor earthy, slightly pungent and disagreeable, persistent, lamellae thin, narrow, close, slightly or in some specimens very much decurrent, whitish becoming blackish where bruised and in drying; stem solid, slightly fibrous striate, somewhat thickened or distinctly bulbous at the base, colored like

the pileus but becoming blackish in drying; spores white, 6-7 μ long, 4-6 μ broad.

Pileus 2.5-5 cm broad; stem 4-7.5 cm long, 6-12 mm thick.

Subcespitose or gregarious. Rye Beach, New Hampshire. G. B. Fessenden.

A fine species easily distinguished by its strong odor and the blackening of the lamellae and stem where bruised and in drying.

Pileus carneus, ad marginem tenuis, convexus, denuum subplanus, glaber, albidus vel fumoso-albus, caro albida, vulnera ad griseum tarde mutantia, sapor leviter et tarde acris, odor terrenus, ingratus, persistens; lamellae tenues, angustae, confertae, leviter vel valde decurrentes, albiae, ubi vulneratae nigricantes et in siccitate; stipes solidus, leviter fibroso-striatus, basi incrassatus vel bulbosus, albidus, in siccitate nigricans; sporae albae, 6-7 x 4-6 μ .

Clitopilus washingtoniensis Braend. in lit.

Pileus thin, broadly convex, nearly plane or centrally depressed, sometimes undulate on the margin, glabrous, at first bluish, soon pale purple or mauve, flesh white, taste mild; lamellae narrow, close, decurrent, slightly tinged with pink; stem short, central, eccentric or almost lateral, equal or tapering downward, fibrillose and longitudinally rimulose, solid, brownish; spores elliptic, 6-7 μ long, 4-5 μ broad.

Pileus 1.6-2.5 cm broad; stem 1-2 cm long, 2-4 mm thick.

Gregarious or cespitose. Washington, D. C. June. F. J. Braendle.

Remarkable for the peculiar colors of the pileus and for its variable attachment to the stem.

Pileus tenuis, late convexus subplanus vel in centro depressus, glaber, aliquando margine undatus, primus subcaeruleus deinde pallide purpureus, carne alba, sapore miti; lamellae angustae, confertae, decurrentes, subincarnatae; stipes brevis, centralis, eccentricus vel sublateralis, aequalis vel infra attenuatus, fibrillosus, in longum rimulosus, solidus, brunneus; sporae ellipsoideae, 6-7 x 4-5 μ .

Coniothecium perplexum

Effused, forming a thin black crust; hyphae inconspicuous, short, continuous, creeping, colored, 3-4 μ in diameter; spores minute, subglobose or irregular, colored, 4-6 μ in diameter, persistently adhering and forming subglobose, irregular or oblong opaque masses, 20-40 μ in diameter or 20-35 μ long, 40-60 μ broad.

Decaying wood of ash posts below the surface of the ground. Stockton, Kansas. December. E. Bartholomew.

Effusum, stratum tenue nigrum formans; hyphae inconspicuae, breves, continuae, repentes, fuscae, 3-4 μ crassae; sporae minutae, subglobosae vel irregulares, fuscae, 4-6 μ in diam., persistenter adherentes, acervulosque subglobosos, irregulares vel oblongos nigricantes formantes, 20-40 μ in diam. vel 20-35 x 40-60 μ .

Cylindrosporium conservans

Spots numerous, amphigenous, suborbicular, sometimes confluent, 1-3 mm broad, green; acervuli epiphyllous, commonly 1-6 on a spot; spores filiform, curved, 40-75 μ long, 3-4 μ broad, oozing out and forming persistent whitish or honey colored masses or tendrils.

Leaves of Scouler's willow, *Salix scouleriana* Barr. Rolling Bay, Washington. August. E. Bartholomew.

The spots are surrounded by the yellow or greenish yellow tissue of the leaves, the fungus apparently preventing the discoloration of the tissues in proximity to it. This character is suggestive of the specific name. The center of the spots appears paler on the upper surface because of the spore masses.

Maculae numerosae, amphigenae, suborbiculares, aliquando confluentes, 1-3 mm latae, virides; acervuli epiphylli, vulgo 1-6 in quavis macula; sporae filiformes, 40-75 x 3-4 μ , curvatae, exundantes et massas aut clavículas persistentes albidas melleasve formantes.

Diaporthe callicarpae

Stroma effused, thin, blackening the surface of the wood; perithecia immersed in the wood, commonly 2-6, depressed-globose, .3-.5 mm broad, black, ostiola minute, barely emerging from the blackened surface of the wood and rupturing the epidermis; asci very slender, narrowed at each end, 60-80 μ long, 6-8 μ broad, spores distichous, 4-nucleate, 12-15 μ long, 3-4 μ broad.

Dead stems of *Sambucus callicarpa* Greene. Rolling Bay, Washington. August. E. Bartholomew.

This species belongs to the section Euporthe. The spores and asci are very slender and the septum of the former is scarcely perceptible.

Stroma effusum, tenue, ligni superficiem nigricans; perithecia in ligno immersa, vulgo 2-6, depresso-globosa, .3-.5 mm lata, nigra,

ostiola minuta ligni superficiem vix superantia; asci graciles, utrinque attenuati, 60-80 x 6-8 μ ; sporae distichae, 4-nucleatae, 12-15 x 3-4 μ .

Diplodia alni-rubrae

Perithecia densely gregarious, sunk in the bark, covered by the slightly elevated epidermis, .3-.5 μ broad; spores ellipsoid or broadly ellipsoid, oozing out and staining the matrix black, 16-20 μ long, 10-14 μ broad.

Rolling Bay, Washington. August. E. Bartholomew.

The dead bark of *Alnus rubra* Bong. Closely related to *Diplodia alni* Fckl., but with shorter and broader spores which emerge and stain the matrix black.

Perithecia dense gregaria, in cortice insculpta, epidermide leviter elevata tecta, .3-.5 μ lata; sporae ellipsoideae vel late ellipsoideae, exudantes matricemque inquinantes, 16-20 x 10-14 μ .

Flammula graveolens

Pileus fleshy, broadly convex or nearly plane, sometimes slightly depressed in the center, viscid, glabrous or very obscurely innately fibrillose, reddish brown or yellowish brown, at first paler on the margin, the thin pellicle subseparable, flesh pale yellow, odor strong, earthy; lamellae thin, moderately close, adnate or slightly decurrent, pale yellow becoming subferruginous; stem equal or tapering at the base, solid or with a very narrow cavity, silky fibrillose, pale yellow without and within, becoming brownish at the base, veil floccose or webby, pale yellow, visible in the young plant, soon disappearing; spores brownish ferruginous, elliptic, 6-8 μ long, 4-5 μ broad.

Pileus 2.5-7 cm broad; stem 5-7 cm long, 5-10 mm thick.

Under pine trees. West Gloucester, Massachusetts. October. Mrs E. B. Blackford.

A species well marked by its pale yellow flesh veil and stem, its viscid pileus, brownish ferruginous spores and strong odor. It is sometimes cespitose.

Pileus carneus, late convexus vel subplanus, aliquando in centro depressus, viscidus, glaber aut obscure fibrillosus, rufo-brunneus vel flavo-brunneus, primus margine pallidior, pellicula tenue subseparabile, carne flavida, odore grave, terraneo; lamellae tenues subconfertae, adnatae, vel subdecurrentes, flavidae, deinde subferrugineae; stipes aequalis vel basi attenuatus, solidus vel leviter cavus,

sericeo-fibrillosus, extra intraque flavidus, demum basi brunneus, velum floccosum arachnoideumve, flavidum, evanescens; sporae brunneo-ferruginosae, ellipsoideae, 6-8 x 4-5 μ .

Hebeloma flexuosipes

Pileus thin, convex, glabrous, slightly viscid when moist, dingy buff or clay brown, flesh white; lamellae close, adnate, brownish ferruginous; stem fibrous, equal or slightly thickened at the base, flexuous, solid or stuffed, pruinose-pubescent and minutely glandular at the top, pallid or similar to the pileus in color, with an abundant white fibrillose mycelium at the base, veil none; spores subellipsoid, brownish ferruginous, 12-16 μ long, 7-9 μ broad.

Pileus 2.5-6 cm broad; stem 3.5-7.5 cm long, 4-8 mm thick.

Ground. Schenley park, Pittsburg, Pennsylvania. July. D. R. Sumstine. Said to be edible.

Pileus tenuis, convexus, glaber, viscidulus, luteolus vel argillaceo-brunneus, carne alba; lamellae confertae, adnatae, brunneo-ferrugineae; stipes fibrosus aequalis vel leviter basi incrassatus, flexuosus, solidus farctusve, ad apicem pruinoso-pubescent et minute glandulosus, pallidus vel pileo in colore similis, velo nullo, mycelio fibrilloso, abundante, candido; sporae subellipsoideae, brunneo-ferruginosae, 12-16 x 7-9 μ .

Helminthosporium subapiculatum

Tufts effused, black; hyphae erect, rigid, subflexuous, often nodulose and irregular above, obscurely septate, variable in length, 8-10 μ thick; spores variable, oblong or subfusiform, 6-7-septate, 35-80 μ long, 12-16 μ broad.

Dead wood of *Sambucus callicarpa* Greene. Rolling Bay, Washington. August. E. Bartholomew.

It is related to *Helminthosporium apiculatum* Cd. but differs in its longer oblong spores without an apiculus.

Caespites effusi, atri; hyphae erectae, rigidae, subflexuosae, saepe superne nodulosae et irregulares, obscure septatae, 8-10 μ crassae; sporae variables, oblongae vel subfusiformes, 6-7-septatae, 35-80 x 12-16 μ .

Hormiscium ambrosiae

Tufts commonly effused, black; chains of spores persistent, straight or slightly curved, commonly tapering toward the apex or broader in the middle and tapering toward each end, 40-100 μ long;

spores subglobose, commonly broader than long, colored, smooth, 4-16 in a chain, 6-10 μ long, 8-18 μ broad.

On dead stems of *Ambrosia trifida* L. Louisville, Kansas. September. E. Bartholomew.

Caespites vulgo effusi, atri; catenae sporarum simplices persistentes, rectae vel leviter curvatae, vulgo ad apicem attenuatae vel in parte media latiores utrinque angustatae, 40-100 μ longae; sporae subglobosae, leves, fuscae, 4-16 in quavis catena, 6-10 x 8-18 μ .

Hypoxylon bartholomaei

Stroma effused, thin, about 1 mm thick, 2-3 cm long, .5-1 cm broad, subelliptic, sometimes with a slight narrow sterile black margin, even, black, opaque; perithecia monostichous, subglobose, .5 mm broad, the ostiola scarcely visible; asci cylindric, 160-200 μ long, 8-12 μ broad; spores monostichous, ellipsoid, at first pale and 1-2-nucleate, then colored, 16-24 μ long, 8-12 μ broad; paraphyses filiform.

On decorticated wood of red alder, *Alnus rubra* Bong. Rolling Bay, Washington. August. E. Bartholomew.

The distinguishing characters of this species are the thin subelliptic stroma and its dull even black surface. The ostiola are not visible to the naked eye. The young conidial state not seen.

Stroma effusum, tenue, circiter 1 mm thick, 2-3 cm longum, .5-1 cm latum, subellipticum, leve, atrum, opacum; perithecia monosticha, subglobosa, .5 mm lata, ostiola vix visibilia; asci cylindraceuti, 160-200 x 8-12 μ ; sporae monostichae, ellipsoideae, primo pallidae, uninucleatae vel binucleatae, deinde coloratae, 16-24 x 8-12 μ ; paraphyses filiformes.

Lepiota allenae

Pileus thin, conic, convex or campanulate, widely striate on the margin, unpolished, whitish or tinged with pale yellow, often yellowish brown in the center; lamellae thin, 1-2 mm broad, free, close, whitish or tinged with pale yellow; stem slightly tapering upward, glabrous, hollow, colored like the pileus, the annulus slight, persistent or evanescent; spores broadly ellipsoid or subglobose, 5-7 μ long, 4-6 μ broad.

Pileus 8-15 mm broad; stem 12-20 mm long, 1-2 mm thick.

Cespitose. In a greenhouse. Newtonville, Massachusetts. August. Miss L. C. Allen.

This is a small delicate, beautiful, and nearly uniformly colored species. The small smooth disk is sometimes brown or yellowish brown and in very young plants looks like a cap on the apex of the small undeveloped pileus. It may possibly be an introduced species. It is respectfully dedicated to its discoverer.

Pileus tenuis, conicus, convexus campanulatusve, margine late striatus, impolitus, albidus flavidusve, saepe in centro flavido-brunneus; lamellae tenues, 1-2 mm latae, liberae, confertae, albidae flavidaeve; stipes supra leviter attenuatus, glaber, cavus, pileo in colore similis, annulus parvus, persistens vel evanescens; sporae late ellipsoideae, vel subglobosae, 5-7 x 4-6 μ .

Leptonia longistriata

Pileus conic or convex, submembranous, fragile, umbilicate, subhygrophanous, squamulose, striatulate nearly or quite to the umbilicus both when moist and when dry, grayish brown; lamellae thin, fragile, subdistant, eroded or wavy on the edge, whitish becoming flesh color; stem straight, slender, tough, glabrous, shining when dry, hollow, colored like the pileus with a white mycelium at the base; spores irregular or angular, uninucleate, 12-16 μ long, 8-10 μ broad.

Pileus 1-1.5 cm broad; stem 3-5 cm long, 1-2 mm thick.

Ground by roadsides. Stow, Massachusetts. August. S. Davis.

The distinguishing character of this species is the widely striated margin which is suggestive of the specific name.

Pileus conicus convexusve, submembranaceus, fragilis, umbilicatus, subhygrophanus, squamulosus, fere ad umbilicum striatulus. griseo-brunneus; lamellae tenues, fragiles, subdistantes, acie erosae undulataeve, albidae deinde incarnatae; stipes strictus, gracilis, lentus, glaber, in siccitate nitens, cavus, in colore pileo similis, basi mycelio albedo; sporae irregulares angularesve, uninucleatae, 12-16 x 8-10 μ .

Leptonia strictipes

Pileus thin, campanulate or convex, obtuse or slightly umbilicate, even or striatulate on the thin margin, yellow brown or dark brown; lamellae thin, narrow, close, adnate or slightly sinuate with a decurrent tooth, dusted and subincarnate by the spores; stem long, slender, straight, glabrous, hollow, equal or slightly tapering upward, with a whitish mycelium at the base; spores angular, uninucleate, commonly with an oblique apiculus at one end, 10-14 μ long, 7-9 μ broad.

Pileus 1.5-2.5 cm broad; stem 6-8 cm long; 2-3 mm thick.

Among sphagnum. Taylor's swamp, Stow, Massachusetts. August. S. Davis.

Known by its variously colored pileus and long straight stem. It is a larger species than *Leptonia longistriata* Plk. to which it is closely related, and has a different habit and habitat and smaller spores.

Pileus tenuis, campanulatus convexusve, obtusus vel leviter umbilicatus margine tenue levis striatulatusve, flavo-brunneus vel nigro-brunneus; lamellae tenues, angustae, confertae, adnatae vel leviter sinuatae dente decurrente; sporis pulverulentae, subincarnatae; stipes longus, gracilis, rectus, glaber, cavus, aequalis vel sursum leviter attenuatus, basi mycelio albido; sporae angulares, uninucleatae, vulgo oblique apiculatae, 10-14 x 7-9 μ .

Macrophoma suspecta

Perithecia minute, 120-160 μ broad, gregarious or scattered, occupying large areas on the upper surface of the lower leaves, at first covered by the epidermis, then erumpent, thin, convex, orbicular, opening by a pore, black; spores oblong or cylindric, obtuse, hyaline, continuous, 2-4-nucleate, 12-18 μ long, 4-5 μ broad.

Dead basal leaves of winter wheat, *Triticum vulgare* Vill. Lexington, Kentucky. May and June. H. Garman.

Related to *Phoma hennebergii* J. Kuehn but differing in its place of growth and in its broader spores and perithecia. It is suspected of killing the host plant, hence the specific name. This is very distinct from *Colletotrichum cereale* Manns, which is parasitic on wheat, rye, oats, barley and various grasses in Ohio.

This species is a good illustration of the difficulty sometimes encountered in assigning definite limits to a genus. The genus *Macrophoma* was first suggested by Professor Saccardo as one that might be instituted for the reception of species of *Phoma* having rather thick perithecia and spores. Berlese and Voglino, acting on this suggestion, instituted the genus *Macrophoma* and included in it species whose spores should equal 15 μ or more in length. The spores in the species here described vary in length from 12-18 μ . It therefore stands on the border line between *Phoma* and *Macrophoma* and so far as this character goes might be placed in either genus. Because some of the spores exceed the limiting dimension we have placed the species in *Macrophoma*.

thought it might be possible to find an occasional perithecium in which no spores would be 15μ long.

Perithecia minuta, $120-160 \mu$ in diam., gregaria sparsave, foliorum basalium areas magnas occupantia, primum epidermide tecta, tenua, convexa, orbicularia, poro aperientia, atra; sporae oblongae vel cylindratae, utrinque rotundatae, hyalinae, continuae, 2-4-nucleatae, $12-18 \times 4-5 \mu$.

Microdiplodia viciae

Perithecia hypophyllous, sometimes amphigenous, thin, covered by the epidermis, erumpent, black, $80-120 \mu$ in diameter; spores at first hyaline, then colored, ellipsoid or oblong, $8-12 \mu$ long, $4-5 \mu$ broad, not at all or but slightly constricted at the septum.

Dead leaves of linear leaved vetch, *Vicia linearis* (Nutt.) Greene. Stockton, Kansas. May. E. Bartholomew.

The spores are similar in size and shape to those of *Microdiplodia mori* Allesch., but the habit is so distinct it is scarcely probable that the two can be the same.

Perithecia hypophylla, aliquando amphigena, tenua, epidermide tecta, erumpentia, nigra, $80-120 \mu$ in diam.; sporae primo hyalinae, demum fuscae, ellipsoideae oblongaeve, $8-12 \times 4-5 \mu$, non aut vix constrictae ad septum.

Nolanea howellii

Pileus thin, conic or convex, minutely tomentulose, intensely blue; lamellae broad, adnate, subdistant, pale yellow or straw color, becoming flesh color; stem slender, equal, hollow, glabrous, but covered with white silky fibrils at the base, colored like the pileus; spores oblong or subglobose, angular, with an oblique apiculus at the base, $10-12 \mu$ long, $7-8 \mu$ broad.

Pileus 1-2 cm broad; stem 4-6 cm long, 1-2 mm thick.

Among fallen leaves in damp places in thick woods. Rockville, Indiana. September. G. T. Howell.

Colored much like *Nolanea atrocyanea* Clem. but a much larger species. From *N. caelestina* Fr. it scarcely differs except in the yellowish color of the young lamellae, the uniform deep blue color of the pileus and the longer stem with white silky fibrils at the base. Respectfully dedicated to its discoverer.

Pileus tenuis, conicus convexusve, minute tomentosulus, intense caeruleus; lamellae latae, adnatae, subdistantes, stramineae, deinde incarnatae; stipes gracilis, aequalis, cavus, glaber, basi fibrillis albis

sericeis tectus, pileo in colore similis; sporae oblongae subglobosaeve, angulares, oblique apiculatae, 10-12 x 7-8 μ .

Ombrophila thujina

Cups minute, .5-.75 mm broad, scattered or subcaespitose, sessile or subsessile; hymenium plane or convex, not or scarcely margined, pale orange; asci oblong or subclavate, 90-100 μ long, 15-20 μ broad; spores crowded or distichous in the asci, oblong or subfusiform, rounded at the ends, hyaline, 18-22 μ long, 6-8 μ broad; paraphyses filiform, free at the tips.

Smooth bark of the branches of white cedar, *Thuja occidentalis* L. Near London, Ontario. J. Dearness.

This differs from *Ombrophila enterochroma* (Pk.) Sacc. in being less distinctly stipitate or sessile, in retaining its color in drying, in its less fusiform spores and in the free, not agglutinate, apices of its asci and paraphyses.

Ascomata minuta, .5-.75 mm lata, sparsa vel subcaespitosa, sessilia vel subsessilia; hymenium planum vel convexum, submarginatum, pallide aurantiacum; asci oblongi vel subclavati, 90-100 x 15-20 μ ; sporae in ascis confertae vel subdistichae, oblongae vel subfusiformes, utrinque rotundae, hyalinae, 18-22 x 6-8 μ ; paraphyses filiformes, apicibus liberis.

Ovularia stachydis-ciliatae

Spots angular, 2-5 mm broad, limited by the veinlets, subconfluent, pale yellowish green, sometimes becoming brownish or reddish brown; hyphae hypophyllous, very short, hyaline; spores very variable, globose, obovate or ellipsoid, hyaline, 6-16 μ long, 6-12 μ broad.

Living leaves of *Stachys ciliata* Dougl. Alki Point, Washington. August. E. Bartholomew.

The hyphae and spores form a thin inconspicuous grayish covering on the spots beneath.

Maculae angulares, 2-5 mm latae, venulis limitatae, subconfluentes, pallide flavo-virides, aliquando brunnescentes vel rufo-brunneae; hyphae hypophyllae, brevissimae, hyalinae; sporae variabiles, globosae, obovatae vel ellipsoideae, hyalinae, 6-16 x 6-12 μ .

Phyllosticta paupercula

Spots very small, .5-1 mm broad, numerous, sometimes confluent, angular or suborbicular, reddish brown or whitish, scarcely

visible on the lower surface of the leaf; perithecia minute, epiphyllous, one or two on a spot, black; spores ellipsoid, 4-6 μ long, 3-3.5 μ broad.

Living leaves of cultivated *Amelanchier alnifolia* Nutt. Stockton, Kansas. September. E. Bartholomew.

Closely related to *Phyllosticta prunicola* (Op.) Sacc., *P. mahaleb* Thuem. and *P. mespili* Sacc. but easily distinguished by the peculiarly colored and very small spots and by the small number of the perithecia on a spot.

Maculae minutae, .5-1 mm latae, numerosae quandoque confluentes, angulares aut suborbiculares, rufo-brunneae vel albidae, infra vix visibiles; perithecia minuta, epiphylla, in aliqua macula unum duove, atra; spora ellipsoideae, 4-6 x 3-3.5 μ .

Russula eccentrica

Pileus fleshy but thin, firm, eccentric or deformed, at first centrally depressed, with even incurved margin, becoming nearly plane, dry, glabrous, brownish or brownish gray, faintly reddish brown when dry, flesh white, odor disagreeable; lamellae thin, subdistant, broad, adnate or adnexed, pallid or tinged with pink, becoming reddish where wounded, reddish brown and subpruinose with age or in drying; stem smooth, equal, spongy within, white; spores subglobose, even or nearly so, 6-7 μ in diameter.

Pileus 5-10 cm broad; stem 4-6 cm long, 1.5-3 cm thick.

Grassy ravine in open oak woods. Near St Louis, Missouri. August. Rare and local. N. M. Glatfelter.

This is the third species known in which wounds assume a reddish color. From *Russula nigricans* (Bull.) Fr. it differs in its dry and eccentric pileus not becoming blackish and from *R. densifolia* Secr. in its eccentric pileus and subdistant pinkish tinted lamellae. It belongs to the section *Compactae*.

Pileus carneus, tenuis, firmus, eccentricus vel deformatus, primus centro depressus, margine leve incurvato, deinde subplanus, siccus, glaber, brunneus vel brunneo-griseus, siccitate leviter rufo-brunneus, carne alba, odore ingrato; lamellae tenues, subdistantes, latae, adnatae vel adnexae, pallidae vel subincarnatae, rufescentes ubi vulneratae, in aetate vel siccitate rufo-brunneae et subpruinosa; stipes aequalis, levis, intus spongiosus, albus; sporae subglobosae, subleves, 6-7 μ in diam.

Septoria aceris-macrophylli

Spots distinct, orbicular, 3-8 mm broad, amphigenous, pale reddish, slightly paler in the center; perithecia minute, $1/6$ mm broad, on the upper surface of the leaf, central, few, black; spores filiform, curved, 20-40 μ long, 1.5-2 μ broad.

Living leaves of *Acer macrophyllum* Pursh. Port Madison, Washington. August. E. Bartholomew.

Maculae distinctae, suborbiculares, 3-8 mm latae, amphigenae, pallide rufescentes, centro leviter pallidiores; perithecia minuta, $1/6$ mm lata, in pagina folii superiore, centralia, pauca, nigra: spores filiformes, curvae, 20-40 x 1.5-2 μ .

Septoria angustissima

Spots amphigenous, .5-1.5 cm broad, sometimes confluent and occupying half the leaf or more, reddish brown above, paler beneath, not brown margined; perithecia mostly epiphyllous, densely gregarious, orbicular, about .5 mm broad, depressed or broadly conic, opening by a central pore, black; spores filiform, extremely slender, curved or straight, continuous, eguttulate, hyaline, 18-30 μ long, scarcely 1 μ broad; sporophores shorter and thicker.

On leaves of osage orange, *Maclura pomifera* (Raf.) Schneider. Aberdeen, Mississippi. August. F. D. Kern. Collected by T. C. Frye.

Remarkable for its very narrow spores.

Maculae amphigenae, .5-1.5 cm latae, aliquando confluentes foliique partem dimidiam occupantes, supra rufo-brunneae, infra pallidiores; perithecia vulgo epiphylla, dense gregaria, orbicularia depressa vel late conica, poro aperientia, nigra; spores filiformes, pergraciles, curvatae rectaeve, hyalinae, eguttulatae, 18-30 x 1 μ ; sporophori breviores et crassiores.

Septoria ficarioides

Spots amphigenous, suborbicular, usually only one or two on a leaf, pallid; perithecia few, epiphyllous, 100-150 μ in diameter, black; spores filiform, straight or slightly curved, hyaline, 25-40 long, 1-2 μ broad.

Leaves of *Ranunculus cymbalaria* Pursh. Wood River, Nebraska. July. E. Bartholomew. Collected by J. M. Bates.

Closely related to *Septoria ficariae* Desm. but differing in the color of its spots and in its larger and black perithecia, fewer on a spot, and in its different host plant.

Maculae amphigenae, suborbiculares, in folio quoque vulgo unus vel duo, pallidae; perithecia, pauca, epiphylla, 100-150 μ in diam., atra; sporae filiformes, rectae vel curvulae, hyalinae, 25-40 x 1-2 μ .

Septoria samarae

Perithecia minute, 80-120 μ in diameter, numerous, amphigenous, occupying the whole wing of the fruit, superficial, black; spores filiform, curved or rarely flexuous, hyaline, 22-44 μ long, 1.5-2 broad.

Wing of the fruit of box elder, *Acer negundo* L. and the dwarf mountain maple, *Acer glabrum* Torr. Morrison, Colorado. September. E. Bartholomew. Collected by E. Bethel. Golden, Colorado. E. Bethel.

The wings have lost their green color, but the covering of the seed is still green.

Perithecia minuta, 80-120 μ in diam., numerosa, amphigena omnino fructus alam occupantia, superficialia, atra; sporae filiformes curvatae vel rare flexuosae hyalinae 22-44 x 1.5-2 μ .

Sphaeromyces delphinii

Subiculum of few radiating branched colored hyphae; sporophores short, very dense; spores catenulate, oblong or subfusiform, forming a dense subglobose brown or black mass, subhyaline by transmitted light, 8-12 μ long, 1.5-2 μ broad.

Dead stems of western larkspur, *Delphinium occidentale* Wats. August. Salt Lake co., Utah. E. Bartholomew. Collected by A. O. Garrett.

In the spore character this species does not agree well with the character of the genus to which it is here referred, but it seems better to place it here than to make a new genus for its reception. Both it and the species on which the genus was founded are manifestly very rare. In some of the specimens the sporodochium appears to sit upon a gelatinous film which at length becomes blackened by a layer of the fallen spores.

Subiculum hyphis paucis, radiantibus, fuscis, sparse ramosis compositum; sporophori breves, densissimi; sporae catenulatae oblongae vel subfusiformes, massam subglobosam densam fuscam nigramve formantes, subhyalinae sub lente, 8-12 x 1.5-2 μ .

Sphaeropsis melanconioides

Perithecia membranous, orbicular or discoid, 1-2 mm broad, wanting or scarcely developed above, numerous, nestling in the bark to which it is adnate at the base, erumpent, black; spores compact, ellipsoid or oblong, 16-24 long, 10-12 μ broad, supported on more or less slender filiform hyaline sporophores.

Dead branches of *Ailanthus glandulosus* Desf. Stockton, Kansas. September. E. Bartholomew.

The perithecia are so imperfectly developed that the fungus might easily be mistaken for a species of *Melanconium*. Hence the specific name.

Perithecia membranacea, orbicularia discoideave, 1-2 mm lata, parte superiore carentia, numerosa, in cortice nidulantia, basi adnata, erumpentia, atra; sporae compactae, ellipsoideae oblongaeve, 16-24 x 10-12 μ , sporophoris hyalinis gracilibus vel filiformibus suffultae.

Sporotrichum chryseum

Hyphae slender, 3-4 μ thick, continuous, long, intricate, hyaline, forming a soft thin subrosy separable membrane, golden yellow beneath; spores abundant, minute, globose, 2.5-3 μ in diameter.

On the hymenium of a resupinate form of *Fomes conchatus* (Pers.) Fr. Bloomington, Indiana. J. M. VanHook.

The spores appear to give the yellow color to the under surface.

Hyphae graciles, 3-4 μ crassae, continuae, longae, intricatae, hyalinae, membranam mollen tenuem subroseam separabilem subter, aureum formans; sporae abundantes, minutae, globosae, 2.5-3 μ in diam.

Basidiophora kellermanii paupercula

Spots few, small, more scattered, snowy white; oospores globose, smaller, 20-24 μ in diameter.

Living leaves of *Iva xanthifolia* Nutt. Chama, New Mexico. August. E. Bartholomew. Collected by W. T. Swingle.

Maculae paucae, parvae, sparsiores, candidae; oosporae globosae, minores, 20-24 μ in diam.

Boletus chrysenteron sphagnum

Pileus hemispheric or very convex, reddish brown, the extreme margin thin, slightly surpassing the hymenium, incurved, flesh white or whitish; tubes longer than the thickness of the flesh.

Pileus 2-3 cm broad; stem 2-4 cm long, 5-8 mm thick.

Among sphagnum. Stow, Massachusetts. September. S. Davis.

The peculiar habitat, deeply convex reddish brown pileus with its slightly extended incurved margin and white flesh are distinguishing features of this variety. In the last mentioned character it resembles *Boletus albocarneus* Pk.

Pileus hemisphaericus convexissimusve, badius, praeter lamellas margine tenue incurvo extensus, carne alba albidave; tubuli pilei carnis carassitate longiores.

Melanconium bicolor candidum

This differs from the typical form in having the stroma pure white and the spores obovate or narrowed toward one end.

Bark of red mulberry, *Morus rubra* L. Rolling Bay, Washington. July. E. Bartholomew.

Stroma candidum; sporae obovatae vel basi angustatae.

EDIBLE FUNGI

Boletus albus Pk.

WHITE BOLETUS

Plate 121, figures 1-5

Pileus convex, viscid when moist, white, flesh white or yellowish; tubes small or medium, subrotund, adnate, whitish becoming yellow or ochraceous; stem short, equal or slightly tapering downward, glandular dotted, white; spores ochraceous, subfusiform, 8-9 μ long, 4-4.5 μ broad.

The white boletus is easily distinguished from all our other species by its white viscid cap and its glandular dotted stem. Its cap varies in its horizontal diameter from 1.5-3.5 inches. It is generally convex, but in large plants it is often expanded until it is nearly or quite plane. Its white color is not well retained in drying. It is therefore important to see fresh specimens in order to identify the species satisfactorily. The flesh is white or barely tinged with yellow. Sometimes the fresh plant emits a peculiar, somewhat fetid or strong, odor.

The tubes in the young plant are whitish or but slightly tinged with yellow, but when mature they are ochraceous and the mouths are dotted with dark reddish brown glands. The stem is short, generally less than the diameter of the cap, cylindric or slightly narrowed at the base, solid, without any collar, dotted with reddish

brown glands and white or sometimes tinged with pink at the base. It occurs in the vicinity of pine and hemlock trees during July and August. It is not very common. It has an agreeable flavor, is tender and harmless.

***Cantharellus aurantiacus* (Wulf.) Fr.**

ORANGE CHANTARELLE FALSE CHANTARELLE

Plate 122, figures 8-16

Pileus fleshy, soft, minutely tomentose, plane or centrally depressed, yellowish orange, sometimes tinged with smoky brown or brownish in the center only, flesh whitish or yellowish; lamellae narrow, close, decurrent, repeatedly forked, reddish orange, sometimes yellowish orange; stem equal or slightly tapering upward, solid, glabrous, colored like or paler than the pileus; spores subellipsoid, 6-8 μ long, 4-5 μ broad.

The orange chantarelle is sharply separated from the other species by its usually bright orange gills which are regularly and repeatedly forked. The cap varies from 1-3 inches broad and its upper surfaces may be convex, nearly flat or centrally depressed. It is soft in texture and covered with a minute scarcely visible tomentum. Its color is commonly a pale yellowish orange or tawny orange more or less suffused with a dull smoky tint. Sometimes the center is more distinctly brownish than the margin. The extreme margin is frequently decurved or involute. The flesh is soft, whitish or slightly yellowish.

The gills are very pretty by reason of their commonly bright orange color and regular forking.

The stem is 1-3 inches long and 2-5 lines thick. It is solid, equal in diameter throughout its length or sometimes slightly narrowed upward. In color it is generally similar to the cap, though usually paler and sometimes even darker or blackened toward the base.

There is a rare form in which the cap is white or nearly so. There is also a variety *pallidus* Pk. in which both cap and gills are pale yellow or whitish yellow. It occurs in swamps.

The orange chantarelle occurs most often in woods and uncultivated places in hilly and mountainous regions from July to October. It was formerly reputed poisonous or dangerous and credited with having a disagreeable flavor. In my own experiments with it the flavor has been found to be agreeable and fair trials of eating it have shown it to be perfectly harmless. I therefore have no hesitation in adding it to our list of edible species.

Lactarius camphoratus (Bull.) Fr.

CAMPHORY LACTARIUS

Plate 126, figures 1-7

Pileus thin, convex, nearly plane or centrally depressed, often with a small umbo, glabrous, dry, bay red or brownish red, flesh tinged with the color of the pileus, milk white, taste mild; lamellae thin, narrow, close, adnate or slightly decurrent, dull reddish or similar to the pileus; stem subequal, glabrous, stuffed or hollow, colored like or a little paler than the pileus; spores globose, white, 8-9 μ in diameter.

The camphory lactarius is closely related to the sweetish lactarius, *Lactarius subdulcis* (Bull.) Fr. from which it is separated by its darker red color and its agreeable odor. In color it approaches *Lactarius rufus* (Scop.) Fr. from which its smaller size and mild taste easily separate it. Its umbo, when present, is very small and its margin is sometimes wavy. The color is generally bay red, but occasionally it approaches the color of the cap of the sweetish lactarius from which the odor is then the most available character for the separation of these species.

The gills also are occasionally paler than usual and thereby tend to the confusion of these two species. The odor is less pronounced in the fresh plant than in the dry. It becomes more distinct in drying and persists a long time. It is not like that of camphor as the name would suggest, but resembles more the odor of dried melilot. It is not always wholly dispelled by cooking, but the flavor is not in our opinion a serious objection to the edibility of this mushroom. It occurs in swamps, wet places and in woods from July to September.

Lactarius lignyotus Fr.

SOOTY LACTARIUS

Plate 123, figures 1-6

Pileus convex, plane or slightly depressed, dry, with or without a small umbo, often radiately wrinkled in the center, pruinously velvety, even on the margin or crenately lobed and distantly but briefly plicate striate, sooty brown, flesh white, milk white, taste mild or tardily and slightly acrid; lamellae subdistant, adnate or slightly decurrent, white or creamy yellow, assuming reddish tints

where wounded; stem equal or tapering upward, stuffed, rather long, colored like the pileus; spores globose, echinulate, 8-10 μ in diameter.

The sooty lactarius is a very noticeable species, well marked by its dark brown color, velvety appearance, long stem and wounds of the gills and flesh slowly assuming reddish hues.

The cap varies from 1-4 inches broad, and is usually marked in the center by slight radiating rugosities or wrinkles. It is often marked by a small central prominence. Its dark sooty color and soft velvety appearance are attractive features. The margin is sometimes even, sometimes scalloped and marked with short parallel striations.

The gills are moderately distant from each other, and vary in color from white to creamy yellow or pale ochraceous. Where cut or broken the wounds slowly assume a reddish tint. The milk is scanty, white and mild.

The stem is generally from 2-4 inches long and 2-4 lines thick, but sometimes these dimensions are exceeded. It is often abruptly narrowed at the top and there slightly striate. Its color is like that of the cap.

It occurs most often in hilly or mountainous places, growing in shaded, mossy or damp places in woods and swamps. It is an excellent edible species, and occurs from July to September.

Variety *tenuipes* Pk. has the pileus about 1 inch broad, and the stem 2-3 inches long and about 2 lines thick.

Lycoperdon atropurpureum Vitt.

PURPLE SPORED PUFF BALL

Plate 121, figures 6-10

Peridium variable in size and shape, 1-2 inches broad, globose, subglobose or obovoid, clothed with slender hairs or spinules which are longer and convergent on the upper part of the peridium, shorter or wanting on the lower part, grayish, brownish or blackish above, paler below, easily rubbed off, commonly disappearing from the mature peridium, the young peridium is whitish below, tinged with gray or brown above, the whole becoming at last smooth, shining and brown, the interior at first fleshy, white, becoming olivaceous with age and finally purplish brown, dry and dusty; the threads of the capillitium are branched, the main stem is about equal in thickness to the diameter of the spores; spores purplish brown, globose, warty, 5-7 μ in diameter.

Ground in woods or in bushy places. August to September. Common.

This, like other puff balls, is edible only while the flesh is clear white. When it assumes a yellow hue it is no longer palatable and when it becomes dry and dusty with the mature spores no one would think of eating it. In the edible state the texture and color of the flesh of this species may be compared to those of a very fine grained soft cottage cheese.

CRANBERRY AND AVERYVILLE MARSHES

Cranberry marsh is in the eastern part of the town of Sand Lake, Rensselaer county. It is an irregular oblong marsh apparently about a half mile long and one-fifth mile broad in its widest part. A sluggish stream flows centrally through its longest diameter. Sphagnum moss is plentiful and forms a soft carpet over most of its surface. Cranberries were formerly produced on it in great abundance, but now these plants are limited to the banks of the stream and a few of the more wet and boggy places. The surface of the marsh is mostly much more firm than it was sixty years ago. Shrubs are more numerous and widespread and small coniferous trees have sprung up in some of the older parts. Some of the orchids that beautified the marsh less than twenty-five years ago have now nearly or quite disappeared. The purple fringed orchis is no longer found there, and of the white fringed orchis only a single flowering specimen was seen in my recent visits. The bladder-fruited or bottle sedge, which formerly bore seed freely there, has now become smaller, less vigorous and completely sterile. The changed conditions induced by the destruction of the surrounding forests and the often recurring summer drouths are gradually exterminating those plants that require a more uniform temperature and constant moisture. The advancing shrubs crowd out or overpower the weaker and less persistent herbaceous plants. This marsh is steadily approaching the shrubby stage in which sphagnum and marsh herbs will scarcely be able to maintain their existence. The number of species of flowering plants and ferns found in this marsh is 76.

Averyville marsh is in the town of North Elba, Essex county. It is about three miles south of Lake Placid. It is apparently about one mile long and one-third mile broad in its widest part. Near the middle it is much more narrow than toward either end by reason of the encroachment of the forest on both sides. This con-

traction in width divides it into two nearly equal parts, the northern and southern. Chub river runs through its longest diameter from south to north. At the contracted part and for a short distance north of it the river runs close to the margin of the forest on the eastern side, leaving most of the marsh here on the west side of the river. In the rest of the marsh the river is more central. This marsh is peculiar in having the two parts wholly unlike in character and representative of two different kinds of marsh. The northern part is a shrubby marsh. Low shrubs like Labrador tea, sheep laurel, pale laurel, bog rosemary and leather leaf have taken almost complete possession. The usual marsh herbs are nearly exterminated except along the banks of the river and in a few low places. The sphagnum has a dwarf, starved appearance and is evidently struggling for existence. A few dwarf, unthrifty black spruce and tamarack trees are scattered here and there over this part of the marsh. The balsam fir is strangely absent from the open space, but it occurs sparingly along the margin. It is apparently less fitted to endure the unfavorable conditions of the marsh than either the black spruce or the tamarack.

The southern part is a grassy marsh. It is locally known as a "beaver meadow." It is mostly occupied by grasses and sedges. Blue joint grass, *Calamagrostis canadensis* (Mx.) Bv. and slender sedge, *Carex filiformis* L. are the prevailing species. They are so abundant that in past times it was customary to mow this part of the marsh and stack the hay till winter when it would be possible to draw it away and make use of it. The scaffoldings of the stacks are still in place, but as this marsh hay is of inferior quality it is not now gathered, other hay of better quality being available. It is remarkable that not a single example of the slender sedge gave any evidence of having borne fruit this season. My visit was too late in the season to find fruit on the plant, but a careful search for old fruit-bearing stems was vain. Possibly the previous cuttings of the plants weakened their fruiting capacity till now they depend entirely on offshoots or stolons for propagation. On the contrary, the blue joint grass was fruiting freely.

The grassy marsh, like the open prairie, appears to be unfavorable to the production of trees. No spruce or tamarack trees were seen in this part of the marsh. Even the shrubs that are so abundant in the northern part are mostly wanting here. Those that do appear are chiefly along or near the river.

The number of species of flowering plants and ferns found in this marsh is 57. This is considerably less than the number found in Cranberry marsh, though the area of the marsh is apparently more than twice as large. On the other hand, but one visit was made here and that so late in the season that probably some early flowering herbaceous species were overlooked.

A list of the names of the species found in each marsh is given below. It will be seen that 33 species are common to both marshes. This is more than half the number of species found in Averyville marsh. These are species likely to be found in most of our larger cold sphagnum bogs and marshes. They are the active agents in the formation of peat beds and in preparing the marsh for the habitation of the larger shrubs and trees. In other words, they are the forerunners of swamps, the trees and shrubs of which, in turn, prepare the way for productive lowland meadows and truck gardens. Of the 33 species common to the two marshes 15, or nearly half, are trees or shrubs. This indicates an advanced stage of the marshes toward a wooded swamp. In Bonaparte swamp the number of trees and shrubs is 29, in Cranberry marsh 20, in Averyville marsh 21. The number of species common to the three marshes is 19. In the following list of species will be found the names of the species of each of the two marshes and those common to the three marshes.

Plants of Cranberry marsh, Sand Lake, Rensselaer co.

<i>Abies balsamea (L.) Mill.</i>	<i>Carex stell. angustata Carey</i>
<i>Acer rubrum L.</i>	<i>C. trisperma Dew.</i>
<i>Alnus incana (L.) Moench</i>	<i>C. utriculata Boott</i>
<i>Andromeda glaucophylla Lk.</i>	<i>Chamaedaphne calyculata (L.)</i>
<i>Arisaema triphyllum (L.) Schott</i>	<i>Chelone glabra L.</i>
<i>Aspidium cristatum (L.) Sw.</i>	<i>Ciina latifolia (Trev.) Griseb.</i>
<i>A. noveboracense (L.) Sw.</i>	<i>Cornus canadensis elongata Pk.</i>
<i>Aster puniceus L.</i>	<i>Drosera longifolia L.</i>
<i>Calamagrostis canadensis (Mx.)</i>	<i>D. rotundifolia L.</i>
<i>Calla palustris L.</i>	<i>Dulichium arundinaceum L.</i>
<i>Calopogon pulchellus (Sw.) R. Br.</i>	<i>Epilobium palustre L.</i>
<i>Carex canescens L.</i>	<i>Eriophorum callitrix Cham.</i>
<i>C. filiformis L.</i>	<i>E. virginicum L.</i>
<i>C. folliculata L.</i>	<i>Galium palustre L.</i>
<i>C. intumescens Rudge</i>	<i>Gaultheria procumbens L.</i>
<i>C. leptalea Wahl.</i>	<i>Glyceria canadensis (Mx.) Trin.</i>
<i>C. limosa L.</i>	<i>G. pallida (Torr.) Trin.</i>
<i>C. magellanica Lam.</i>	<i>G. torreyana (Spreng.)</i>
<i>C. pauciflora Lightf.</i>	<i>Habenaria blephariglottis (Willd.)</i>

- Habenaria clavellata (*Mx.*)
 Hypericum virginicum *L.*
 Impatiens biflora *Walt.*
 Iris versicolor *L.*
 Kalmia angustifolia *L.*
 K. polifolia *Wang.*
 Larix laricina (*DuRoi*) *Koch*
 Ledum groenlandicum *Oeder*
 Lycopodium inundatum *L.*
 Lycopodium virginicum *L.*
 Lysimachia terrestris (*L.*) *BSP.*
 Menyanthes trifoliata *L.*
 Nemopanthes mucronata (*L.*) *Trel.*
 Nymphaea advena *Ait.*
 Picea mariana (*Mill.*) *BSP.*
 P. rubra (*DuRoi*) *Dietr.*
 Pinus strobus *L.*
 Pogonia ophioglossoides (*L.*)
 Polygonum sagittatum *L.*
 Potamogeton epihydrus *Raf.*
 Pyrus melanocarpa (*Mx.*) *Willd.*
 Rosa blanda *Ait.*
 Rubus hispidus *L.*
 R. triflorus *Richards.*
 Rynchospora alba (*L.*) *Vahl*
 Sarracenia purpurea *L.*
 Scheuchzeria palustris *L.*
 Scutellaria lateriflora *L.*
 Sparganium minimum *Fr.*
 Spiraea latifolia *Borkh.*
 Trientalis americana *Pers.*
 Utricularia cornuta *Mx.*
 Vaccinium canadense *Kalm*
 V. corymbosum *L.*
 V. macrocarpon *Ait.*
 V. oxycoccus *L.*
 V. pennsylvanicum *Lam.*
 Viburnum cassinoides *L.*

Plants of Averyville marsh, North Elba, Essex co.

- Abies balsamea (*L.*) *Mill.*
 Agrostis hyemalis (*Walt.*) *BSP.*
 Alnus incana (*L.*) *Moench*
 Andromeda glaucophylla *Lk.*
 Aspidium cristatum (*L.*) *Sw.*
 Aster puniceus *L.*
 A. umbellatus *Mill.*
 Bromus altissimus *Pursh*
 Calamagrostis canadensis (*Mx.*)
 Campanula aparinoides *Pursh*
 Carex filiformis *L.*
 C. leptalea *Wahl.*
 C. pauciflora *Lightf.*
 Chamaedaphne calyculata (*L.*)
 Cicuta bulbifera *L.*
 Cirsium muticum *Mx.*
 Cornus canadensis elongata *Pk.*
 C. stolonifera *Mx.*
 Dalibarda repens *L.*
 Epilobium palustre *L.*
 Eriophorum callitrix *Cham.*
 E. virginicum *L.*
 Eupatorium purpureum *L.*
 Galium asprellum *Mx.*
 Gaultheria procumbens *L.*
 Gentiana linearis *Froel.*
 Glyceria canadensis (*Mx.*) *Trin.*
 Hippuris vulgaris *L.*
 Hypericum ellipticum *Hook.*
 Hypericum virginicum *L.*
 Iris versicolor *L.*
 Juncus brevicaudatus (*Engelm.*)
 Kalmia angustifolia *L.*
 K. polifolia *Wang.*
 Larix laricina (*DuRoi*) *Koch*
 Ledum groenlandicum *Oeder*
 Lysimachia terrestris (*L.*) *BSP.*
 Nemopanthes mucronata (*L.*) *Trel.*
 Nymphaea hybrida (*Pk.*)
 Picea mariana (*Mill.*) *BSP.*
 Potamogeton epihydrus *Raf.*
 Pyrus americana (*Marsh.*) *DC.*
 P. melanocarpa (*Mx.*) *Willd.*
 Rubus triflorus *Richards.*
 Salix rostrata *Richards.*
 Sambucus canadensis *L.*
 Senecio robbinsii *Oakes*
 Solidago altissima *L.*
 S. serotina *Ait.*
 S. uliginosa *Nutt.*
 Spiraea latifolia *Borkh.*
 Thalictrum polygamum *Muhl.*
 Thuja occidentalis *L.*
 Vaccinium canadense *Kalm*
 V. oxycoccus *L.*
 V. pennsylvanicum *Lam.*
 Viburnum cassinoides *L.*

Common to the two marshes

<i>Abies balsamea</i> (L.) Mill.	<i>Hypericum virginicum</i> L.
<i>Alnus incana</i> (L.) Moench	<i>Iris versicolor</i> L.
<i>Andromeda glaucophylla</i> Lk.	<i>Kalmia angustifolia</i> L.
<i>Aspidium cristatum</i> (L.) Sw.	<i>K. polifolia</i> Wang.
<i>Aster puniceus</i> L.	<i>Larix laricina</i> (DuRoi) Koch
<i>Calamagrostis canadensis</i> (Mx.)	<i>Ledum groenlandicum</i> Oeder
<i>Carex filiformis</i> L.	<i>Lysimachia terrestris</i> (L.) BSP.
<i>C. leptalea</i> Wahl.	<i>Nemopanthes mucronata</i> (L.) Trel.
<i>C. pauciflora</i> Lightf.	<i>Picea mariana</i> (Mill.) BSP.
<i>Chamaedaphne calyculata</i> (L.)	<i>Potamogeton epiphydrus</i> Raf.
<i>Cornus canadensis elongata</i> Pk.	<i>Pyrus melanocarpa</i> (Mx.) Willd.
<i>Epilobium palustre</i> L.	<i>Rubus triflorus</i> Richards.
<i>Eriophorum callitrix</i> Cham.	<i>Spiraea latifolia</i> Borkh.
<i>E. virginicum</i> L.	<i>Vaccinium canadense</i> Kalm
<i>Gaultheria procumbens</i> L.	<i>V. oxycoccus</i> L.
<i>Glyceria canadensis</i> (Mx.) Trin.	<i>V. pennsylvanicum</i> Lam.
	<i>Viburnum cassinoides</i> L.

Common to the two marshes and Bonaparte swamp

<i>Abies balsamea</i> (L.) Mill.	<i>Eriophorum callitrix</i> Cham.
<i>Alnus incana</i> (L.) Moench	<i>E. virginicum</i> L.
<i>Andromeda glaucophylla</i> Lk.	<i>Glyceria canadensis</i> (Mx.) Trin.
<i>Aster puniceus</i> L.	<i>Hypericum virginicum</i> L.
<i>Calamagrostis canadensis</i> (Mx.)	<i>Iris versicolor</i> L.
<i>Chamaedaphne calyculata</i> (L.)	<i>Ledum groenlandicum</i> Oeder
<i>Carex filiformis</i> L.	<i>Nemopanthes mucronata</i> (L.) Trel.
<i>C. leptalea</i> Wahl.	<i>Picea mariana</i> (Mill.) BSP.
<i>Epilobium palustre</i> L.	<i>Rubus triflorus</i> Richards
	<i>Vaccinium oxycoccus</i> L.

NEW YORK SPECIES OF HYPHOLOMA

Hypholoma Fr.

Pileus more or less fleshy, the margin at first incurved; lamellæ adnate or sinuate and adnexed; veil interwoven, adhering in fragments to the margin of the pileus, not forming a distinct membranous annulus on the stem; spores brown or purplish brown.

The appendiculate character of the margin of the young pileus is a distinguishing feature of the genus and is suggestive of its name. Many of the species grow on wood and are cespitose in their mode of growth. The spore color is brown or purplish brown, but in a few species the spore print on white paper is almost black. The genus corresponds in structure to the white spored genus *Tricholoma*, the pink spored *Entoloma* and the ochraceous spored

Hebeloma. Species with a luxuriant development of the veil must be carefully distinguished from Stropharia on one hand, and those with a scanty development of it, from Psilocybe on the other. The species are not in all cases sharply limited and connecting forms are not always satisfactorily located. They have been distributed in five sections, one of which, the Viscida, is yet unrepresented in our flora. The following synoptical key gives the distinguishing characters of the sections.

KEY TO THE SECTIONS

- Pileus hygrophanous Appendiculata
 Pileus not hygrophanous 1
 1 Pileus glabrous red or yellow its prevailing colors Fascicularia
 1 Pileus not wholly glabrous and with other prevailing colors 2
 2 Pileus silky or floccose when young Floccosa
 2 Pileus hairy or fibrillose, brown or brownish Velutina

Appendiculata

Pileus hygrophanous, glabrous when mature.

The species are commonly small, the pileus rarely exceeding two inches in diameter. They inhabit decaying wood or ground rich in humus and are gregarious or cespitose. The color of the pileus in some species is greatly changed by the escape of its moisture, in others but slightly. This may be regarded as a difficult section because of the variability of the species and their close resemblance to each other.

KEY TO THE SPECIES

- Pileus at first whitish or yellowish incertum
 Pileus at first some other color 1
 1 Young lamellae violaceous candolleianum
 1 Young lamellae not violaceous 2
 2 Moisture of fresh pileus escaping first from the margin madeodiscum
 2 Moisture of fresh pileus escaping first from the center 3
 3 Plants gregarious, terrestrial hymenocephalum
 3 Plants commonly cespitose and lignatile appendiculatum

Hypholoma incertum Pk.

UNCERTAIN HYPHOLOMA

N. Y. State Mus. Rep't 29, p.40. Mus. Mem. 4, p.165, pl.60, fig.1-9

Pileus thin, fragile, ovate or subcampanulate becoming yellow, especially in the center, commonly white when dry, even or radiately wrinkled, the thin margin sometimes wavy or irregular and when young adorned with fragments of the white fugacious veil, flesh

white; lamellae thin, close, narrow, adnate, whitish then rosy brown, finally purplish brown; stem equal, hollow, easily splitting, white or whitish; spores 8-10 μ long, 4-6 μ broad.

Pileus 2-6 cm broad; stem 2.5-7 cm long, 2-6 mm thick.

Gregarious or sparingly cespitose in lawns, pastures, grassy and bushy places and by roadsides in showery weather. May to September. Common. Edible and of excellent flavor.

This species differs from the next following species in its paler young pileus, its adnate lamellae which also are not at first violaceous and in its stem which is not striate at the top. It differs also from the appendiculate *hypholoma*, *Hypholoma appendiculatum* (Bull.) Fr. by its paler pileus, its larger spores, its more gregarious habit and in its habitat. It occasionally has the pileus radiately and areolately rimose.

Hypholoma candolleum Fr.

CANDOLLE HYPHOLOMA

Sylloge V, p.1038

Pileus fleshy but thin, convex or subcampanulate, becoming expanded, obtuse, glabrous, hygrophanous, bay when young and moist, white with a yellowish center when dry, flesh white; lamellae rounded behind, adnexed, close, at first violaceous, then cinnamon brown; stem fragile, subfibrillose, hollow, striate at the apex, white; spores 8-9 μ long, 4-5 μ broad.

Pileus 5-10 cm broad; stem 5-7 cm long, 3-6 mm thick.

Cespitose. Growing on the ground. Silver Springs, Wyoming co. August. Rare.

We have not seen young and fresh specimens of this plant and doubtfully admit it on the strength of specimens which, in this case as in others so referred, do not show young lamellae with a violaceous color, though in other respects they appear to belong to it. Even the figures of it given in *Mycological Illustrations* and in *Illustrations of British Fungi* do not show this color to the lamellae, though the description of the species requires it.

Hypholoma madeodiscum Pk.

MOIST DISK HYPHOLOMA

N. Y. State Mus. Rep't 38, p.88

Pileus thin, convex becoming nearly plane, hygrophanous, reddish brown when moist, grayish, tawny or ochraceous and rugose in the

center when dry, the moisture escaping first from the margin, slightly silky fibrillose on the margin when young; lamellae close, slightly sinuate, adnexed, whitish becoming brown or purplish brown; stem equal or slightly thickened at the base, hollow, slightly silky fibrillose, obscurely striate at the apex, white; spores 8-10 μ long, 5-6 μ broad.

Pileus 2.5-5 cm broad, stem 4-7 cm long, 4-6 mm thick.

Single or gregarious. Decaying wood. Adirondack mountains. June. Rare. Found but once.

Remarkable for the persistency of the moisture in the center of the pileus. This character is suggestive of the specific name and separates it from allied species. It has some points of agreement with the candolle hypholoma, *Hypholoma candolleanum* Fr., but differs from it in its mode of growth and in the color of the young lamellae.

Hypholoma hymenocephalum Pk.

THIN CAP HYPHOLOMA

N. Y. State Mus. Rep't 31, p.34

Pileus very thin and fragile, campanulate or convex becoming expanded, sometimes umbonate, hygrophanous, brown and striatulate when moist, pallid or whitish and radiately rugulose when dry, subatomate, the whitish appendiculate veil soon evanescent; lamellae thin, narrow, close, dingy white becoming purplish brown; stem slender, fragile, hollow, striate, slightly mealy at the top, white; spores 8 μ long, 4 μ broad.

Pileus 2.5-5 cm broad; stem 5-10 cm long, 2-3 mm thick.

Gregarious. Damp ground among fallen leaves, especially under shrubs or small trees. Occasional. July and August.

The species is remarkable for its very thin and fragile pileus and for its fragile striate stem. The margin of the pileus is sometimes deeply split, forming radiating lobes and giving a stellate appearance to the cap.

Hypholoma appendiculatum (Bull.) Fr.

APPENDICULATE HYPHOLOMA

Sylloge V, p.1039

Pileus thin, fleshy, ovoid or convex becoming expanded, glabrous, hygrophanous, bay brown or tawny brown when moist, ochraceous or pale ochraceous and rugose after the escape of the moisture;

lamellae close, narrow, adnate, whitish or creamy white becoming purplish brown; stem slender, equal, hollow, glabrous, pruinose at the top, white, the veil webby, white or whitish attached to the margin of the pileus when young, quickly disappearing; spores 5-7 μ long, 3-4 μ broad.

Pileus 2-6 cm broad; stem 5-7 cm long, 4-6 mm thick.

Densely cespitose. Decaying wood chiefly in woods of hilly or mountainous districts. August to October.

This name as used by Bulliard appears to have been applied to at least two species and on this account some confusion has resulted. In the Outlines of British Fungology, plate II, figures 3 and 4, two species are evidently included under this name. In Sylloge V, page 1039, the name is limited to the species represented by figure 3. In our treatment of this species we have limited it to those specimens which best agree with the characters ascribed to it in Sylloge. The agreement is good except in the color of the gills, which in our specimens passes from whitish to purplish brown instead of incarnate brown. The peculiar characters of the species are its tendency to form dense tufts, to grow chiefly on decaying wood, to be very hygrophanous, the difference between the color of the moist cap and the dry being well marked, and in the lateness of its appearance. The dimensions of the spores are given in Sylloge as 6-8 x 3-4 μ , in British Fungus Flora as 5 x 2.5 μ . In our specimens they agree better with those given in Sylloge.

Fascicularia

Pileus tenacious, glabrous, bright colored, dry, not hygrophanous.

The flesh of the pileus in this section is thicker and more firm than in the species of the preceding one. The prevailing colors of the pileus are red and yellow and its surface is smooth and not at all hygrophanous. They usually grow in tufts on dead or decaying wood and appear in autumn. The species resemble each other closely and should be cautiously separated.

KEY TO THE SPECIES

- | | |
|--|---------------|
| Young stem stuffed | sublateritium |
| Young stem hollow | I |
| I Prevailing color of the pileus red | perplexum |
| I Prevailing color of the pileus yellow..... | capnoides |

Hypholoma sublateritium (Schaeff.) Fr.

BRICK RED HYPHOLOMA

Sylloge V, p.1028

Pileus fleshy, convex or nearly plane, glabrous, obtuse, dry, dark brick red, often paler on the margin, flesh whitish or yellowish, taste commonly bitter, sometimes mild; lamellae close, adnate, whitish becoming sooty olivaceous or purplish brown; stem equal or tapering downward near the base, glabrous or slightly fibrillose, stuffed, sometimes becoming hollow when old, ferruginous; spores 6-8 μ long, 3-4 μ broad.

Pileus 2.5-7.5 cm broad; stem 5-9 cm long, 4-12 mm thick.

Commonly caespitose. On or about old stumps, prostrate trunks of trees and on decaying wood covered with earth. August to November. Common. Edible. Occasionally several stems grow from a common base.

Hypholoma sublateritium squamosum Cke. Pileus spotted with appressed darker scales, otherwise like the type. This variety is rare, having been found but once. Piseco, Hamilton co. August.

Hypholoma perplexum Plk.

PERPLEXING HYPHOLOMA

N. Y. State Cab. Rep't 23, p.99. Mus. Mem. 4, p.166, pl.60, fig.10-17

Pileus convex or nearly plane, sometimes umbonate, glabrous, reddish or brownish red, usually yellowish on the margin, flesh white or whitish, taste mild; lamellae thin, close, slightly rounded behind, adnexed, pale yellow becoming tinged with green, finally purplish brown; stem rather slender, equal or nearly so, firm, hollow, slightly fibrillose, whitish or yellowish above, reddish brown below; spores 6-8 μ long, 3-4 μ broad.

Pileus 2.5-7 cm broad; stem 5-7 cm long, 4-8 mm thick.

Generally caespitose. On or about stumps or prostrate trunks of trees in woods or open places. Common. August to November. Edible.

This is very closely related to the preceding species, its distinguishing features being its commonly smaller size, paler margin of the pileus, mild taste, paler and more slender stem which is always hollow, even when young. A small form of it has been found by F. C. Stewart growing from the base of cultivated red currants. This may indicate a parasitic tendency of it.

Hypholoma capnoides Fr.

FIR WOOD HYPHOLOMA

Sylloge V, p.1028

Pileus fleshy, convex or nearly plane, obtuse, glabrous, dry, yellowish, often reddish or ochraceous in the center, flesh white, odor and taste mild; lamellae moderately close, adnate, dry, smoky gray becoming purplish or brown; stem equal or nearly so, silky, striate at the top, sometimes curved or flexuous, hollow, pallid; spores 7-8 μ long, 4-5 μ broad.

Pileus 2.5-4 cm broad; stem 4-7 cm long, 4-6 mm thick.

Single or cespitose. On or about pine and spruce stumps or prostrate trunks. Adirondack mountains and Albany co. May to September. Rare.

The Friesian description ascribes only yellowish and ochraceous colors to the pileus of this species, but in our specimens the center of the pileus is often reddish or orange tinted. This color is also shown in the figures of the species as given in Icones, plate 133, and in Illustrations of British Fungi, plate 559. The mature lamellae of the typical form are described as purplish, but in our specimens they are brown with no apparent purplish tint. We have not thought it best to separate our plant on account of this slight deviation from the description of the color of the mature lamellae of the European form of the species.

Floccosa

Pileus silky or adorned when young with superficial floccose scales. This section at present is represented in our State by two species only.

KEY TO THE SPECIES

Pileus silky or fibrillosely spotted.....*aggregatum*
 Pileus floccosely scaly.....*fragile*

Hypholoma aggregatum Pk.

AGGREGATED HYPHOLOMA

N. Y. State Mus. Ann. Rep't 46, p. 106; Botanist's ed. p. 26

Pileus thin, convex or subcampanulate, obscurely spotted by appressed brownish fibrils, grayish white, flesh white; lamellae subdistant, rounded behind, adnexed, whitish becoming brown or

blackish brown, whitish on the edge; stem long, slender, hollow, slightly floccose or fibrillose, white; spores 7-8 μ long, 4-5 μ broad.

Pileus 2-3 cm broad; stem 5-8 cm long, 3-4 mm thick.

Densely cespitose. Base of trees and stumps. Albany co. September. Rare.

The densely tufted mode of growth and the grayish white, obscurely spotted pileus are distinguishing features of this species. From *Hypholoma silvestre* Gill. it may be separated by its smaller size, densely tufted mode of growth and adnexed lamellae with no rosy tint. From *Hypholoma storea* Fr. it is distinguished by its hollow stem, adnexed lamellae and the absence of an umbo.

Hypholoma aggregatum sericeum Pk.

N. Y. State Mus. Bul. 54, p.972, pl.79, fig.8-14

This variety differs from the typical form in its pileus being silky and destitute of spots and in having its stem striate at the top.

Warren co. September. Rare. Edible.

The edibility of the typical form of the species has not been tested by myself, but according to McIlvaine the caps are fine.

Hypholoma fragile Pk.

FRAGILE HYPHOLOMA

N. Y. State Mus. Bul. 131, p.22, pl.V, fig.1-7

Pileus thin, fragile, conic or subcampanulate becoming convex, obtuse or subumbonate, floccosely squamulose when young, glabrous when mature, yellowish, grayish or subochraceous, sometimes more highly colored in the center, the thin margin at first appendiculate with fragments of the white veil; lamellae thin, narrow, close, adnate, whitish or pallid becoming purplish brown; stem slender, fragile, stuffed or hollow, glabrous or minutely floccose, white or pallid; spores 8-10 μ long, 4-5 μ broad.

Pileus 1.2-2.4 cm broad; stem 2.5-5 cm long, 2-3 mm thick.

Gregarious. Decayed wood and among fallen leaves in damp places in woods. Starlake, St Lawrence co. Painted Post, Steuben co. August. Not common.

A small, delicate and fragile species. The specimens from Star lake are smaller and more highly colored than the others, but do not seem worthy of separation. The dried specimens bear some resemblance to *Hypholoma incertum* Pk., but the ab-

sence of the hygrophanous character of the pileus, its smaller size and more fragile nature and its different habitat lead me to keep it separate.

Velutina

Pileus silky or streaked with innate fibrils, sometimes glabrous.

The characters of this section, as given in Sylloge, would strictly admit only species having a silky or fibrillose pileus, but inasmuch as species like *Hypholoma atrichum* Berk. and *H. castanophyllum* Berk., of which the pileus is described as glabrous, have been admitted to it, we have extended the definition to include glabrous species which in other respects belong here. The species of the section generally have the color of the spores darker than in the preceding sections. Therefore the color of the mature lamellae is almost or quite black and the spore print on white paper appears black or nearly so. On this account the species are liable at first sight to be referred to the black spored series. The shape and size of the spores are in some cases important characters in distinguishing closely related species.

KEY TO THE SPECIES

- Pileus persistently hairy squamose or fibrillose.....1
- Pileus partly or wholly glabrous.....2
- 1 Plant caespitose, spores 8-10 x 5-6 μ*lacrymabundum*
- 1 Plant gregarious, spores 10-12 x 6-8 μ*rigidipes*
 - 2 Pileus even, the cuticle often rimose.....*boughtoni*
 - 2 Pileus rugose or radiately wrinkled.....3
- 3 Pileus tawny, spores rough.....*rugeocephalum*
- 3 Pileus brown, spores smooth.....*delineatum*

Hypholoma lacrymabundum Fr.

WEEPING HYPHOLOMA

Sylloge V, p.1033

Pileus fleshy, convex, obtuse, persistently squamose with dark brown or blackish hairy tufts, not hygrophanous, often irregular from its crowded tufted mode of growth, brown or tawny brown, flesh whitish; lamellae moderately close, adnate or subsinuate, whitish becoming purplish brown, almost black when fully mature, whitish on the edge, often beaded with tearlike drops of moisture in damp weather; stem equal or nearly so, fibrillose or squamose, hollow, whitish, pallid or brownish; spores purplish brown, 8-10 μ long, 5-6 μ broad.

Pileus 5-8 cm broad; stem 5-8 cm long, 5-8 mm thick.

Single or caespitose. On or about old stumps. Albany co. August to October. Not common.

The ornamentation of the pileus is variable. The hairlike fibrils are sometimes elongated and appressed, sometimes collected in tufts. They are often black and occasionally coarse and strigose, specially on the margin.

Hypholoma rigidipes Pk.

RIGID STEM HYPHOLOMA

N. Y. State Mus. Bul. 139, p.24, pl.III, fig.1-6

Pileus fleshy, thin, convex or broadly convex, dry, fibrillose squamulose, tawny brown, often reddish in the center, flesh whitish, taste mild; lamellae close, narrow, slightly sinuate, adnixed, brownish red becoming dark purplish brown or black; stem slender, rigid, equal, hollow, fibrillose squamulose, colored like or little paler than the pileus; spores broadly ellipsoid, apiculate, 10-12 μ long, 6-8 μ broad.

Pileus 2.5-5 cm broad; stem 5-10 cm long, 4-6 mm thick.

Gregarious. Damp places among tall herbs. North River, Warren co. September. Rare.

This species is well marked by its gregarious mode of growth. In the ornamentation of the pileus it is related to the preceding species, but it differs in its mode of growth, smaller size, more slender rigid stem and larger apiculate spores.

Hypholoma boughtoni Pk.

BOUGHTON HYPHOLOMA

N. Y. State Mus. Bul. 139, p.23, pl.II, fig.1-7

Pileus fleshy, thin except in the center, broadly convex or sub-hemispheric, rarely with an umbo, glabrous or slightly fibrillose, often concentrically or areolately cracking, pale reddish brown or grayish brown, flesh whitish, taste disagreeable; lamellae moderately close, adnate, purplish brown, seal brown or blackish, obscurely spotted, whitish on the edge; stem equal, floccosely fibrillose, striate at the top, hollow, white or whitish; spores broadly and unequally ellipsoid, apiculate, black on white paper, 10-12 μ long, 7-8 μ broad.

Pileus 2.5-7 cm broad; stem 2.5-6 cm long, 4-10 mm thick.

Ground in woods or open places. Albany, Monroe, New York and Tompkins counties. August and September.

Hypholoma rugocephalum Atk.

RUGOSE HYPHOLOMA

Mushrooms, Edible and Poisonous, 2d ed., p.30, pl.8, fig.29

Pileus fleshy in the center, convex becoming expanded, broadly umbonate, glabrous, irregularly wrinkled or rugose, tawny, the thin margin often curved upward, flesh tinged with yellow; lamellae thin, slightly sinuate, adnate, easily seceding from the stem, spotted, purplish black when mature; stem even, irregular, fleshy, hollow, glabrous, subbulbous, colored like the pileus, paler above the slight filamentous often spore-blackened remnants of the annulus; spores oval or broadly ellipsoid, inequilateral, pointed at each end, echinulate or minutely tuberculate, 8-11 μ long, 6-8 μ broad, black; cystidia cylindric, slightly enlarged at the top, hyaline, clustered.

Pileus 6-10 cm broad; stem 7-10 cm long, 6-10 mm thick.

Single or caespitose. Damp places in woods. July and August. Tompkins and Suffolk counties.

This is related to the preceding species from which it may be separated by its wholly glabrous tawny pileus and its rugosely wrinkled continuous cuticle. Both are allied to *Hypholoma velutinum* (Pers.) Fr., but may be distinguished from it by the absence of the hygrophanous character and by their broader spores.

Hypholoma delineatum n. sp.

DELINEATED HYPHOLOMA

Pileus fleshy, thin, convex or nearly plane, often slightly depressed in the center, glabrous, rugose or radiately wrinkled, commonly marked toward and on the margin even when dry with irregular radiating lines or ridges, occasionally wavy or irregular on the margin, brown, tawny brown or reddish brown, often darker in the center, flesh whitish; lamellae thin, close, adnate, brown becoming blackish brown; stem equal, glabrous, hollow, pallid or colored like the pileus; spores even, ellipsoid, not apiculate, 8-10 μ long, 4-6 μ broad; cystidia scarce, 40-60 μ long, 16-20 μ broad.

Pileus 2.5-5 cm broad; stem 3-5 cm long, 3-6 mm thick.

Gregarious. Ground and decayed wood. Port Jefferson, Suffolk co. August. Rare.

This species is likely to be easily mistaken for the preceding one, *Hypholoma rugocephalum* Atk., which it re-

sembles externally but from which it is separated by its more narrow obtuse and smooth spores and by its broader flask-shaped cystidia. Its glabrous rugosely and radiately wrinkled pileus separate it from *H. velutinum* (Pers.) Fr. The pileus also having neither spots nor regular striations distinguishes it from *H. lepidotum* Bres. Specimens of it have been received from Eglon, West Virginia, and from Rockville, Indiana.

Pileus carnosus, tenuis, convexus vel subplanus, in centro aliquando leviter depressus, glaber, rugosus vel radiate rugosus, in siccitate margine striis irregularibus radiantibus ornatus, aliquando margine irregularis, brunneus fulvo-brunneus vel rufo-brunneus, frequenter in centro nigrescens, carne albida; lamellae tenues, confertae, adnatae, aliquando leviter sinuatae, brunneae deinde nigro-brunneae; stipes aequalis, glaber, cavus, pallidus vel pileo in colore similis; sporae laeves, ellipsoideae, $8-10 \times 4-6 \mu$; cystidia $40-60 \times 16-20 \mu$.

Several species formerly referred to this genus have been omitted because of erroneous determination or because they are more closely related to the genus *Psilocybe*.

NEW YORK SPECIES OF PSATHYRA

Psathyra Fr.

Pileus membranaceous, conic or campanulate, fragile, hygrophanous, the margin at first straight and appressed to the stem; mature lamellae brown or purplish brown; stem subcartilaginous, fragile, polished, hollow; veil none or only universal and floccose fibrillose.

The genus may be separated from *Psilocybe* by the fragile character of the pileus and stem and by the straight appressed margin of the young pileus. It is divided into three sections, *Conopileae*, *Obtusatae* and *Fibrillosae*. Of the first section no representative has yet been found within our limits.

Obtusatae

Pileus campanulate or convex, glabrous or atomate; lamellae plane or arcuate; veil none.

KEY TO THE SPECIES

- Pileus growing on decaying wood *conica*
 Pileus growing on ground among hair cap mosses..... *polytrichophila*

Psathyra conica Pk.

CONIC PSATHYRA

N. Y. State Mus. Rep't 54, v. 1; report of the State Botanist p.153, pl.H, fig.17-22

Pileus thin, conic, rarely convex, glabrous, hygrophanous, dark brown when moist, pale ochraceous when dry; lamellae very broad, close, adnate, whitish or pallid when young, dark brown when mature, often white crenulate on the edge; stem slender, hollow, silky fibrillose, brown; spores 5-6 μ long, 3-4 μ broad.

Pileus 8-12 mm broad; stem 2-4 cm long, 1 mm thick.

Decaying prostrate trunks of spruce. Franklin co. September. Rare.

Psathyra polytrichophila Pk.

MOSS-LOVING PSATHYRA

N. Y. State Mus. Rep't 30, p. 42

Pileus thin, convex or subcampanulate, glabrous, fragile, sometimes with a slight umbo, hygrophanous, brown and striatulate on the margin when moist, pale ochraceous or buff color when dry, subshining; lamellae plane, adnate or slightly arcuate and subdecurrent, broad, subdistant, purplish brown; stem slender, equal, stuffed with a whitish pith, mealy at the top, slightly fibrillose toward the base, colored like the pileus; spores purplish brown, 8 μ long, 5 μ broad.

Pileus 4-10 mm broad; stem 2.5-5 cm long, 1-2 mm thick.

Gregarious. Ground among hair cap mosses, *Polytrichum*. Albany and Oneida counties. May. Rare.

Fibrillosae

Pileus and stem at first floccose or fibrillose from the universal veil.

KEY TO THE SPECIES

Pileus umbonate umbonata
Pileus obtuse vestita

Psathyra umbonata Pk.

UMBONATE PSATHYRA

N. Y. State Mus. Rep't 50 1:106

Pileus submembranous, campanulate, strongly umbonate, hygrophanous, purplish brown and striatulate when moist, grayish white when dry, even or slightly rugulose, atomate, often radiately sul-

cate and slightly fibrillose on the margin, the umbo usually becoming paler than the rest; lamellae broad, subdistant, ventricose, subadnate, brownish red becoming purplish brown, finally almost black; stem slender, flexuose, hollow, white, commonly hairy tomentose at the base and slightly mealy at the top; spores blackish brown or almost black, 12-16 μ long, 6-8 μ broad.

Pileus 2-3 cm broad; stem 4-7 cm long, 1.5-2 mm thick.

Gregarious or subcespitose. On chip dirt and vegetable mold. Hamilton co. July. Rare.

It is closely related to *Psathyra corrugis* (Pers.) Fr. from which it may be separated by its much darker colored and striatulate moist pileus, atomate and with a white umbo when dry, less glabrous and more slender stem and broader spores. The umbo is very prominent and loses its moisture before the rest of the pileus. In consequence it becomes very conspicuous, appearing like a white knob in the midst of a dark background. Because of the fibrils on the margin of the pileus it is placed in this section though the fibrils are not always present. In the dried specimens the margin is sulcate striate.

Psathyra vestita Pk.

CLOTHED PSATHYRA

N. Y. State Mus. Bul. 105, p.28

Pileus submembranaceous, ovate, conic or subcampanulate, obtuse, at first covered with white flocculent fibrils, reddish becoming pallid or white and silky fibrillose, sometimes slightly striate on the margin when moist, striate to the center when dry; lamellae thin, narrow, close, adnate, white when young, becoming blackish brown; stem equal, hollow, flexuous, floccose fibrillose becoming silky fibrillose, mealy and often striate at the top, white; spores purplish brown, 8-10 μ long, 5-6 μ broad.

Pileus 8-16 mm broad; stem 2.5-4 cm long, 2-3 mm thick.

Gregarious. Among fallen leaves and grass. Essex co. September.

This species is closely related to *Psathyra semivestita* B. & Br. from which it differs in color and in being wholly clothed when young with white floccose fibrils.

EXPLANATION OF PLATES

Plate 121

Boletus albus Pk.

WHITE BOLETUS

- 1 Young plant
- 2 Mature plant
- 3 Vertical section of upper part of a young plant
- 4 Vertical section of upper part of a mature plant
- 5 Four spores x 400

Lycoperdon atropurpureum Vitt.

PURPLE SPORED PUFF BALL

- 6 Two young plants
- 7 A mature plant
- 8 Vertical section of a fully grown plant while yet in edible condition
- 9 Vertical section of a fully mature plant
- 10 Four spores x 400

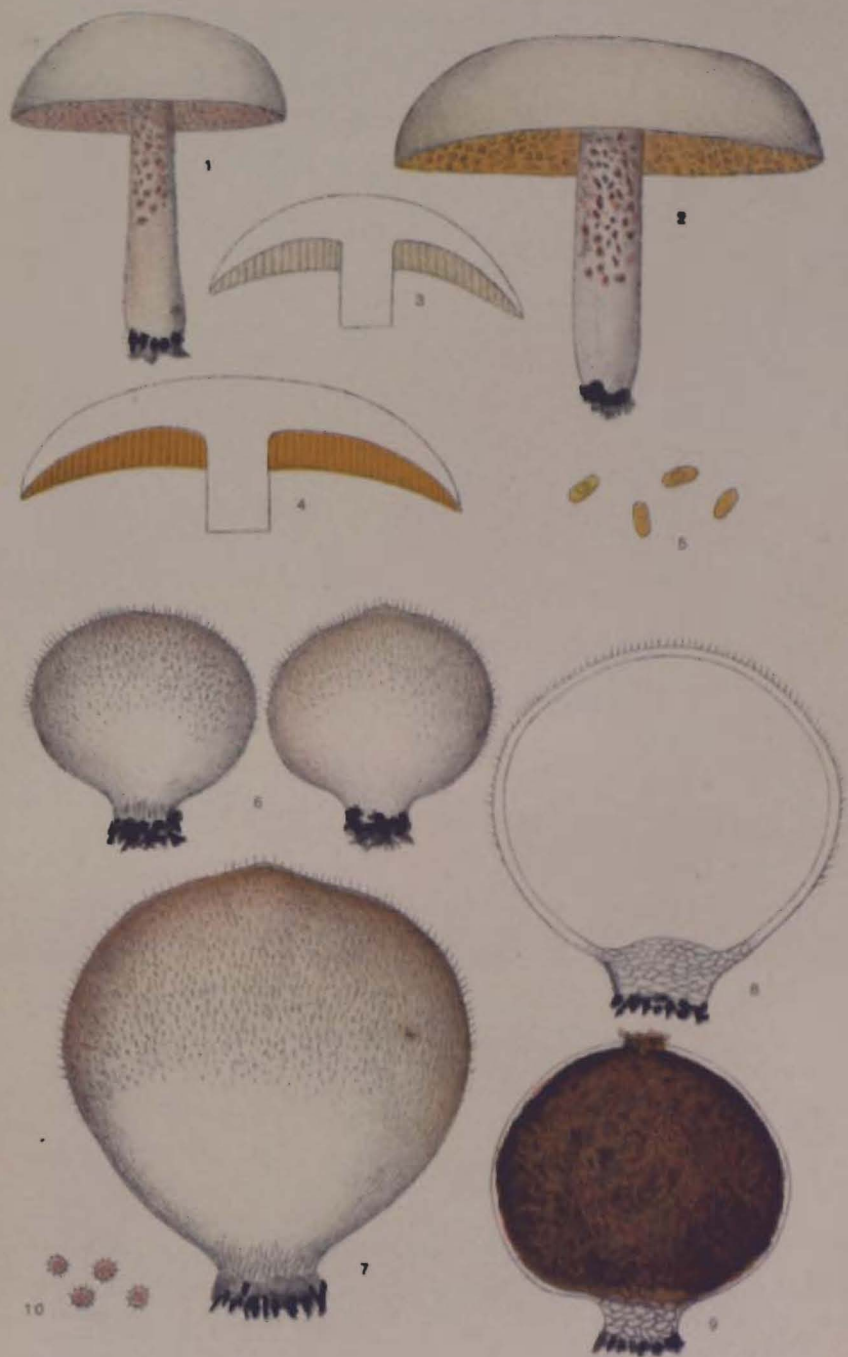


FIG. 1-5
 BOLETUS ALBUS Pk.
 WHITE BOLETUS

FIG. 6-10
 LYCOPERDON ATROPURPUREUM Vitt.
 PURPLE SPORED PUFF BALL

Following P

87

Plate 122

89

Lactarius camphoratus Fr.

FRAGRANT LACTARIUS

- 1 Young plant
- 2 Mature plant showing hymenium
- 3 Mature plant showing umbonate pileus
- 4-5 Vertical section of upper part of two plants
- 6 Transverse section of stem
- 7 Four spores x 400

Cantharellus aurantiacus Fr.

ORANGE CHANTARELLE

- 8 Young plant
- 9 Mature plant
- 10 Mature plant with brown center of pileus
- 11 Mature plant with gills paler than usual
- 12 Mature plant with white pileus and pale gills
- 13-14 Vertical section of upper part of two plants showing variation in color of gills
- 15 Diagrammatic representation of forking of the gills
- 16 Four spores x 400



FIG. 1-7

LACTARIUS CAMPHORATUS FR.
CAMPHORY LACTARIUS

FIG. 8-16

CANTHARELLUS AURANTIACUS FR.
ORANGE CHANTARELLE

FOLIO 100

Plate 123

91

Lactarius lignyotus Fr.

SOOTY LACTARIUS

- 1 Young plant
- 2 Plant of medium size showing crenate and striate margin of cap
- 3 Large plant with fully expanded cap showing a small umbo and irregular radiating ridges; also discolored wound of gills and drop of milk issuing from it
- 4 Vertical section of upper part of a young plant
- 5 Vertical section of upper part of a mature plant
- 6 Four spores x 400



LACTARIUS LIGNYOTUS FR.
SOOTY LACTARIUS

Following p. 92

Plate IV

93

Lactarius boughtoni Pk.

BOUGHTON LACTARIUS

- 1 Young plant
- 2 Middle-aged plant
- 3 Mature plant
- 4 Vertical section of upper part of a young plant
- 5 Vertical section of upper part of a mature plant
- 6 Transverse section of a stem
- 7 Four spores x 400



LACTARIUS BOUGHTONI Pk.
BOUGHTON LACTARIUS

1900-1901

Plate VI

95

Cortinarius croceofolius Pk.

SAFFRON-GILLED CORTINARIUS

- 1 Young plant
- 2 Middle-aged plant
- 3-4 Mature plants
- 5 Vertical section of upper part of a young plant
- 6 Vertical section of upper part of a mature plant
- 7 Transverse section of a stem
- 8 Four spores x 400

Clitocybe biformis Pk.

TWO-FORMED CLITOCYBE

- 9 Young plant
- 10 Middle-aged plant
- 11 Mature plant showing more highly colored cap and gills
- 12 Mature plant with eccentric stem
- 13 Vertical section of upper part of a middle-aged plant
- 14 Vertical section of upper part of a mature plant with eccentric stem
- 15 Four spores x 400

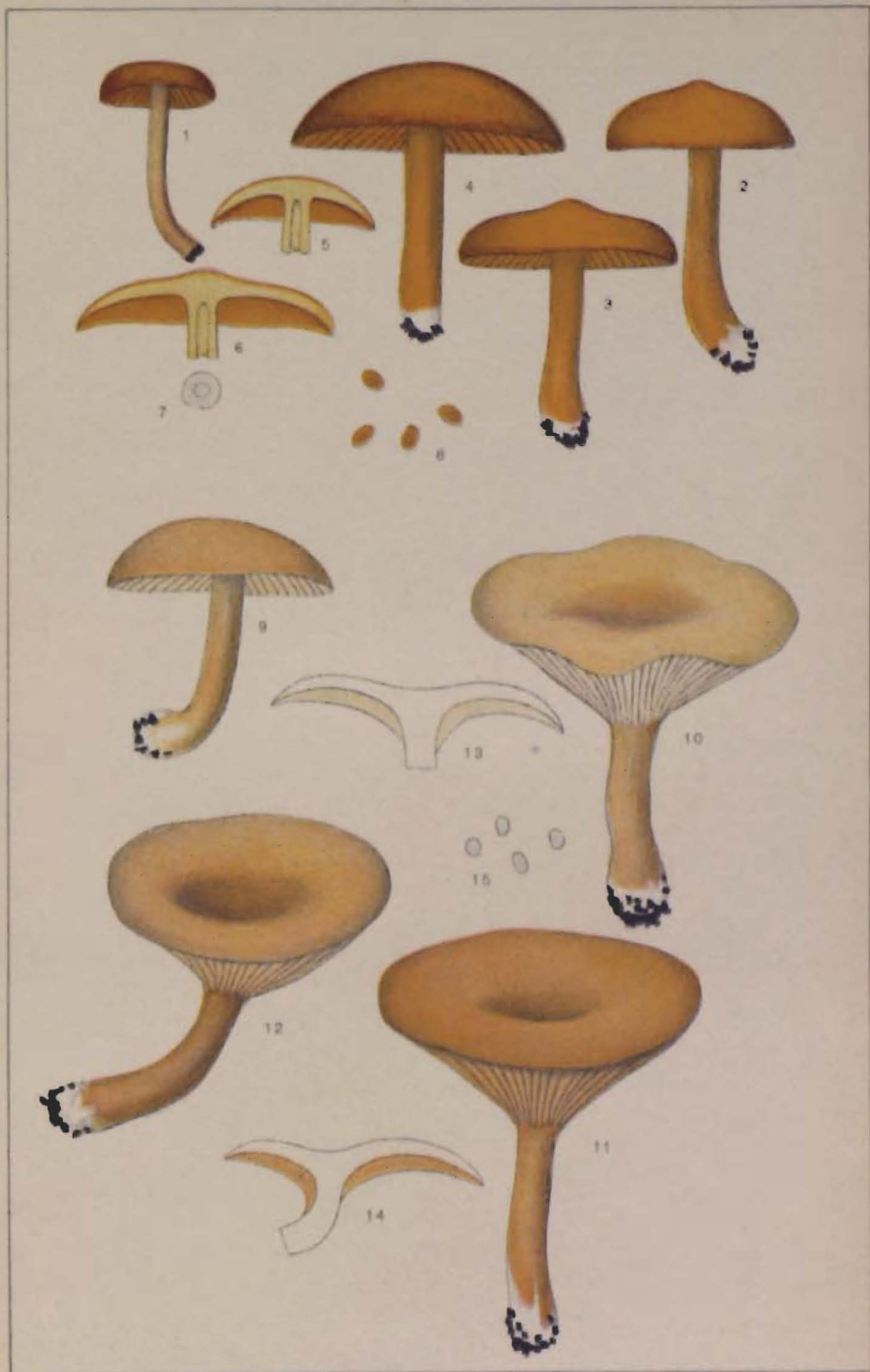


FIG. 1-8

CORTINARIUS CROCEOFOLIUS Pk.
SAFFRON GILLED CORTINARIUS

FIG. 9-15

CLITOCYBE BIFORMIS Pk.
TWO FORMED CLITOCYBE

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