[From the 44th Report of the New York State Museum of Natural History]

ANNUAL REPORT

OF THE

STATE BOTANIST

OF THE

State of New York.

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

By CHARLES H. PECK.

ALBANY:
JAMES B. LYON, STATE PRINTER.
1891.

STATE OF NEW YORK.

No. 77.

IN SENATE,

JANUARY 31, 1891.

ANNUAL REPORT

OF THE

STATE BOTANIST.

OFFICE OF THE STATE BOTANIST,
ALBANY, *January* 31, 1891.

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

I have the honor to present to you my annual report for the year 1890.

Very respectfully.

CHARLES H. PECK.

REPORT.

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

GENTLEMEN.—I have the honor of communicating to you the following report:

Specimens of plants for the State Herbarium have been collected and prepared by the Botanist during the past year in the counties of Albany, Columbia, Cattaraugus, Dutchess, Essex, Greene, Hamilton, Oneida, Oswego, Putnam, Rensselaer, Steuben and Warren.

Specimens contributed by correspondents have been collected in the counties of Dutchess, Onondaga, Ontario, Orleans, Oswego, St. Lawrence and Westchester.

Specimens of 269 species of plants have been added to the Herbarium, of which 254 were collected by the Botanist and 15 were contributed. Of the former 72 are new to the Herbarium, of the latter 11. The number of species represented in the Herbarium has, therefore, been increased by 83. Of the remaining 186 species, the specimens represent forms or varieties not before represented or not well shown, or are specimens intended to accompany the trunk sections now being made of the trees of the State. Among the species not before represented in the Herbarium are 36 species of fungi considered new to science and described as such in another part of this report. A list of the species of which specimens have been added to the Herbarium is marked A.

It seems desirable that the examples of trunk sections of the trees of the State, now being collected, should be accompanied by specimens of a branch or branches bearing the leaves, flowers and fruit. These, when properly labeled, mounted and placed with their respective wood sections, will make the illustration of the character of the tree much more complete and will afford a material aid to the student and the public in acquiring a familiar knowledge of the trees of the State and their names. Specimens have been collected representing 26 species of our trees. The names of these constitute the last 26 names in the list marked A.

Specimens of plants have been contributed by 22 contributors. Among these contributions are many extra limital species not

included in the foregoing enumeration. A list of the contributors and of their respective contributions is marked B.

The record of species not before reported, together with their respective localities, habitats, and time of collection, also remarks concerning them and descriptions of new species, is marked C.

Remarks concerning species previously reported, a record of new localities of rare plants and descriptions of peculiar forms or varieties are contained in a subdivision marked D.

The genus Tricholoma is a large one, numbering, according to Sylloge Fungorum, 187 species. It is at present represented in this State by 48 species. Some of these are variable in size and color, and others are so similar to each other in general appearance that they are not identified without difficulty. A collation and revision of the descriptions of our New York species and a systematic arrangement of them has seemed desirable. This I have attempted to do, following the plan previously adopted in reference to several other genera of Agaricini. Synoptical tables of the different groups of species have been prepared to facilitate the tracing of the species, the descriptions have been revised and in many cases made more complete, and remarks have been added to some of these for the purpose of pointing out more clearly the distinguishing characters. It is believed that these will in nearly all cases enable the student to identify the species with rapidity and accuracy. This monograph of the New York species of Tricholoma is marked E.

Mary E. Banning, of Baltimore, Maryland, has for several years been engaged in studying the fleshy fungi of Maryland. Of most of them she has made drawings of the living plant and written descriptions of the species, to which in many cases remarks concerning her own observations of their habits, peculiarities and edible qualities have been added. The figures are beautifully painted by hand in water colors. They are natural size, life-like in expression and accurate in detail. They are on sheets 12 by 15 inches, thus permitting a full size illustration of even the large species. Each plate is devoted to a single species or variety. Generally both the young and the mature plant have been figured and a vertical section of a plant. The specimen has been placed in such positions that both the upper and lower surfaces of the pileus may be seen. Most of the species figured belong to the Hymenomycetes and Gasteromycetes. The whole number of species recorded in her list is 179. Of these, 151 have been illustrated on 175 plates, two or more plates being in some instances devoted to one species in

order to show its different varieties. Of the figured species, 14 are described as new. These plates and their accompanying manuscript descriptions have been bound in one large volume with manuscript dedication, preface and index. This volume is one of much value and merit, and though it has evidently cost its author an immense amount of labor and study she has most generously presented it to the New York State Museum, in order that, as she says, it may be kept where it will be the most useful, thereby acknowledging by implication the importance of this institution as a repository and source of mycological information. As a mark of appreciation of this munificent gift it has seemed to me most fitting that this list of Maryland fungi and the descriptions of the new species should be transcribed for publication in this report that they may in this way be made still more accessible to the mycological student and the public. The list with the descriptions of new species is marked F.

I have from time to time recorded in previous reports examples of herbs and shrubs coming under my observation and illustrating the general principle that feeble, starved or unthrifty plants are more liable to the injurious attacks of parasitic fungi than other plants of the same species growing under more favorable circumstances and possessing more vigor. I am able now to cite an illustration of this principle in the attacks of parasitic fungi on trees. Many small spruce trees are growing on the marsh just north of Kasoag, Oswego county. These have a starved, unthrifty appearance. Their growth is very slow and their leaves as a rule are scarcely more than half as long as those of vigorous healthy spruces. Their feeble condition is manifestly due to the character of the soil in which they grow. It is low, wet, undrained and peaty. There is probably a scarcity of the necessary mineral constituents, and the roots of the trees are too much of the time immersed in standing water. In the midst of the marsh, but on higher and therefore better drained land, other spruces grow. These trees are larger, though probably not older, and they have a more vigorous and healthy appearance. Their leaves are of the usual size and color. So far as could be ascertained they are subject to the same conditions, soil excepted, as those that grow in the lower marsh land around them. In July, when I visited this locality, the foliage of the trees in the marsh land was much discolored and badly affected by a parasitic fungus, *Peridermium decolorans*. There was scarcely a tree that had not been invaded by it. At the same time the more vigorous spruces on the higher

land were wholly free from it. The unavoidable conclusion is that their better health and greater vigor afforded them protection against this parasite. Among the noteworthy additions to our State flora may be mentioned a remarkable and very ornamental rarity of the common polypod fern. It is not recorded in Eaton's Ferns of North America, and so far as known it has not before been found in this country. Its botanical name is *Polypodium vulgare* L. var. *cristatum*, Lowe. Because of its singular character and its rarity I have given a figure and a more full account of it in its appropriate place in this report.

A new fungus of special interest, because of its peculiar habitat, has also been brought to light. It is a species of mold which I have called *Aspergillus aviarius*. It was found inside the body of a canary bird, the death of which it apparently caused. It helps to illustrate the fact that there is scarcely a place in which or a substance on which fungi of some sort may not grow. A full description of this species has been given in another place.

Very respectfully

CHAS. H. PECK

ALBANY, *November* 29, 1890

A

PLANTS ADDED TO THE HERBARIUM

New to the Herbarium

Ranunculus circinatus *Sibth.*
Lychnis Floscuculi *L.*
Spiræa sorbifolia *L.*
Rosa cinnamomea *L.*
Prunus Persica *L.*
Pyrus Aucuparia *Gœrt.*
Epilobium glandulosum *Lehm.*
Digitalis purpurea *L.*
Clintonia umbellata *Torr.*
Buxbaumia indusiata *Brid.*
Lejeunia calcarea *Lib.*
Frullania dilatata *Nees.*
Armillaria viscidipes *Pk.*
Tricholoma grande *Pk.*
T. sordidum *Fr.*
Clitocybe rivulosa *Pers.*
C. fuscipes *Pk.*
Collybia expallens *Pk.*
Mycena pseudopura *Cke.*
Omphalia corticola *Pk.*
Pleurotus pubescens *Pk.*
P. campanulatus *Pk.*
Flammula squalida *Pk.*
Pluteolus reticulatus *Pers.*
Crepidotus distans *Pk.*
Cortinarius albidus *Pk.*
Hygrophorus penarius *Fr.*
Coprinus picaceus *Fr.*
Polyporus annosus, *Fr.*
Dædalea sulphurella *Pk.*
D. extensa *Pk.*
Hydnum caput-ursi *Fr.*
H. arachnoideum *Pk.*
Odontia tenuis *Pk.*
Mucronella minutissima *Pk.*
Thelephora odorifera *Pk.*
Porothelium fimbriatum *Fr.*
Cyphella arachnoidea *Pk.*
Geaster rufescens *Pers.*
Phyllosticta Ludwigiæ *Pk.*
Phoma sordida *Sacc.*
Dothiorella Celtidis *Pk.*
Sphæropsis Ellisii *Sacc.*
S. rubicola *C. & E.*
Diplodia Liriodendri *Pk.*
D. multicarpa *Pk.*
Hendersonia epileuca *B. & C.*
Septoria Pteridis *Pk.*
Melanconium zonatum *E. & E.*
Septomyxa Carpini *Pk.*
Pestalozzia lignicola *Cke.*
Puccinia Spergulæ *DC.*
Doassansia Sagittariæ *Fisch.*
Aspergillus aviarius *Pk.*
Sporotrichum Lecanii *Pk.*
Diplosporium breve *Pk.*
Didymaria Ungeri *Cd.*
Ramularia destruens *Pk.*
R. Junci *Pk.*
R. graminicola *Pk.*
R. Heraclei *Sacc.*
Cercosporella Veratri *Pk.*
Bispora effusa *Pk.*
Cladosporium entoxylinum *Cd.*
Septonema episphæricum *Pk.*
Coniothecium effusum *Cd.*
Epicoccum vulgare *Cd.*
E. diversisporum *Preuss.*
Valsa microstoma *Fr.*
V. coöperta *Cke.*
Eutypella cerviculata *Sacc.*
Diaporthe binoculata *Sacc.*
D. tuberculosa *Sacc.*
D. rostellata *Nitsch.*
D. Americana *Speg.*
Massaria epileuca *B. & C.*
Caryospora minor *Pk.*
Metasphæria nuda *Pk.*
Pleospora Asparagi *Reb.*
Lophiostoma vagans *Fab.*
Stictis minuscula *Karst.*
Pseudopeziza Pyri *Pk.*
Saccharomyces Betulæ *Pk. & Pat.*

Not new to the Herbarium

Ranunculus sceleratus L.
R. ambigens *Wats.*
Thalictrum purpurascens *L.*
Cimicifuga racemosa *Nutt.*
Nymphæa odorata *Ait.*
Corydalis flavula *DC.*
Dicentra cucullaria *DC.*
Sanguinaria Canadensis *L.*
Viola sagittata *Ait.*
Brassica campestris *L.*
Raphanus sativus *L.*
Lechea minor *L.*
Stellaria media *Sm.*
Lychnis vespertina *Sibth.*
Linum Virginianum *L.*
Rubus villosus *Ait.*
R. hispidus *L.*
R. triflorus *Rich.*
Potentilla tridentata *Ait.*
Spiræa salicifolia *L.*
Nesæa verticillata *H. B. K.*
Œnothera pumila *L.*
Sedum ternatum *Mx.*
Heuchera Americana *L.*
Cicuta maculata *L.*
C. bulbifera *L.*
Angelica hirsuta *L.*
Aralia racemosa *L.*
Galium triflorum *Mx.*
Viburnum pauciflorum *Pyle.*
Symphoricarpus racemosus *Mx.*
Solidago sempervirens *L.*
S. nemoralis *Ait.*
S. arguta *Ait.*
Aster macrophyllus *L.*
A. Novæ-Angliæ *L.*
A. undulatus *L.*
A. sagittifolius *Willd.*
A. multiflorus *Ait.*
A. paniculatus *Lam.*
A. Novi-Belgii *L.*
A. prenanthoides *Muhl.*
A. vimineus *Lam.*
Senecio vulgaris *L.*
Erigeron Canadensis *L.*
Cacalia suaveolens *L.*
C. atriplicifolia *L.*
Antennaria plantaginifolia *Hook.*
Prenanthes serpentaria *Pursh.*
Rudbeckia triloba *L.*
Lobelia spicata *Lam.*
Plantago lanceolata *L.*
Verbascum Blattaria *L.*
V. Lychnitis *L.*
Gerardia tenuifolia *Vahl.*
Stachys aspera *Mx.*
Monarda didyma *L.*
Pycnanthemum lanceolatum *Pursh.*
Brunella vulgaris *L.*
Myosotis laxa *Lehm.*
Onosmodium Virginianum *DC*
O. Carolinianum *DC.*
Phlox maculata *L.*
Gentiana linearis *Frœl.*
Asclepias phytolaccoides *Pursh.*
Vincetoxicum nigrum *Mœnch.*
Lycium vulgare *Dunal.*
Rumex obtusifolius *L.*
R. crispus *L.*
Polygonum hydropiperoides *Mx.*
Fraxinus pubescens *Lam.*
Calla palustris *L.*
Typha latifolia *L.*
Alisma Plantago *L.*
Smilax herbacea *L.*
Epipactis Helleborine *Crantz.*
Calopogon pulchellus *R. Br.*
Chamælirium Carolinianum *Willd.*
Habenaria psycodes *Gray.*
Juncus effusus *L.*
J. filiformis *L.*
J. acuminatus *Mx.*
J. marginatus *Rostk.*
Scirpus Smithii *Gray.*
S. atrovirens *Muhl.*
Eriophorum gracile *Koch.*
E. Virginicum *L.*
Eleocharis intermedia *Schultes.*
Carex folliculata *L.*
C. monile *Tuck.*
C. retrorsa *Schw.*
C. crinita *Lam.*
C. triceps *Mx.*
C. flava *L.*
C. laxiflora *Lam.*
C. Tuckermani *Dew.*
C. vulpinoidea *Mx.*
C. vitilis *Fr.*
C. straminea *Willd.*
C. lupulina *Muhl.*
C. utriculata *Boott.*
Phalaris arundinacea *L.*

Bromus secalinus *L.*
B. ciliatus *L.*
Asprella Hystrix *Willd.*
Polypodium vulgare *L.*
Equisetum hyemale *L.*
Riccia fluitans, *L.*
Amanita rubescens *Fr.*
Lepiota rhacodes *Vitt.*
Tricholoma Peckii *Howe.*
T. terreum *Schæff.*
T. album *Schæff.*
T. chrysenteroides *Pk.*
Clitocybe cyathiformis *Fr.*
Collybia velutipes *Curt.*
C. Familia *Pk.*
Mycena pterigena *Fr.*
Pleurotus applicatus *Batsch.*
P. sulphureoides *Pk.*
P. striatulus *Fr.*
Entoloma cyaneum *Pk.*
Pholiota discolor *Pk.*
Hebeloma crustuliniforme *Bull.*
Flammula spumosa *Fr.*
Crepidotus dorsalis *Pk.*
Agaricus silvicola *Vitt.*
Stropharia squamosa *Fr.*
Psilocybe spadicea *Fr.*
Cortinarius collinitus *Fr.*
Hygrophorus splendens *Pk.*
H. pratensis *Fr.*
Lactarius atroviridis *Pk.*
Russula variata *Banning.*
Cantharellus lutescens *Fr.*
Polystictus conchifer *Schw.*
Poria sanguinolenta *Fr.*
Dædalea unicolor *Fr.*
Irpex Tulipiferæ *Schw.*
Craterellus clavatus *Fr.*
Stereum bicolor *Fr.*
S. ochraceoflavum *Schw.*
Corticium Oakesii *B. & C.*
Coniophora puteana *Fr.*
Tremella mesenterica *Retz.*
Comatricha Friesiana *Rost.*
Enerthenema papillatum *Rost.*
Doassansia Alismatis *Corn.*
Cercospora varia *Pk.*
Ramularia lineola *Pk.*
R. variabilis *Fckl.*
Zygodesmus fuscus *Cd.*
Bactridium flavum *K. & S.*
Glœosporium lagenarium *Pass.*
Tuberculina persicina *Sacc.*
Underwoodia columnaris *Pk.*
Vibrissea truncorum *Fr.*
Peziza chlora *Schw.*
Propolis faginea *Karst.*
Melogramma vagans *DeNot.*
Magnolia acuminata *L.*
Acer rubrum *L.*
Amelanchier Canadensis *T. & G.*
Ulmus fulva *Mx.*
U. Americana *L.*
Celtis occidentalis *L.*
Morus rubra *L.*
Platanus occidentalis *L.*
Nyssa sylvatica *Marsh.*
Fraxinus pubescens *Lam.*
Carya amara *Nutt.*
Betula lenta *L.*
B. lutea *Mx.*
B. populifolia *Ait.*
B. papyrifera *Marsh.*
B. nigra *L.*
Quercus alba *L.*
Q. macrocarpa *Mx.*
Q. rubra *L.*
Q. coccinea *Wang.*
Q. palustris *DuRoi.*
Fagus ferruginea *Ait.*
Populus monilifera *Ait.*
Pinus resinosa *Ait.*
Thuya occidentalis *L.*
Juniperus Virginiana *L.*

(B)

CONTRIBUTORS AND THEIR CONTRIBUTIONS

Mrs. E. C. Anthony, Gouverneur, N. Y.

Geaster rufescens *Pers.* | Tulostoma mammosum *Fr.*

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

Epipactis Helleborine *Crantz.* | Selaginella apus *Spring,*

Mrs. E. B. Smith, Coeymans, N. Y.

Xylaria Hypoxylon var. pedata *Fr.*

Mrs. W. H. Fitch, Norwich, N. Y.

Aconitum Noveboracense *Gr.*
Liatris spicata *Willd.*
Cacalia suaveolens *L.*
Erythronium albidum *Nutt.*

Miss P. A. McCabe. White Plains, N. Y.

Caucalis Anthriscus *Huds.*
Pentstemon lævigatus *Soland.*

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

Andræa petrophila *Ehrh.*
Georgia geniculata *Girg.*
G. pellucida *Rabh.*
Fissidens rufulus *B. & S.*
F. grandifrons *Brid.*
F. Hallianus *Mitt.*
Dicranum strictum *Schleich.*
D. Starkii *W. & M.*
D. fuscescens *Turn.*
Dicranella crispa *Schp.*
D. secunda *Lindb.*
Blindia acuta *B. & S.*
Hedwigia ciliata *Ehrh.*
Orthotrichum cupulatum *Hoffm.*
Leucobryum vulgare *Hampe.*
Grimmia heterosticha *C. & M.*
G. canescens *C. & M.*
G. patens *B. & S.*
G. hypnoides *Lindb.*
G. torquata *Hornsch.*
G. apocarpa *Hedw.*
Braunia Californica *Lesq.*
Ancectangium Lapponicum *Hedw.*
A. Mougeottii *Lindb.*
Swartzia montana *Lindb.*
Timmia austriaca *Hedw.*
Scouleria aquatica *Hook.*
Catharinea Selwyni *Britton.*
Bartramia Menziesii *Turn.*
B. Œderiana *Sw.*
B. pomiformis *Hedw.*
Philonotis fontana *Brid.*
Neckera pennata *Hedw.*
Climacium Americanum *Brid.*
C. dendroides *W. & M.*
Hypnum riparium *L.*
H. proliferum *L.*
H. crista-castrensis *L.*
H. megaptilum *Sull.*
Alsia abietina *Sull.*
Thamnium Bigelovii *Sull.*
Plagiothecium latebricola *Lindb.*
P. turfaceum *Lindb.*
P. Mullerianum, *Schp.*
P. elegans *Schp.*
Rhytidium robustum *Hook.*
Hylocomium triquetrum *B. & S.*
H. squarrosum *B. & S.*
H. loreum *B. & S.*
H. parietinum *Lindb.*

Miss M. E. Banning, Baltimore, Md.

Lycoperdon cælatum *Bull.*

W. M. Beauchamp, Baldwinsville, N. Y.

Nicotiana rustica *L.*

Smith E. Jelliffe, M. D., Brooklyn, N. Y.

Atrichum crispum *James.*
Neckera oligocarpa *B. & S.*
Homalia trichomanoides *B. & S.*
Asplenium montanum *Willd.*

Thomas Taylor, M. D., Washington, D. C.

Rhizopogon rubes. v. Vittadini *Tul.*
Calostoma Berkeleyi *Massee.*

W. W. Rowlee, Ithaca, N. Y.

Ranunculus circinatus *Sibth.*
Spiræa sorbifolia *L.*

Moses Craig, Ithaca, N. Y.

Æcidium Euphorbiæ *Gmelin.*
Æ. gnaphaliatum *Schw.*
Æ. Caladii *Schw.*
Æ. Iridis *Ger.*
Puccinia Menthæ *Pers.*
P. coronata *Cd.*
P. Podophylli *Schw.*

C. L. Shear, Stockbridge, Mass.

Lychnis Flosscuculi *L.*

S. C. Bradt, Albany, N. Y.

Æcidium Clematidis *DC.*

Arthur Claghorn, New Harbor, Newfld.

Empetrum nigrum *L.*

Charles A. Coons, Valatie, N. Y.

Polypodium vulgare *L.*, var. cristata *Lowe.*

Rev. F. D. Kelsey, Helena, Mont.

Omphalodes Howardi *Gr.*
Douglasia montana *Gr.*
Lithospermum angustifolium *Mx.*
Phragmidium subcorticium *Wint.*
Puccinia Grindeliæ *Pk.*
P. Tanaceti *DC.*
P. flosculosorum *Rœhl.*
P. Phragmitis *Korn.*
Uromyces Sprague*æ* *Hark.*
U. Trifolii *Lev.*
Æcidium Glaucis *D. & M.*
Æ. Plantaginis *Ces.*
Æ. gaurinum *Pk.*
Melampsora Epilobii *Wint.*
Melampsorella Cerastii *Schr.*
Exidia glandulosa *Fr.*
Cucurbitaria Kelseyi *E. & E.*
Ramularia arnicalis *E. & E.*
Entyloma compositarum *Farl.*
Phoma Mamillariæ *Web.*
Asteroma ribicolum *E. & E.*
Dimerosporium Populi *E. & E.*
Valsa nivea *Fr.*
V. boreëlla *Karst.*
Uncinula adunca *Lev.*
Phyllactinia suffulta *Sacc.*
Erysiphe communis *Wallr.*
E. Cichoracearum *DC.*

C. E. Fairman, M. D., Lyndonville, N. Y.

Pleurotus pubescens *Pk.*
Diplodia spiræicola *E. & E.*
Pestalozzia insidens *Zab.*
Melanconium zonatum *E. & E.*
Coniosporium Fairmani *Sacc.*
Cyphella Tiliæ *Cke.*
Tubulina cylindrica *Bull.*
Fenestella amorpha *E. & E.*
Cenangium rubiginellum *Sacc.*

L. M. Underwood, Syracuse, N. Y.

Corydalis flavula *DC.*
Riccia fluitans *L.*
R. lutescens *Schw.*
R. Donnellii *Aust.*
R. crystallina *L.*
Preissia hemisphærica *Cogn.*
Notothylas orbicularis *Sulliv.*
Lunularia vulgaris *Mich.*
Fimbriaria tenella *Nees.*
Thallocarpus Curtisii *Lindb.*
Aneura pinguis *Dum.*
A. pinnatifida *Nees.*
A. latifrons *Lindb.*
A. multifida *Dum.*
Pellia epiphylla *Nees.*
P. endivæfolia *Dum.*
Fossombronia Dumortieri *Lindb.*
Metzgeria conjugata *Lindb.*
M. pubescens *Rad.*
Lejeunia calcarea *Lib.*
Lejeunia clypeata *Sulliv.*
Frullania Eboracense *Gott.*
F. Virginica *Lehm.*
F. Bolanderi *Aust.*
F. Oakesiana *Aust.*
F. dilatata *Nees.*
Radula spicata *Aust.*
R. tenax *Lindb.*
Porella Bolanderi *Aust.*
P. platyphylla *Lindb.*
P. navicularis *Lindb.*
Blepharostoma tricophylla *Dum.*
Ptilidium Californicum *Aust.*
Bazzania deflexa *Mart.*
Chiloscyphus polyanthos *Cd.*
Lophocolea heterophylla *Nees.*
L. Leibergii *Under.*
Odontoschisma Sphagni *Dum.*
Harpanthus scutatus *Spruce.*
Jungermannia setiformis *Ehrh.*

Jungermannia barbata *Schreb.*
J. minuta *Crantz.*
J. inflata *Huds.*
J. incisa *Schrad.*
J. exsecta *Schmidt.*
Cephalozia multiflora *Spruce.*
C. divaricata *Dum.*
C. bicuspidata *Dum.*
C. Virginiana *Spruce.*
Mylia Taylori *Gray.*
Diplophyllum albicans *Dum.*
Gymnomitrium concinnatum *Cd.*
Scapania undulata *N. & M.*
Scapania Bolanderi *Aust.*
S. glaucocephala *Aust.*
Nardia crenulata *Lindb.*
N. fossombronioides *Lindb.*
Marsupella emarginata *Dum.*
M. sphacelata *Dum.*
Sphærocarpus terrestris *Mich.*
S. Donnellii *Aust.*
Polyporus fuscocarneus *Pers.*
Thelephora odorifera *Pk.*
Peniophora unicolor *Pk.*
Underwoodia columnaris *Pk.*

J. Dearness, London, Can.

Phyllosticta Apocyni *Trel.*
P. variegata *E. & E.*
Ascochyta Thaspii *E. & E.*
Melasmia Galii *E. & E.*
Steganosporium cellulosum *Cd.*
S. pyriforme *Hoffm.*
Physoderma Menyanthis *DeBy.*
Puccinia microsperma *E. & E.*
Boletus spectabilis *Pk.*
Septoria Kalmiæ *C. & E.*
S. bacilligera *Wint.*
S. carnea *E. & E.*
S. Dearnessii *E. & E.*
Ramularia Solidaginis *E. & E.*
R. stolonifera *E. & E.*
Gnomonia fimbriata *Pers.*
Asterina rubicola *E. & E.*

S. M. Tracy, Agricultural College, Miss.

Uredo Fici *Cast.*
Phragmidium subcorticium *Wint.*
Puccinia Anthoxanthi *Fckl.*
P. solida *Schw.*
P. emaculata *Schw.*
P. fragilis *Tr. & G.*
P. Lobeliæ *Ger.*
P. Malvacearum *Mart.*
P. rubigovera *Wint.*
P. Smilacis *Schw.*
P. Sporoboli *Arth.*
Uromyces Trifolii *Lev.*
U. Spermococes *Cast.*
U. Dactylidis *Otth.*
U. solida *B. & C.*
U. appendiculatus *Lev.*
Ustilago Buchloes *E. & Tr.*
U. Syntherismæ *Schw.*
Cintractia Avenæ *E. & Tr.*
Sorosporium Everhartii *E. & G.*
Cronartium asclepiadeum *Fr.*
Melampsora Quercus *Schrœt.*
M. Gleditschiæ *E. & E.*
M. Hydrangeæ *Burrill.*
Ægidium Epilobii *DC.*
Peridermium orientale *Cke.*
Phyllosticta hortorum *Speg.*
Staganospora Cyperi *E. & Tr.*
Stigmina Platani *Fckl.*
Scolecotrichum graminis *Fckl.*
Helminthosporium fumosum *E. & M.*
H. Ravenelii *B. & C.*
Sphacelotheca hydropiperis *DeBy.*
Cercospora grisea *C. & E.*
Cercosporella persica *Sacc.*
Fusarium Celtidis *E. & Tr.*
Peronospora Halstedii *Farl.*
Stictis heliotricha *E. & E.*
Pseudopeziza Medicaginis *Lib.*
Erysiphe Liriodendri *Schw.*
Uncinula macrospora *Pk.*
U. polychæta *B. & C.*
Microsphæria quercina *Burrill.*
Acrospermum compressum *Tode.*
Ascomyces Quercus *Cke.*
Parodiella perisporioides *B. & C.*
Phyllachora Solidaginis *Schw.*

E. B. Southwick, New York, N. Y.

Aspergillus aviarius *Pk.*

(C)

SPECIES OF PLANTS NOT BEFORE REPORTED

Ranunculus circinatus *Sibth.*

Black creek, near Fulton, Oswego county. July. *W. W. Rowlee.*

Cardamine flexuosa *With.*

Cascadeville, Essex county. June. The plant here noted was formerly referred to *C. hirsuta* var. *silvatica*, but it differs so much from *C. hirsuta* that I am disposed to follow Withering, in considering it a distinct species.

Lychnis Floscuculi *L.*

Irvington, Westchester county. *C. L. Shear.* This is an introduced plant, and has probably escaped from cultivation.

Spiræa sorbifolia *L.*

Escaped from cultivation and established by roadsides and in a pasture near Fulton. July. *Rowlee.*

Rosa cinnamomea *L.*

Morehouseville, Hamilton county. July. This rose which has been introduced into this country and cultivated, is frequently found growing by roadsides or in adjoining fields. It often persists long after the houses, near which it was planted, have disappeared. It spreads somewhat by its roots, but probably does not spread by seed. The flowers are usually double.

Prunus Persica *L.*

Warsaw, Wyoming county; Turners, Orange county; Cold Spring, Putnam county. Also in Cayuga county. *W. R. Dudley.* In the three localities first mentioned the trees appear to have grown spontaneously, and were fruiting.

Pyrus Aucuparia *Gært.*

Schoharie; Delmar, Albany county, and Spencertown, Columbia county. Sometimes escaping from cultivation and growing wild in the borders of fields or woods.

Epilobium glandulosum *Lehm.*

Wet places, Schroon river, Essex county. August.

Epilobium adenocaulon *Haussk.*

Catskill mountains. In the Thirty-third Report this was reported as a form of *E. coloratum;* but it is now raised to specific rank.

Digitalis purpurea *L.*

Morehouseville. July. The foxglove is a highly ornamental plant, and sometimes escapes from cultivation and becomes established in fields and pastures. In the locality mentioned it was growing in a meadow and an adjoining pasture. About half the plants bore pure white flowers. The lower leaves of some of the plants were spotted by a parasitic fungus, *Ramularia variabilis.*

Buxbaumia indusiata *Brid.*

Decaying wood. Catskill mountains. October.

Lejeunea calcarea *Lib.*

Bark of cedar trees. Farmington, Ontario county. *L. M. Underwood.*

Frullania dilatata *Nees.*

Bark of trees. Marcellus, Onondaga county. *Underwood.*

Armillaria viscidipes *n. sp.*

(Plate 2, Figs. 1 to 3.)

Pileus fleshy, compact, convex or nearly plane, glabrous, whitish with a slight yellowish or reddish-yellow tint, flesh white, odor peculiar, penetrating, subalcaline; lamellæ narrow, crowded, sinuate or subdecurrent, whitish; stem equal, solid, viscid and slightly tinged with yellow below the narrow membranous annulus, whitish above; spores elliptical .0003 in. long .0002 broad.

Pileus 3 to 6 in. broad; stem 3 to 4 in. long, 6 to 12 lines thick.

In mixed woods. Rock City, Dutchess county. October.

This is the fourth species of Armillaria found in the State. It is a large, fine fungus, easily known by its white and yellowish hues, its crowded lamellæ, viscid stem and peculiar penetrating almost alcaline odor. The cuticle of the pileus is thin and soft to the touch, but it sometimes cracks longitudinally and is sometimes slightly adorned with innate fibrils. *A. dehiscens* is said to have a viscid stem, but it is also squamose and the pileus is yellowish ochraceous.

Tricholoma grande *n. sp.*

(Plate 3, figs. 5 to 8.)

Pileus thick, firm, at first hemispherical, then convex, often irregular, dry, squamulose, somewhat silky-fibrillose toward the margin which is at first involute, white, flesh grayish-white, taste

farinaceous; lamellæ close, rounded behind, adnexed, white; stem stout, solid, fibrillose, at first tapering upward, then equal or but slightly thickened at the base, pure white; spores elliptical, .00035 to .00045 in. long, .00024 broad.

Pileus 4 to 5 in. broad; stem 2 to 4 in. long, 1 to 1.5 in. thick.

Among fallen leaves in woods. Carrollton, Cattaraugus county. September.

The plants are often cæspitose and then the pileus is more or less irregular and the lamellæ somewhat transversely lacerated. The species is related to *T. Columbetta* from which its larger size, constantly squamulose pileus, more cæspitose mode of growth, larger spores and farinaceous taste separate it. Its edible quality was tested but its flesh is not tender nor its flavor captivating even in young specimens.

The young margin is pure white and both it and the upper part of the stem are sometimes studded with drops of moisture. The squamules of the pileus are brownish.

Tricholoma sordidum *Fr.*

Manured ground. Menands, Albany county. May.

Clitocybe rivulosa *Pers.*

In woods. Morehouseville, Hamilton county. July.

Our specimens were rather deeply umbilicate, with narrow lamellæ. In other respects they agree with the description of this species. The abundant branching radicating strings of mycelium bind the earth in a mass at the base of the stem.

Clitocybe fuscipes *n. sp.*

Pileus thin, broadly convex or plane, umbilicate, glabrous, whitish and striatulate when moist, pure white when dry, odor and taste farinaceous; lamellæ nearly plane, subdistant, adnate or slightly decurrent, white; stem equal, glabrous or slightly mealy at the top, hollow, fuscous when moist, paler when dry; spores globose, .0002 to .00024 in. broad.

Pileus 4 to 8 lines broad; stem about 1 in. long.

Under pine trees. Carrollton. September.

Apparently allied to *C. pithyophila* but a much smaller plant with a farinaceous odor and a stem darker in color than the pileus or lamellæ. The stem often appears stout in proportion to the size of the pileus.

Collybia expallens *n. sp.*

Pileus thin, broadly convex, then plane, centrally depressed, glabrous, hygrophanous, watery-brownish and striatulate on the thin margin when moist, whitish when dry, flesh whitish when dry, odor farinaceous; lamellæ rather broad, subdistant, rounded behind, adnexed, whitish subcinereous or dingy-yellowish; stem short, hollow, equal or slightly thickened at the base, spores broadly elliptical, .0002 in. long, .00016 broad.

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

Among fallen pine leaves in woods. Salamanca, Cattaraugas county. September.

The pileus is very much paler when dry than it is when moist. When fresh the stem is adorned with delicate fibrils or flocci, but these soon vanish or disappear with a touch. In drying, the moisture disappears from the disk first, the margin last. The farinaceous odor is very distinct. The attachment of the lamellæ easily distinguishes this plant from similar species of Clitocybe.

Mycena pseudopura *Cke.*

Woods. Salamanca. September.

Omphalia corticola *n. sp.*

(Plate 2, figs. 8 to 12.)

Pileus thin, submembranous, convex, becoming expanded and umbilicate, distantly striate, whitish or pale cinereous; lamellæ narrow, distant, at first arcuate and adnate, then decurrent, white; stem short, curved, sprinkled with mealy particles, at first whitish with a brown base, then wholly brown or whitish at the top only; spores elliptical, .0003 in. long, .00016 broad, generally uninucleate.

Pileus 2 to 4 lines broad; stem 4 to 6 lines long.

Bark of living oak trees, *Quercus alba.* Carrollton. September.

This species closely resembles *Mycena corticola*, from which it is separated by its paler pileus, narrower and at length decurrent lamellæ and elliptical spores. Its mode of growth is the same as in that species.

Pleurotus pubescens *n. sp.*

Pileus fleshy, convex, suborbicular, pubescent, yellowish; lamellæ broad, subdistant, rounded behind, sinuate, pallid tinged with red; stem short, firm, curved, eccentric, colored like the pileus; spores globose .0003 in. broad.

Pileus about 2 in. broad; stem scarcely 1 in. long.

Trunks of trees. Lyndonville. *C. E. Fairman.*

This is a species which in some respects approaches *P. Ruthæ*, but differs from it in having the lamellæ distinct behind, not anastomosing, and there are no red tints on the stem. The plant is said to be fragrant when fresh. I have seen it only in the dried state and, therefore, the description may not correspond exactly with the coloring of the fresh plant.

Pleurotus campanulatus *n. sp.*

(Plate 2, figs. 13 to 15.)

Pileus thin, subtenacious, campanulate, attached by the vertex, glabrous or sprinkled with a few grayish hairs, often plicate-striate on the margin, black; lamellæ few, distant, whitish; spores curved, .0003 to .00035 in. long, .00015 to .00016 broad.

Pileus 1 to 2 lines broad.

Dead branches of mulberry, *Morus rubra*. Saugerties. May.

This fungus resembles some forms of *P. striatulus*, but it is easily distinguished by its black color and curved spores. The vertex of the pileus is sometimes prolonged, forming a distinct stem.

Flammula squalida *n. sp.*

Pileus fleshy, convex or plane, firm, viscose, glabrous, dingy-yellowish or rufescent, flesh whitish, colored similar to the pileus under the separable pellicle; lamellæ rather broad, adnate, pallid, becoming brownish-ferruginous; stem slender, generally flexuous, hollow, fibrillose, subcartilaginous, pallid or brownish, pale-yellow at the top when young; spores brownish-ferruginous, .0003 in. long, .00016 broad.

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

In bushy and swampy places. Carrollton and Sandlake. September.

This species is closely allied to *F. spumosa*, of which, perhaps, some may prefer to consider it a variety. But having observed it several times in different localities and always finding it constant in its character and readily distinguishable, it has seemed best to recognize it as a species. It is distinguished by its slender habit, more uniform color, subcartilaginous stem, darker spores and generally dingy appearance. It is often strongly cæspitose and is found especially among alder bushes in swamps.

Pluteolus reticulatus *Pers.*

Decayed wood of deciduous trees. Carrollton. September.

Crepidotus distans *n. sp.*

(Plate 2, figs. 4 to 7.)

Pileus membranous, convex, distantly sulcate-striate, minutely pubescent, tawny; lamellæ broad, ventricose, very distant, adnate, colored like the pileus; stem minute, eccentric, reddish-brown; spores elliptical, .0004 to .0005 in. long, .00025 to .0003 broad.

Pileus 2 to 4 lines broad; stem about 1 line long.

Bark of thorn tree, *Cratægus tomentosa*. Carrollton. September.

A small species, very rare and easily overlooked, but very distinct by its color, its pubescent pileus and very distant lamellæ.

Cortinarius albidus *n. sp.*

(Plate 3, figs. 1 to 4.)

Pileus fleshy, convex or nearly plane, viscid, white, sometimes slightly tinged with yellow, flesh white; lamellæ close, emarginate, at first whitish, then cinnamon color; stem equal, solid, white, with a depressed oblique submarginate bulb at the base, veil white; spores subelliptical, .0004 to .00045 in. long, .00024 broad.

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

Thin woods. Carrollton. September.

Related to *C. multiformis* from which it is separable by its color, which is entirely white except in the mature lamellæ, and by its peculiar oblique bulb. Its spores also are longer and of a different shape.

Hygrophorus penarius *Fr.*

Mixed woods. Voorheesville. October.

Our specimens differ slightly in color from the typical form. They are white slightly stained with yellow and they retain their color in drying. Some of them are very large, the pileus being five or six inches broad.

Coprinus picaceus *Fr.*

Decaying trunks or branches of trees in woods. Lyndonville. June. *Fairman.*

The form here referred to this species differs somewhat from the description of the type in being smaller, in having no bulb to the stem and in having smaller spores. It is probably the "smaller variety growing on rotten wood" noticed by Stevenson in his British Fungi. I have seen the true form of the species from Kansas. The New York plant seems to me to be worthy of distinctive designation, at least as a variety, and I call it

Var. *ebulbosus*. Plant smaller; stem destitute of a bulb; spores .0003 to .0004 in. long, .0002 broad.

Polyporus annosus *Fr.*

Decaying wood. Salamanca. September.

This is evidently a very rare species in our State.

Dædalea sulphurella *n. sp.*

Resupinate, effused or nodulose, pale sulphur yellow; pores short, labyrinthiform, the dissepiments often lacerated and irpiciform in the dry plant; pores subglobose or broadly elliptical, .0002 in. long.

Much decayed wood. Salamanca. September.

Mostly very irregular or nodulose, following the irregularities of the wood and encrusting mosses. It is of a beautiful pale yellow color when fresh, but it changes to a dull pallid hue when dry.

Dædalea extensa *n. sp.*

Resupinate, thick, coriaceous, often uneven or somewhat nodulose, the margin at first cottony and white, soon changing to brown, the subiculum slightly rufescent; pores large, unequal and labyrinthiform, in vertical places oblique, whitish; spores minute, oblong, .00024 to .0003 in. long, .0001 to .00012 broad.

Prostrate trunks of deciduous trees. Salamanca. September.

This forms patches two feet or more in length on the sides and lower surface of the trunk. It follows the inequalities of the surface, and in vertical places it becomes more or less nodulose or develops a thick obtuse margin, which is velvety-tomentose and at length dark-brown in color, but I have seen no reflexed margin. It is suggestive of resupinate forms of *Trametes mollis*, but differs from it in the character of the pores in the thicker subiculum and in the absence of any free margin.

Hydnum caput-ursi *Fr.*

Decaying birch wood, *Betula lutea*. Carrollton. September.

Hydnum arachnoideum *n. sp.*

Resupinate; subiculum effused, very thin, webby or cottony, white; aculei minute, short, conical, unequal, scattered or sometimes crowded, whitish; mycelium often forming slender branching white radicular strings that creep over or permeate the matrix; spores minute, globose, .00016 in. broad.

Much decayed wood of hemlock, *Tsuga Canadensis*. Salamanca. September.

It seems to be closely related to *H. Micheneri*, but separated from it by the conical aculei. In this species also they are sometimes crowned with one to four cilia. The specific name has reference to the character of the subiculum.

Odontia tenuis *n. sp.*

Effused, very thin, tender, dry, pallid, the margin not clearly fimbriate; verrucæ minute, scarcely visible to the naked eye, subglobose or oblong, scattered or crowded, sometimes entire; mycelium sometimes collected into dingy-yellowish branching slender threads.

Much decayed wood of birch, *Betula lutea*. Salamanca. September.

In texture and structure this resembles *Odontia fusca*, in color, *O. fimbriata*.

Mucronella minutissima *n. sp.*

Aculei very minute, about one-sixth of a line long, gregarious, subulate, white; spores minute, elliptical, .00016 in. long, .0001 broad.

Decaying oak wood. Clarksville, Albany county. September.

This species is so minute that it is scarcely visible to the naked eye. The measurement of the aculei here given was taken from the dried specimen. In the fresh plant it would probably be a little greater.

Thelephora odorifera *n. sp.*

Pilei 8 to 12 lines broad, cæspitose, subcoriaceous, subdimidiate, imbricated, fibrous-tomentose, dingy-whitish or grayish; hymenium even, not polished, concolorous; stems short or none; spores globose, echinulate, colored, .0003 to .00035 in. broad.

Rich soil under cedar trees. Jamesville. July. *Underwood*,

The species is apparently related to *T. intybacea*, but it differs from that fungus in its paler color, smooth hymenium and larger spores. The specimens at first were quite fragrant, but the odor was lost after a few weeks.

Porothelium fimbriatum *Fr.*

Decaying wood. Carrollton. September.

Cyphella arachnoidea *n. sp.*

Irregularly cupular, unequal, very thin, membranous, tender, minutely downy externally, pure white, the hymenium in large specimens somewhat uneven; spores subglobose, .00016 to .0002 in. long, .00016 broad.

Cups 1 to 2 lines broad, seated upon or developing from fine white loosely branching webby strings of mycelium.

Bark and mosses. Carrollton. September.

The specific name has reference to the character of the mycelium, by which the species may easily be recognized.

Geaster limbatus *Fr.*

Caldwell, Warren county. June. The specimens were old, but appear to belong to this species.

Geaster rufescens *Pers.*

Gouverneur, St. Lawrence county. *Mrs. E. C. Anthony.*

Phyllosticta Ludwigiæ *n. sp.*

(Plate 4, figs. 22 and 23.)

Spots small, orbicular, sometimes confluent, centrally pallid, dry, surrounded by a brownish or purplish-red border; perithecia few, often single, epiphyllous, .004 in. broad, black; spores elliptical or oblong, binucleate, colorless, .0003 to .00035 in. long, .00016 broad.

Living leaves of water purslane, *Ludwigia palustris.* Selkirk. July.

Phoma sordida *Sacc.*

Dead twigs of water beech, *Carpinus Americana.* Cemetery, Albany county. May.

Dothiorella Celtidis *n. sp.*

Stroma small, depressed, suborbicular, seated on the inner bark, erumpent; perithecia immersed in the stroma; spores oblong, obovate or subfusiform, often binucleate or trinucleate, colorless, .0008 to .001 in. long, .0003 to .00035 broad, sometimes oozing out in a whitish mass.

Dead branches of hackberry, *Celtis occidentalis.* Saugerties. May.

Sphæropsis Ellisii *Sacc.*

Dead corticated branches of tamarack, *Larix Americana.* Kasoag, Oswego county. July.

Var. *Laricis.* Perithecia larger, about .014 in. broad, often arranged in rows and surrounded by the whitish ruptured epidermis; spores .0012 to .0018 in. long, .0006 to .0008 broad.

Sphæropsis rubicola *C. & E.*

Dead stems of blackberry, *Rubus villosus.* Menands. October.

Diplodia Liriodendri *n. sp.*

Perithecia hemispherical, subdepressed, erumpent, single or two to four in a cluster, black; spores oval or oblong, at first simple, then uniseptate, colored, .0007 to .0009 in. long, .0005 broad.

Dead branches of tuliptree, *Liriodendron tulipifera.* Sandlake. June.

Diplodia multicarpa *n. sp.*

Perithecia very numerous, sometimes surrounding the branch on all sides, minute, erumpent, slightly prominent, partly covered by the longitudinally or stellately ruptured epidermis, black; spores oblong eliptical, .0007 to .0009 in. long, .0004 to .00045 broad.

Dead branches of sassafras. Carrollton. September.

Hendersonia epileuca *B. & C.*

Dead branches of red mulberry, *Morus rubra.* Saugerties. May.

Septoria Pteridis *n. sp.*

Perithecia hypophyllous, subconic, black; spores filiform, very long, curved or flexuous, continuous, .0003 to .0004 in. long.

Dead fronds of common brake, *Pteris aquilina.* Sandlake. June.

Melanconium zonatum *E. & E.* in ed.

Dead branches of ironwood, *Ostrya Virginica.* Clarksville. September.

This species has sometimes been referred to *M. bicolor*, which it resembles, but from which it may be distinguished by the absence of the conspicuous white stroma of that species and by the translucent zone in the middle of the spores.

Septomyxa Carpini *n. sp.*

(Plate 4, figs. 13 and 14.)

Heaps subcutaneous, slightly prominent, erumpent, whitish within; spores hyaline, narrowly fusiform, binucleate, at length uniseptate, oozing out and forming a subrufescent convex mass on the surface of the matrix.

Bark of water beech, *Carpinus Americana.* Meadowdale, Albany county. June.

Pestalozzia lignicola *Cke.*

Decorticated wood of spruce, *Picea nigra.* Redfield. July. It sometimes has a hysteriiform appearance.

Puccinia Spergulæ *DC.*

Living stems and leaves of corn spurry, *Spergula arvensis.* Redfield. July.

Doassansia Sagittariæ *Fisch.*

Living leaves of arrowhead, *Sagittaria variabilis.* Redfield. July. *Uredo Sagittariæ* West., *Protomyces Sagittariæ* Fckl. and *P. Bizzozerianus* are given as synonyms.

Aspergillus aviarius *n. sp.*

(Plate 4, figs. 9 to 12.)

Sterile hyphæ creeping, white or whitish, fertile hyphæ erect, simple, continuous, .0003 in. thick, terminating at the apex in a globose vesicle, which is .0008 to .0012 in. broad, with an uneven or somewhat papillose surface; chains of spores growing directly from the surface of the vesicle, spores minute, globose, smooth, .00008 to .0001 in. broad, both these and the hyphæ at first whitish, then pale bluish-green or glaucous.

On the inner costal surface of a canary bird. New York. November. *E. B. Southwick.*

The bird from which this fungus was taken appeared to be sick for about four days immediately preceding its death. It would try to sing, but could not from hoarseness. It appeared to be cold, and was given a warm bath, but it died the following night. Upon cutting open the body the fungus was found. Its occurrence within the body of the bird is remarkable, and if it was the cause of its death it must be considered an injurious species. No other cause was evident. But how it could gain an entrance into the visceral cavity of the body and why it should fruit therein are mysteries.

The species differs from *A. virens* Lk. by its more slender hypæ, smaller spores, papillose vesicle and by the grayish-blue or glaucous color of the patches.

Sporotrichum Lecanii *n. sp.*

Hyphæ very slender, .00008 to .0001 in. thick, procumbent, irregularly branched, branches suberect, white; spores minute, colorless-oblong or cylindrical, .0002 to .0003 in. long, .0001 to .00012 broad.

On scale insect of cucumber tree, *Magnolia acuminata.* Salamanca. September.

The fungus covers the insect with a dense white pulverulent coat. "The insect appears to be an undescribed species of Lecanium." *J. A. Lintner.*

Diplosporium breve *n. sp.*

Hyphæ cæspitose, short, sparingly branched, white; spores oblong, uniseptate, slightly constricted at the septum, colorless, .0005 to .0006 in. long, .0002 to .00025 broad.

On some effete Sphæria. Redfield. July.

Didymaria Ungeri *Cd.*

Living leaves of northern buttercup, *Ranunculus septentrionalis.* Redfield. July.

Ramularia destruens *n. sp.*

(Plate 4, figs. 4 to 6.)

Tufts amphigenous, minute, gregarious, white, the hyphæ extremely short, .0002 to .0004 in. long; spores elliptical or oblong, colorless, .0002 to .0005 in. long, .00012 to .00015 broad.

Living leaves of mountain ash. *Pyrus Americana.* Hewitt's pond, Adirondack mountains. July.

This is a very destructive fungus. It quickly discolors and kills the leaves. The discoloration in most cases appears to progress from the apex toward the base of the leaf, which soon assumes a brown and dead appearance as if burned by fire. The effect is somewhat similar to that produced in the foliage of the apple and pear by the "blight." Nearly all the leaves were killed on the tree from which our specimens were taken.

The fruiting part of the fungus breaks out here and there on the dead leaves, but it is not abundant. The mischief is apparently due to the rapidly spreading mycelium. The species is one of the most minute of the genus, and is easily overlooked, though the effect of its work in the leaves is painfully evident.

Ramularia Junci *n. sp.*

Spots transverse, brown; hyphæ extremely short, cæspitose spores very slender, straight or curved, often slightly narrowed toward one end, .001 to .002 in. long.

Living leaves of *Juncus marginatus.* Selkirk. June.

Ramularia graminicola *n. sp.*

(Plate 4, figs. 1 to 3.)

Spots small, numerous, irregular or subelliptical, pallid, surrounded by a broad, indeterminate brownish border; hyphæ amphigenous, short, colorless, .0005 to 001 in. long; spores subcylindrical, or fusiform, sometimes pointed at each end, sometimes becoming spuriously uniseptate, colorless, .001 to .0014 in. long.

Living leaves of fowl meadow grass, *Poa serotina.* Wilmurt lake. July.

This and the two preceding species are perhaps referable to the genus Cylindrosporium on account of their simple spores and short hyphæ.

Ramularia Heraclei *Sacc.*

Living leaves of cow parsnip, *Heracleum lanatum.* Morehouseville. July.

Cercosporella Veratri *n. sp.*

(Plate 4, figs. 7 and 8.)

Spots suborbicular or elliptical, blackish, slightly frosted by the epiphyllous subfusiform, mostly triseptate colorless spores, which terminate at one end in a long slender tapering almost hair-like point; hyphæ very short, almost obsolete; spores .002 to .004 in. long, .00016 to .0002 broad in the widest part.

Languishing leaves of Indian poke, *Veratrum viride.* Morehouseville. July.

Bispora effusa *n. sp.*

(Plate 4, figs. 15 to 17.)

Effused in a black somewhat velvety stratum; hyphæ erect, simple, colored, forming chains of spores; spores oblong, uniseptate, slightly constricted at the septum, .0005 to .0006 in. long, .00016 to .0002 broad.

Decorticated wood of sugar maple, *Acer saccharinum.* Adirondack mountains.

Cladosporium entoxylinum *Cd.*

Decorticated wood of spruce, *Picea nigra.* Wilmurt lake. July.

Septonema episphæricum *n. sp.*

Tufts confluent, blackish-brown; hyphæ and chains of spores often densely fasciculate, .005 to .006 in. long; spores variable, oblong or cylindrical, one to three septate, .0005 to .0012 in. long, .0002 to .0003 broad, colored or subhyaline.

On effete *Diatrype stigma.* Morehouseville. July.

Apparently allied to *S. bisporoides,* from which it differs in its larger spores and in its densely fasciculate mode of growth.

Coniothecium effusum *Cd.*

Decaying chestnut wood. Conklingville. September.

Epicoccum vulgare *Cd.*

Living or languishing leaves of arrowhead, *Sagittaria variabilis.* Carrollton. September. Our specimens belong to var. *pallescens* Rabenh.

Epicoccum diversisporum *Preuss.*

Decorticated wood of spruce. Wilmurt lake. July. Notwithstanding the great diversity between the habitat of our fungus and of the typical form of the species to which we have referred it, the agreement with the description is so close that we dare not separate our plant. The spores in it vary from .0003 to .0008 in. in diameter. Rarely it is not seated on a red spot. It grows in company with *Cladosporium entoxylinum.*

Valsa microstoma *Fr.*

Branches of wild red cherry, *Prunus Pennsylvanica.* Hewitt's pond, Adirondack mountains. July.

Valsa coöperta *Cke.*

Dead branches of elm, *Ulmus Americana.* Sandlake. June.

Eutypella cerviculata *Sacc.*

Dead trunks and branches of water beech, *Carpinus Americana.* Lyndonville. *Fairman.* Carrollton and Bethlehem. September.

Diaporthe binoculata *Sacc.*

Dead branches of cucumber tree, *Magnolia acuminata.* Carrollton. September.

Our specimens differ from the description of *D. binoculata* in the black circumscribing line which sometimes penetrates the wood slightly. The spores also are a little smaller than the dimensions given for those of that species, but in other respects the agreement is so well sustained that our plant is probably not specifically distinct. The spores in it are .0006 to .0007 in. long, about .0003 broad. It is sometimes associated with *Sphæronema Magnoliæ.* The typical form was found on *Magnolia glauca.* It is *Valsa binoculata* Ellis.

Diaporthe tuberculosa *Sacc.*

Dead trunk of June berry, *Amelanchier Canadensis.* Carrollton. September.

Var. *dispersa.* Perithecia .02 to .025 in. broad, a little larger than in the type, the ostiola often piercing the epidermis separately.

Diaporthe rostellata *Nitsch.*

Stems of blackberry, *Rubus villosus.* Menands. July. Also on dead stems of *Rubus odoratus.* Salamanca.

This may be considered a noxious fungus. The plant found on blackberry stems had surrounded the stem with a pallid spot and had killed all the plant above this spot. The asci are often only four-spored.

Diaporthe Americana *Speg.*

Dead branches of cucumber tree. Carrollton. September.

The published description of this species is incomplete the spores in the specimens from which it was made being immature. In our specimens they are narrowly fusiform, acute at each end, quadrinucleate, .0006 to .0007 in. long, .00016 broad.

Massaria epileuca *B. & C.*

Dead branches of red mulberry, *Morus rubra.* Saugerties. May.

Caryospora minor *n. sp.*

(Plate 4, figs. 18 to 21.)

Perithecia .014 to .021 in. broad, slightly sunk in the matrix, subglobose, even, black; asci four to eight-spored, subcylindrical, .006 in. long, .0008 broad; spores fusiform, pointed at each end, uniseptate, slightly colored, .0018 to .002 in. long, .0005 broad.

Pericarp of hickory nut. Albany.

This differs from *C. putaminum* in its smaller perithecia which are not concentrically grooved and in its shorter, narrower and paler spores which are more numerous in an ascus.

Metasphæria nuda *n. sp.*

Perithecia superficial, ovate or conical, submembranous, scattered or few collected together, black, the walls parenchymatous and blue under the microscope; asci about .003 in. long, .0005 broad; spores crowded or biseriate, fusiform, triseptate, colorless, .0007 to .0008 in. long, .00024 broad.

Dead stems of millet, *Panicum miliaceum.* Menands. October.

The species approaches *M. Panicorum*, from which it is distinct by its superficial perithecia and shorter spores. The superficial character of the perithecia would remove the species to Zignoella, but the texture is not carbonaceous, and it has therefore been placed in Metasphæria.

Pleospora Asparagi *Reb.*

Dead stems of asparagus, *Asparagus officinalis.* Menands. April.

This species appears scarcely to differ from *P. herbarum* except in the fewer septa of the spores.

Lophiostoma vagans *Fab.*

Dead stems of *Lonicera tartarica.* Lyndonville. July. *Fairman.*

Stictis minuscula *Karst.*

Dead twigs of spruce, *Picea nigra.* Redfield. July.

Pseudopeziza Pyri *n. sp.*

Cups scattered, minute, .014 to .021 in. broad, hypophyllous, erumpent, surrounded by the laciniately ruptured epidermis, brownish when moist, blackish when dry, the margin incurved; hymenium whitish or grayish-white; asci subcylindrical, .002 to .0024 in. long; spores biseriate, oblong, straight or slightly curved, colorless, .0004 to .0005 in. long.

Fallen leaves of mountain ash, *Pyrus sambucifolia.* Cascadeville, Essex county. June.

Saccharomyces Betulæ *Pk. & Pat.*

(Plate 2, figs. 16 and 17.)

Conidia variable, elliptical, oblong or subcylindrical, often forming submoniliform strings of cells .0003 to .0008 in. long, .00016 broad, intermingled with slender mycelial threads, the whole forming a thin whitish gelatinous stratum.

Sap moistened cut surface of a birch stump, *Betula lutea.* New Baltimore, Greene county. May.

This is a curious species, apparently related to *S. albicans*, but differing from it in habitat and spore dimensions, and it is also peculiar and aberrant in having distinct hyphæ.

(D)

REMARKS AND OBSERVATIONS

Thalictrum purpurascens *L.* var. ceriferum *Aust.*

Fishkill mountains. June.

Cimicifuga racemosa *Nutt.*

Common in the Highlands and in the southwestern part of the State. It is rare in the eastern and northern parts.

Nymphæa odorata *Ait.*

After flowering the peduncle sometimes takes the form of a spiral coil and thus shortens itself either to adapt itself to diminishing depth of water or to draw the ovary beneath the surface to mature its fruit.

Valisneria spiralis does the same thing. Fruiting specimens showing the coiling of the peduncles were collected in Boreas pond, Adirondack mountains.

Corydalis flavula *DC.*

Green pond, one mile east of Jamesville. *Prof. L. M. Underwood.*

Lychnis vespertina *Sibth.*

Storm King station. June.

Stellaria media *Smith.*

This chickweed is a very variable plant. It often lives through the winter and is then ready to bear fruit early in the spring. Specimens were collected in April last bearing an abundance of flowers and mature fruit. The plants were procumbent, the nodes short, leaves small and but slightly petioled, and the whole aspect was quite unlike that of the more erect large-leaved form that occurs later in the season. The fields where these plants grew were in cultivation the preceding summer, but the seeds apparently germinated after cultivation ceased, and the mild winter enabled the plants to perfect themselves and bear fruit early in the spring.

Linum Virginianum *L.*

Selkirk. July. It is not rare to find two to four plants growing from the same root, and the old stem of last year's growth standing among them, thus indicating a perennial character.

Rubus hispidus *L.* **var. suberecta** *n. var.*

Stems erect or recurved, densely beset with stiff bristles or weak prickles; leaves generally five-foliate on the young plants, trifoliate on old ones, the leaflets *thin*, broadest in the middle, rather sharply serrate, mostly *acute or short acuminate*, entire and wedge-shaped at the base.

Pastures and bushy places. Morehouseville. July.

This plant is so unlike the ordinary form of *R. hispidus* that I am constrained to consider it as a variety. It is quite abundant in the locality mentioned, growing chiefly in dry places. The young

shoots are perfectly erect and nearly always have the leaves either completely five-foliated or the lateral leaflets deeply two-lobed, so that were it possible to overlook the dense coat of bristles with which the stem and petioles are clothed they might easily be mistaken for a small growth of *Rubus villosus*. The old stems usually become recurved as in *R. occidentalis*, and have the leaves of the flowering branches trifoliate. The peduncles and pedicels are mostly bristly and the sepals mucronate pointed. The plants grow from one to two feet high. Were the species of Rubus disposed to hybridize as some claim for *R. occidentalis* and *R. strigosus*, it might be asserted that this is a hybrid between *R. villosus* var. *frondosus* and *R. hispidus*, the former giving character to the leaves and the mode of growth, the latter to the clothing of the stem. The former was present in the vicinity of these plants, but the latter was not seen in that neighborhood. It is in my opinion to be considered a variety rather than a hybrid. The Cayuga plant noticed in the Thirty-eighth report is the same thing. It approaches variety *setosus* T. & G. in some respects, but its thin leaves and more erect habit distinguish it.

Myriophyllum tenellum *Bigel.*

Plentiful at the outlet of Cheney pond. August.

Lythrum alatum *Pursh.*

Apparently well established in a pasture near Selkirk.

Opuntia vulgaris *Mill.*

In grassy ground on the summit of a high hill in Columbia county, four miles south of Hudson, is a station for this plant. The hill is locally known as Mount Merino, and the plants are scattered over an area several rods in extent. The plants mostly exhibit the characters that would place them under *O. Rafinesquii*, but in some the short leaves of *O. vulgaris* are present. I therefore leave the species for the present under the name applied to it by Dr. Torrey in the State Flora.

Galium triflorum *Mx.*

Professor R. P. Thomas informs me that this common plant, popularly known as "sweet-scented bed straw," has recently acquired considerable celebrity among some of the inhabitants of Montgomery county, because of its medicinal qualities. It is reported that an aggravated case of dropsy, which had been pronounced by the physicians hopeless and incurable, was cured by the

use of a decoction of this herb. In the United States Dispensatory, by Wood and Bache, *Galium Aparine* is noticed as having been used for dropsy, but I find no mention of this plant.

Aster undulatus *L.*

A strongly marked form occurs near Carrollton, in which the leaves are mostly lanceolate with the margins very much curled or crisped.

Aster Novi-Belgii *L.*

Boreas River, Adirondack mountains. August.

Antennaria plantaginifolia *Hook.*

A peculiar form was collected in Sandlake, Rensselaer county. The flower heads are three to five, mostly four, racemosely placed at distances of a half inch or more. The stem is very slender, about a foot high, and the leaves are narrow, scarcely exceeding half an inch in the widest part.

Rudbeckia triloba *L.*

This cone flower occurs in several places along the road between Rhinebeck and Rock City in Dutchess county. As in Ulster county, it appears to have escaped from cultivation in flower gardens. But few of the plants have the leaves three-lobed.

Verbascum Lychnitis *L.*

Sandy soil at Sylvan Beach, Oneida county. A form with white flowers.

Calopogon pulchellus *R. Br*

On the marsh near Kasoag a form was found having beautiful lilac-tinted flowers. Plants having flowers of the ordinary color grew near them and made the contrast more noticeable.

Clintonia umbellata *Torr.*

This plant occurs as far east as Carrollton, Cattaraugus county. Some plants have the berries blue as in *C. borealis*, others have them black.

Eleocharis intermedia *Schultes.*

Cheney pond. August. A small form with culms two to five inches long and spikes one to two lines.

Scirpus Smithii *Gray.*

Sylvan Beach. July.

Carex folliculata *L.*

An unusual form of this sedge grows on "Beaver meadow" near Morehouseville. The stems are stout, erect, only one to two feet high, very leafy; the pistillate spikes are three to four, approximate, all on short erect peduncles.

Carex crinita *Lam.*

A large form with three staminate spikes all fertile at the apex was collected at Wilmurt lake, Hamilton county. Variety *minor* Boott was collected at Sylvan Beach, Oneida county.

Polypodium vulgare *L.* var. cristatum *Lowe.*

(Plate 1, figs. 1 to 4.)

Rock City, Dutchess county. October.

Fronds of this very beautiful and rare variety were sent me by Mr. Charles A. Coons. I afterwards visited the locality and found the fern growing in a small patch, probably six or eight feet long by one to two feet wide. All the fronds in this patch exhibited the peculiar character of those first sent me. Fronds of the usual form were growing near by but did not mingle with these, nor were any intermediate forms seen. The fronds are beautifully crested, being one to three times dichotomously or somewhat irregularly divided at the apex, and each segment is dilated at its apex and projects in two to six lobes, these lobes manifesting a disposition to extend themselves along the upper margin of the segment. Sometimes the branches at the apex are a little twisted or distorted and form a sort of rosette. The ultimate ones terminate in lobes similar to those at the apices of the segments. The fronds are fertile.

This variety was originally discovered in Ireland by Mr. Henry S. Perry. It was figured and described by Lowe in his work on New and Rare Ferns. This figure exhibits well the dilation and lobing of the apices of the segments in our plant, but shows the crested branching apex of the frond very poorly, for it is represented as scarcely more than bifurcate. His description reads thus: "Like *Aspidium filix-mas* var. *cristatum*, the present plant has multifid or tasseled apices on each pinna, the midrib of the frond dividing and branching about an inch below the apex of the frond, as well as the midrib of each pinna about a quarter of an inch below the apex of each pinna."

"The present variety, from the points of each frond being branched and crested and all the divisions terminating in crested tufts so as to form a frilled margin, is both distinct and beautiful."

In our plant there is apparently a tendency to branch and divide more freely at the apex of the frond and less freely and deeply at the apices of the segments than in the European. So far as I know it has not before been found in this country. Probably there will be a considerable demand for it by lovers and propagators of ferns, but it is to be hoped that specimens will not be taken so freely from the patch as to destroy the station.

Isoetes echinospora *Durieu.*

Cheney pond. August.

Riccia fluitans *L.* var. Sullivantii *Aust.*

Muddy places in ditches. Selkirk. June.

Collybia Familia *Pk.*

This species is not rare in Cattaraugus county. It grows in clusters of very many individuals on old prostrate trunks and decaying wood of hemlock. It varies in color from nearly white to brown. It is somewhat hygrophanous and the stem is more or less villose-tomentose at the base. It is allied to *C. acervata*, but the pileus is not umbonate, there are no rufous or incarnate tints either in the pileus lamellæ or stem, and the spores are minute and globose .00012 to .00016 inch in diameter, not elliptical as in that species.

Pleurotus atrocæruleus *Fr.*

In Sylloge the spores of this species are said to be globose, 2 to 3 mk. in diameter. If this is correct then the plant referred to this species in Report 39, p. 65, must be distinct. On the other hand both Smith and Cooke represent the spores of this species as elliptical and closely agreeing with those of the American plant in dimensions.

On the supposition that the English mycologists are correct in their representations of the spores of this species our plant can scarcely be more than a variety differing in color from the type. Fine specimens were found at Carrollton growing on the trunk of a cucumber tree. It seems best at least to designate it as a variety, for it does not appear to exhibit at all the dark blue hue so characteristic of the type.

Var. griseus. Pileus grayish or grayish-brown, clothed with rather coarse pointed whitish or grayish hairs; lamellæ not broad; spores elliptical, sometimes slightly curved, .0003 in. long, .00016 broad.

The pileus is sometimes attached by the vertex, and the margin is often beautifully crenately lobed or scalloped.

Entoloma cyaneum *Pk.*

Decaying logs in woods. Morehouseville. July. These specimens differ from the type in having the pileus grayish-brown and the stem wholly bluish. The species approaches *E. griseo-cyaneum* very closely, but differs in the color of the pileus. It is very rare.

Pholiota discolor *Pk.*

Two forms of this species are found. One has a scattered mode of growth, the other a cæspitose. The latter was found on decaying wood of birch, *Betula lutea,* at Morehouseville. The species is allied to *P. marginata,* from which it is readily distinguished by its viscid pileus.

Stropharia squamosa *Fr.*

Specimens collected near Salamanca agree very closely with the description of this species, but they differ in having the pileus of a beautiful orange-red color. In this respect, and indeed in many other respects, they agree better with the description of *Stropharia thrausta,* but disagree in having the pileus neither hygrophanous nor glabrous. The plants are generally rather slender, though individuals occur having a stout stem and a pileus three or four inches broad. This is viscid and beautifully adorned with whitish superficial scales which are easily destroyed. The margin is often appendiculate. The lamellæ are broad and subdistant, and the stem is long, hollow, floccose-squamose and annulate. The whole plant is fragile, but this may be due in a measure to the fact that it is apt to be infested by the larvæ of insects. It is probably to be considered a variety of *S. squamosa* and is apparently equivalent to *Agaricus thraustus* var. *aurantiacus* of Cooke's Illustrations.

Boletus punctipes *Pk.*

Under pine trees. Corning, Steuben county. September. This species had not been observed by me since its discovery in 1878. The spores when first dropped are olive green on white paper, but the greenish hue soon fades or rather changes to brownish-ochraceous.

Coniophora puteana *Fr.*

If this species is rightly understood by me it is, as Fries says, a very variable one. It varies not only in the color of the hymenium but also in its character and in that of the margin. The hymenium

is sometimes even, sometimes tuberculose and occasionally rimose when dry, as in some species of Corticium. The margin may be broad naked and white or it may be obliterated by the hymenium. The subiculum is either thin and papery or thick and firm. It is sometimes separable from the matrix. It occurs on spruce, hemlock, birch, sycamore, ironwood, etc. A form is found on spruce having the characters of variety *areolata* Fr. except in the color of the hymenium.

Var. *tuberculosa* has the subiculum thick, firm, yellowish, the hymenium persistently tuberculose. This was found on sycamore, *Platanus occidentalis.*

Var. *rimosa.* Hymenium rimose. On hemlock, *Tsuga Canadensis.*

Doassantia Alismatis *Cornu.*

Living or languishing leaves of *Alisma Plantago.* Whitehall. September.

Fusicladium destruens *Pk.*

When my last report was written this fungus was suspected of being the cause of a disease in the oat plant. Observations made in the diseased oat fields the past summer lead to a different conclusion. The disease has appeared over a wide extent of country, and in the fields examined scarcely an unaffected plant could be found. Besides, other fungi, such as *Cladosporium herbarum* and *Dinemasporium graminum,* were found upon the dead and dying leaves. It may be affirmed that the presence of these fungi on the leaves is a consequence not a cause of their death, for these species are known to inhabit the dead tissues of plants. It is hardly probable that the Fusicladium could have spread so extensively, in so short a time, nor that it should be so omnipresent in every oatfield. It is more reasonable to suppose that it, like the other fungi mentioned, is a consequence rather than a cause of the disease. Many discolored leaves had no fungus upon them. An examination of the roots of the affected plants gave no indication of the presence of insects or nematoids.

Tuberculina persicina *Sacc.*

On blackberry rust, *Cœoma nitens.* Morehouseville.

Vibrissea truncorum *Fr.*

Var. *albipes.* Stem short, thick, white. Decaying wood about the margin of lakes. Hewitt's pond and Clear lake, Adirondack mountains. July.

The following species and varieties are extra limital. Having been sent to me for identification, and finding no description applicable to them, I place them on record here.

Tricholoma maculatescens *n. sp.*

Pileus compact, spongy, reddish-brown, convex then explanate, obtuse, even, slightly viscid when wet, becoming rivulose and brown-spotted in drying, flesh whitish, margin inflexed, exceeding the lamellæ; lamellæ slightly emarginate, rather narrow, cinereous; stem spongy-fleshy, equal, sometimes abruptly narrowed at the base, solid, stout, fibrillose, pallid or whitish; spores oblong or subfusiform, pointed at the ends, uninucleate, .0003 in. long, .00016 broad.

Pileus 1.5 to 3 in. broad; stem 2 to 3 in. long, 6 to 9 lines thick.

Among fallen leaves in deciduous woods. Ohio. October and November. *A. P. Morgan.*

This appears to be related to *T. transmutans* and *T. flavobrunneum*, but may be distinguished from them by the spotting of the pileus and the shape of the spores.

Agaricus campestris *L.*

Var. *griseus.* Pileus pale-gray, silky, shining; annulus evanescent.

Winchester, Virginia. October. *T. Taylor.*

This mushroom, though quite different in appearance from the ordinary forms of *A. campestris*, is scarcely more than a variety. Its spores are of the same size and character as in that species. It is eaten freely by the inhabitants of Winchester.

Armillaria mellea *Vahl.*

Var. *radicata.* Stem penetrating the ground deeply with a tapering, root-like prolongation.

London, Canada. *J. Dearness.*

The root-like prolongation of the stem is suggestive of that seen in *Collybia radicata*, but in all other respects the plant is *A. mellea.*

(E)

NEW YORK SPECIES OF TRICHOLOMA

Tricholoma *Fr.*

Hymenophorum continuous with the stem, the veil obsolete or only floccose or fibrillose and adherent to the margin of the pileus; lamellæ sinuate behind, not equally attenuate, adnate or decurrent; stem fleshy, not corticated.

The species of Tricholoma are numerous and are mostly rather large, having a fleshy pileus and a stout fleshy or fibrous-fleshy stem and white spores. The veil is usually very slight, consisting of a mere pruinosity or of a minute tomentum or of downy flocci or fibrils adhering to the margin of the pileus, and it is not often noticeable except in the young plant. The pileus is often thick and umbonate but very rarely umbilicate. The genus is distinguished from Armillaria, on one hand, by the entire absence of an annulus and from Clitocybe, on the other, by the sinuate or emarginate lamellæ and the fleshy or fibrous fleshy stem. From Collybia, in which the character of the lamellæ is similar, it is distinguished by its more fleshy pileus and stem and by its more terrestrial habitat, for nearly all its species grow on the ground.

Some of the species are known to be edible and probably many others are. None are known to be absolutely poisonous.

The species were arranged by Fries in two series, one of which was composed of four tribes, the other of three. One tribe in each series is yet unrepresented in our Flora. The principal distinguishing features of the series and tribes are found in the pileus.

KEY TO THE TRIBES

Pileus viscid when moist ..... Limacina.
Pileus not viscid when moist 1
1. Pileus dry 2
1. Pileus not dry 3
2. Pileus fibrillose or adorned with floccose or fibrillose scales ..... Genuina.
2. Pileus punctate-granulose or adorned with smooth scales ..... Rigida.
2. Pileus at first slightly silky, soon glabrous ..... Sericella.
3. Pileus fleshy, soft, fragile, adorned with watery spots or rivulose ..... Guttata.
3. Pileus compact, then spongy, glabrous, moist ..... Spongiosa.
3. Pileus thin, hygrophanous ..... Hygrophana.

SERIES A

Pileus viscid when moist, squamose, fibrillose, granulated or silky, or if glabrous, its flesh firm, not spongy, watery or hygrophanous; veil fibrillose.

Limacina

Pileus viscid when moist, either innately fibrillose, or squamulose, truly and firmly fleshy, not hygrophanous, the margin almost naked.

The species of this tribe are distinguished from those of all the other tribes by their viscid pileus. They are divided into two groups, in one of which the lamellæ are unchangeable in color or do not become reddish or reddish-spotted; in the other they change color with age or become reddish-spotted.

	Pileus white	resplendens.
	Pileus not white	1
1.	Lamellæ yellow	equestre.
1.	Lamellæ not yellow	2
	2. Lamellæ not becoming reddish or reddish-spotted	3
	2. Lamellæ becoming reddish or reddish-spotted	5
3.	Lamellæ crowded, pileus glabrous	4
3.	Lamellæ subdistant, pileus innately fibrillose	sejunctum.
	4. Pileus greenish-yellow	intermedium.
	4. Pileus pale alutaceous	terriferum.
5.	Pileus red or incarnate	Russula.
5.	Pileus tawny-red or reddish-brown	6
	6. Pileus squamulose	Peckii
	6. Pileus not squamulose	transmutans.

Lamellæ not becoming discolored nor red-spotted.

Tricholoma equestre *L.*

EQUESTRIAN TRICHOLOMA

(Hym. Europ. p. 48. Syl. Fung. Vol. V, p. 87.)

Pileus fleshy, compact, convex becoming expanded, obtuse, pale yellowish, more or less reddish tinged, the disk and central scales often darker, the margin naked, often flexuous, flesh white or tinged with yellow; lamellæ rounded behind, close, nearly free, *sulphur-yellow;* stem stout, solid, pale-yellow or white, white within; spores .00025 to .0003 in. long, .00016 to .0002 broad.

Pileus 3 to 5 in. broad; stem 1 to 2 in. long, 6 to 10 lines thick.

Pine woods, especially in sandy soil. Albany county. September to November.

This is a noble species but not plentiful in our State. The pileus is said to become greenish very late in the season. The stem, in the typical form, is described as sulphur-yellow in color, but with us it is more often white. The scales of the disk are sometimes wanting. In our plant the taste is slightly farinaceous at first, but it is soon unpleasant.

Variety *pinastreti* A. & S. is a slender form having a thin even pileus, thinner and more narrow lamellæ and a more slender stem. *Agaricus crassus* Scop., *A. aureus* Schæff. and *A. flavovirens* Pers. are recorded as synonyms of this species.

Tricholoma intermedium *Pk.*

INTERMEDIATE TRICHOLOMA

(N. Y. State Mus. Report 41, p. 60.)

Pileus thin, campanulate, obtuse, glabrous, slightly viscid when moist, greenish-yellow, flesh white; lamellæ *crowded*, free or slightly adnexed, *white;* stem equal, firm, glabrous, white; spores broadly elliptical, .0002 in. long, .00016 broad.

Pileus 2 to 3 in. broad; stem 1 to 2 in. long, 3 to 5 lines thick.

Thin woods. Catskill mountains. September.

This species resembles some forms of *T. equestre*, from which it is separated by its white lamellæ. It appears to be intermediate between that species and *T. sejunctum*, from which its glabrous pileus and crowded lamellæ distinguish it.

Tricholoma sejunctum *Sow.*

SEPARATING TRICHOLOMA

(Hym. Europ. p 48. Syl. Fung. Vol. V, p. 88.)

Pileus fleshy, convex then expanded, umbonate, slightly viscid, *streaked with innate brown or blackish fibrils*, whitish or yellowish, sometimes greenish-yellow, flesh white, fragile; lamellæ *broad, subdistant*, rounded behind or emarginate, white; stem solid, stout, often irregular, white; spores subglobose, .00025 in. broad.

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

Mixed woods. Suffolk county. September.

The plants referred to this species are not uncommon on Long Island, growing in sandy soil in woods of oak and pine. They are usually more or less irregular and the pileus becomes fragile. It is quite variable in color, sometimes approaching a smoky-brown hue, again being nearly white. The taste of the typical form is said to be bitter, but the flavor of our plant is scarcely bitter. In other respects, however, it agrees well with the description of the species.

Tricholoma terriferum *Pk.*

EARTH-BEARING TRICHOLOMA

(N. Y. State Mus. Rep. 41, p. 60.)

Pileus broadly convex or nearly plane, irregular, often wavy on the margin, glabrous, viscid, *pale-alutaceous*, generally soiled with adhering particles of earth carried up in its growth, flesh white,

with no decided odor; lamellæ thin, *crowded*, slightly adnexed, white, not spotted or changeable; stem equal, short, solid, white, *floccose-squamulose at the apex;* spores minute, subglobose, .00012 in. long.

Pileus 3 to 4 in. broad; stem 1 to 1.5 in. long, 6 to 8 lines thick.

Woods. Catskill mountains. September.

Tricholoma resplendens *Fr.*

RESPLENDENT TRICHOLOMA

(Hym. Europ., p. 49, Syl. Fung., Vol. V, p. 90.)

Pileus fleshy, convex then nearly plane, even, glabrous, *viscid, white*, sometimes hyaline-spotted or yellowish on the disk, shining when dry, the *margin straight*, flesh white, taste mild, odor pleasant; lamellæ nearly free when young, then emarginate, somewhat crowded, rather thick, entire, white; stem *solid*, glabrous, subbulbous, even, dry, white; spores .0003 in. long, .00016 broad.

Pileus 2 to 4 in. broad; stem 2 to 3 in. long, 4 to 8 lines thick.

Thin woods. Catskill mountains. September.

This species, which is rare with us, is distinguished from all our remaining white species by its viscid pileus.

Lamellæ becoming discolored or red-spotted.

Tricholoma Russula *Schæff.*

REDDISH TRICHOLOMA

(Hym. Europ. p. 52. Syl. Fung., Vol. V, p. 94. *Agaricus rubicundus.* Report 26, p. 51.)

Pileus fleshy, convex, becoming plane or centrally depressed, obtuse, viscid, even or dotted with granular squamules on the disk, *red or incarnate*, the margin usually paler, involute and minutely downy in the young plant, flesh white, sometimes tinged with red, taste mild; lamellæ subdistant, rounded behind or subdecurrent, white, often becoming red-spotted with age; stem solid, firm, whitish or rose-red, squamulose at the apex; spores elliptical, .00028 in. long, .00016 broad.

Pileus 3 to 5 in. broad; stem 1 to 2 in. long, 6 to 8 lines thick.

Mixed woods. Albany, Cattaraugus and Steuben counties. September and October.

According to the description the typical plant has the pileus incarnate and the stem rosy-red, but in the American plant the pileus is generally more clearly red and the stem white, though this is often varied with reddish stains. These discrepancies in our plant led to its publication as a distinct species, but in Mycological Illus-

trations, fig. 926, *T. Russula* is represented with a bright red pileus, and it has seemed best to refer our plant to that species. The disk in it is often squamulose-dotted, rather than granulated. The species is recorded edible, but I have not tested it.

Tricholoma transmutans *Pk.*

CHANGING TRICHOLOMA

(N. Y. State Mus. Rep. 29, p. 38.)

Pileus convex, *nearly glabrous*, viscid when moist, brownish, reddish-brown or tawny-red, usually paler on the margin, flesh white, taste and odor farinaceous; lamellæ narrow, close, sometimes branched, whitish or pale-yellowish, becoming dingy or reddish-spotted when old; stem equal or slightly tapering upward, *glabrous* or slightly silky-fibrillose, stuffed or hollow, whitish, often marked with reddish stains or becoming reddish-brown toward the base, white within; spores subglobose, .0002 in. broad.

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

Woods. Albany, Rensselaer and Essex counties. August to September.

The plants are often cæspitose. The species is related to a group of closely allied forms including *T. fulvellum*, *T. albobrunneum*, *T. ustale* and *T. pessundatum*, from all of which it is distinguished by its farinaceous odor. It is also related to *T. flavobrunneum* and *T. frumentaceum*, which have a similar odor, but from which it differs in its subglobose, smaller spores. I suspect that *Agaricus frumentaceus* of Curtis' catalogue belongs to this species. Both the pileus and stem, as well as the lamellæ, are apt to assume darker hues with age or in drying, and this character suggested the specific name. The species is classed as edible.

Tricholoma Peckii *Howe.*

PECK'S TRICHOLOMA

(Bull. Torrey Bot. Club, vol. vi, p. 66.)

Pileus convex or nearly plane, viscid when moist, *squamulose*, tawny-red inclining to tawny-orange, flesh white, odor farinaceous; lamellæ narrow, close, sometimes branched, white; stem equal or slightly thickened at the base, *squamulose*, white at the top, elsewhere colored like the pileus; spores minute, broadly elliptical or subglobose, .00016 to .0002 in. long.

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

Thin woods. Rensselaer, Cattaraugus and Steuben counties and Catskill mountains. August and September.

This is a beautiful species, but it does not retain its colors well in drying. It is somewhat similar in appearance to the preceding species, but it is easily distinguished from all the related ones by its squamulose pileus and stem. As in the allied species, its lamellæ become discolored or spotted with age. It is perhaps edible, but I have not yet had an opportunity to test it, and the taste, though at first farinaceous and pleasant, is sometimes followed by a bitterish unpleasant flavor. In wet weather the margin of the pileus and upper part of the stem are sometimes studded with drops of moisture of a reddish or orange color.

Genuina

Pileus neither moist nor viscid, generally floccose-squamose or fibrillose, flesh soft, not hygrophanous, the margin at first involute and subtomentose.

The species of this tribe as well as those of the preceding one may be arranged in two groups depending on the character of the lamellæ. In one the color of the lamellæ is unchangeable in the other it changes with age. Some of the species have a slight farinaceous odor, at least when broken, others are inodorous. In most of them the pileus is adorned with squamules or fibrils.

Lamellæ neither changing color nor becoming spotted..... 1
Lamellæ changing color or becoming spotted 6
1. Pileus white, taste not farinaceous ..... Columbetta.
1. Pileus white, squamulose, taste farinaceous ..... grande.
1. Pileus not pure white..... 2
2. Lamellæ yellow ..... rutilans.
2. Lamellæ not clearly yellow 3
3. Lamellæ transversely striate..... striatifolium.
3. Lamellæ not transversely striate..... 4
4. Pileus glabrous ..... flavescens.
4. Pileus not glabrous..... 5
5. Stem squamose, tawny or ochraceous ..... decorosum.
5. Stem fibrillose, white ..... scalpturatum.
6. Pileus with reddish brown or tan colored hues 7
6. Pileus some other color..... 9
7. Stem subbulbous, white ..... tricolor.
7. Stem equal or nearly so, not white 8
8. Stem solid ..... imbricatum.
8. Stem hollow..... vaccinum.

9. Lamellæ whitish, becoming cinereous ..... terreum.
9. Lamellæ becoming blackish 10
10. Lamellæ subdistant, pileus brown ..... fuligineum.
10. Lamellæ crowded, pileus whitish ..... fumescens.

Lamellæ not changing color or becoming spotted.

Tricholoma decorosum *Pk.*

DECOROUS TRICHOLOMA

(N. Y. State Mus. Rep., 25, p. 73. Plate 1, figs. 1-4.)

Pileus firm, at first hemispherical, then convex or nearly plane, adorned with numerous *brownish subsquarrose tomentose scales*, dull ochraceous or tawny, flesh white; lamellæ close, rounded and slightly emarginate behind, the edge subcrenulate; stem solid, equal or slightly tapering upward, white and smooth at the top, elsewhere *tomentose-squamulose* and colored like the pileus; spores broadly elliptical, .0002 in. long, .00015 broad.

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

Decaying trunks of trees. Catskill mountains and Allegany county. September and October.

A rare but beautiful species. It is often cæspitose. It departs from the character of the genus in growing on decayed wood. It bears some resemblance to *Clitocybe decora* Fr., from which it differs in color, in the character of the scales of the pileus and stem and in the color of the flesh and lamellæ. The true relationship of that species may be regarded as yet unsettled. Fries at one time placed it in Pleurotus at another in Clitocybe. Gillet has referred it to Clitocybe, Quelet to Tricholoma, and Saccardo to Pleurotus. But it seems to me that the American plant here described belongs to the genus Tricholoma notwithstanding its unusual habitat. The emarginate lamellæ and the solid fleshy stem indicate it.

Tricholoma rutilans *Schæff.*

REDDISH TRICHOLOMA

(Hym. Europ., p. 53. Syl. Fung., Vol. V, p. 96.)

Pileus fleshy, campanulate becoming plane, dry, at first *covered with a dark-red or purplish tomentum*, then somewhat squamulose, the margin thin, at first involute, flesh yellow; lamellæ crowded, rounded, *yellow, thickened and villose on the edge;* stem somewhat hollow, nearly equal or slightly thickened or bulbous at the base, soft, pale-yellow variegated with red or purplish floccose squamules; spores .00025 to .0003 in. long, .00025 broad.

Pileus 2 to 4 in. broad; stem 2 to 4 in. long, 5 to 8 lines thick.

On or about pine stumps, rarely on hemlock trunks. Rensselaer, Albany, Oneida, Lewis, Cattaraugus and Fulton counties. July to November.

The species is somewhat variable in size and color. When old the pileus sometimes becomes yellowish, variegated with purplish or reddish stains. The villosity on the edge of the lamellæ is not always equally developed. *T. variegatum* of the Twenty-third Report, page 74, is probably only a small form of this species having the edges of the lamellæ nearly naked.

Tricholoma scalpturatum *Fr.*

SCRATCHED TRICHOLOMA

(Hym. Europ., p. 55. Syl. Fung. Vol. V, p. 100. *Agaricus impolitoides* N. Y. State Mus. Rep. 32, p. 25.)

Pileus at first conical or convex, then expanded, obtuse, dry, covered with tomentum which at length forms *brownish or reddish floccose scales*, *whitish*, flesh whitish; lamellæ somewhat crowded, emarginate, whitish, sometimes becoming yellowish when old; stem equal, solid or stuffed, fibrillose, white; spores elliptical, .00025-.0003 in. long; .00016 to .0002 broad.

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

Woods. Saratoga county. August.

Our plant has a farinaceous taste, about which nothing is said in the description of the European plant. In other respects the characters are well sustained by it.

Tricholoma flavescens *Pk.*

PALE-YELLOWISH TRICHOLOMA

(N. Y. State Mus. Rep. 26, p. 51.)

Pileus convex, firm, often irregular, dry, *slightly silky*, *becoming glabrous*, sometimes cracking into minute scales on the disk, *whitish or pale yellow*, flesh whitish or yellowish; lamellæ close, white or pale-yellow, emarginate, floccose on the edge; stems firm, solid, often unequal, central or sometimes eccentric, single or cæspitose, colored like the pileus; spores subglobose, .0002 in. in diameter.

Pileus 2 to 3 in. broad; stem 1 to 2.5 in. long, 4 to 6 lines thick.

Pine stumps. Albany and Rensselaer counties. October.

The species seems to be related to *T. rutilans* but has not the red or purplish tomentum of that fungus. It, like *T. decorosum*, is always lignicolous, *T. rutilans* is sometimes so.

Tricholoma Columbetta *Fr.*

DOVE-COLORED TRICHOLOMA

(Hym. Europ., p. 55. Syl. Fung., Vol. V, p. 99.)

Pileus convex, then nearly plane, fleshy, obtuse, rigid, somewhat flexuous, dry, at first *glabrous, then silky-fibrillose*, becoming even or squamulose, *white*, the margin at first *involute*, more or less tomentose, flesh white, taste *mild*; lamellæ close, emarginate, thin, white; stem stout, solid, unequal, nearly glabrous, white; spores, .00028 to .0003 in. long, .00016 to .0002 broad.

The species is very variable and the following varieties have been described.

Var. A. Pileus nearly always repand or lobed, at first glabrous, even, at length rimose-squamose, often reddish-spotted, the margin when young inflexed, tomentose; stem obese, even, unequal, swollen, an inch thick. The typical form.

Birch woods among mosses.

Var. B. Pileus subflexuous, silky-fibrillose, at length squamulose, sometimes fuscous-spotted, the margin scarcely tomentose; stem longer, equal or slightly narrowed at the base.

Bushy places. Intermediate between A. & C.

Var. C. Pileus regular, flattened, evidently fibrillose, sometimes spotted with blue, four inches broad; stem equal, cylindrical, fibrillose-striate, four inches long.

Beech woods. A showy variety so diverse from variety A that it might be regarded as a distinct species, did not variety B connect them and so much resemble both that it might with equal propriety be referred to either.

Pileus 2 to 4 in. broad; stem 1 to 4 in. long, 3 to 12 lines thick.

Woods and pastures. Albany county.

It may be distinguished from *T. album* by its mild taste. It is recorded as edible.

Tricholoma grande *Pk.*

GRAND TRICHOLOMA

(N. Y. State Mus. Rep., 44, p. 128.)

Pileus thick, firm, hemispherical, becoming convex, often irregular, dry, *squamulose*, somewhat silky-fibrillose toward the margin, *white*, the margin at first involute, flesh grayish-white, taste *farinaceous;* lamellæ close, rounded behind, adnexed, white; stem stout, solid, fibrillose, at first tapering upward, then equal or but slightly thickened at the base, pure white; spores elliptical, .00035 to .00045 in. long, .00024 broad.

Pileus 4 to 5 in. broad; stem 2 to 4 in. long, 1 to 1.5 in. thick.

Among fallen leaves in woods. Cattaraugus county. September.

The plants are often cæspitose, and then the pileus is more or less irregular and the lamellæ somewhat lacerated. The species is related to *T. Columbetta*, from which its larger size, constantly squamulose pileus, more cæspitose mode of growth, larger spores and farinaceous taste separate it. The squamules of the pileus are brownish, and the pileus itself is sometimes slightly dingy on the disk. The young margin is pure white like the stem, and both it and the upper part of the stem are sometimes studded with drops of moisture.

The plant was found on trial to be edible, but not of first quality. The flesh is not very tender, nor the flavor captivating even in young specimens.

Tricholoma striatifolium *Pk.*

STRIATE-LEAVED TRICHOLOMA

(N. Y. State Mus. Rep. 30, p. 37.)

Pileus convex or nearly plane, dry, subglabrous, somewhat shining, often obscurely dotted or squamulose with innate fibrils, grayish or grayish-brown, sometimes tinged with red, flesh white; lamellæ rather close, rounded behind, *transversely striated or venose*, white; stem slightly thickened at the base, *hollow*, white; spores subglobose or broadly elliptical, .00016 to .0002 in. long.

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

Woods. Saratoga county. October.

A rare species collected but once. The striate appearance of the lamellæ is due to the presence of small transverse vein-like elevations. The stem is of a pure chalky-white color. The odor is perceptible and peculiar.

Lamellæ changing color or becoming spotted.

Tricholoma tricolor *Pk.*

THREE-COLORED TRICHOLOMA

(N. Y. State Mus. Rep. 41, p. 60.)

Pileus broadly convex or nearly plane, sometimes slightly depressed in the center, firm, dry, obscurely striate on the margin *pale-alutaceous inclining to russet*, flesh whitish; lamellæ thin, narrow, close, adnexed, *pale-yellow, becoming brown or purplish-brown* in drying; stem stout, short, firm, tapering upward from the thickened or subbulbous base, *white;* spores broadly elliptical or subglobose, .0003 in. long.

Pileus 2 to 4 in. broad; stem 2 to 3 in. long, 6 to 12 lines thick.

Woods. Albany county. August.

The species is remarkable for its varied colors and for the peculiar hue assumed by the dried lamellæ.

Tricholoma imbricatum *Fr.*

IMBRICATED TRICHOLOMA

(Hym. Europ., p. 56. Syl. Fung., Vol. V, p. 101.)

Pileus fleshy, *compact*, convex or nearly plane, obtuse, dry, innately squamulose, fibrillose toward the margin, brown or reddish brown, the margin thin, at first slightly *inflexed and pubescent, then naked*, flesh firm, thick, white; lamellæ slightly emarginate, almost adnate, rather close, white when young, becoming reddish or spotted; stem *solid*, firm, nearly equal, fibrillose, white and mealy or pulverulent at the top, elsewhere colored like the pileus; spores .00025 in. long, .00016 to .0002 broad.

Pileus 2 to 4 in. broad; stem 2 to 3 in. long, 4 to 10 lines thick.

Under or near coniferous trees. Greene and Essex counties. September and October.

This is an edible species. It has a farinaceous odor and taste when fresh.

Tricholoma vaccinum *Pers.*

VACCINE TRICHOLOMA

(Hym. Europ., p. 56. Syl. Fung., Vol. V., p. 102.)

Pileus fleshy, convex or campanulate, becoming nearly plane, umbonate, dry, floccose-squamose, reddish-brown, the margin *involute, tomentose*, flesh white; lamellæ adnexed, subdistant, whitish, then reddish or reddish-spotted; stem equal, *hollow*, covered with a fibrillose bark, naked at the apex, whitish-rufescent; spores subglobose, .00024 in. long.

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

Under or near coniferous trees. Greene and Essex counties. September and October.

This species resembles the preceding one from which it may be distinguished by the tomentose margin of the pileus and the stuffed or hollow stem. In the American plant the pileus is sometimes streaked with innate fibrils and sometimes becomes longitudinally rimose. It is not always umbonate. It has a farinaceous taste.

Both it and the preceding species are somewhat gregarious and occur in the same localities. They are especially found in groves or thickets of young spruce trees.

Tricholoma terreum *Schæff.*

EARTH-COLORED TRICHOLOMA

(Hym. Europ., p. 57. Syl. Fung., Vol. V, p. 104.)

Pileus fleshy, thin, soft, convex campanulate or nearly plane, obtuse or umbonate, *innately fibrillose* or *floccose-squamose*, cinereous fuscous grayish-brown or mouse-color, flesh white or whitish; lamellæ adnexed, subdistant, more or less eroded on the edge, *white becoming cinereous;* stem equal, varying from solid to stuffed or hollow, fibrillose, white or whitish; spores broadly elliptical, .00024 to .00028 in. long, .00016 to .0002 broad.

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

Woods. Albany, Rensselaer and Cattaraugus counties. September to November.

Var. *fragrans* n. var. Pileus innately fibrillose, obtuse, odor farinaceous. Dutchess county.

This is a very variable species and European authors do not fully agrèe upon the characters that belong to it. According to Fries it is subinodorous, but Stevenson says it is inodorous. One author describes the spores as "nearly spherical," .0002 in. long, another says they are .00024 to .00028 in. long, .00016 broad. The spores of our plant agree closely with the latter measurement. The plants are sometimes gregarious, sometimes cæspitose. The larger forms often have the pileus obtuse fibrillose or squamulose and less regular, the smaller ones more regular, more floccose-squamulose and often with a very small umbo or papilla. I find this form especially in pine woods. It varies considerably in color and is a pretty little plant. The variety *fragrans* is generally a little larger and is edible, though it retains somewhat of the farinaceous flavor. This appears to be common farther south, and I suspect that *Agaricus hypopythius* of Curtis' Catalogue is the same thing.

T. argyraceum Bull., in which the lamellæ and commonly the pileus also are pure white is considered by Fries as a subspecies of *T. terreum*. *T. argyreum* Kalchb. he thinks is the same as Bulliard's plant. *T. atrosquamosum* Chev., in which the whitish or cinereous umbonate pileus is adorned with minute black scales, and *T. orirubens* Quel., in which the lamellæ have a rosy-red edge, are also made subspecies of *T. terreum* by Stevenson.

Tricholoma fumescens *Pk.*

SMOKY TRICHOLOMA

(N. Y. State Mus. Rep. 31, p. 32.)

Pileus convex or expanded, dry, clothed with a very minute appressed tomentum, whitish; lamellæ narrow, crowded, rounded behind, whitish or pale cream color, *changing to smoky-blue or blackish* where bruised; stem short, cylindrical, whitish; spores oblong-elliptical, .0002 to .00025 in. long.

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

Woods. Columbia county. October. Rare.

The species is remarkable for the smoky or blackish hue assumed by the lamellæ when bruised and also in drying. It is apparently related to *T. immundum* Berk., but in that species the whole plant becomes blackish when bruised, and the lamellæ are marked with transverse lines and tinged with pink.

Tricholoma fuligineum *Pk.*

SOOTY TRICHOLOMA

(N. Y. State Mus. Rep. 41, p. 60.)

Pileus convex or nearly plane, obtuse, often irregular, dry, minutely squamulose, *sooty-brown*, flesh grayish, odor and taste farinaceous; lamellæ subdistant, uneven on the edge, cinereous *becoming blackish in drying*; stem short, *solid*, equal, glabrous, cinereous; spores oblong-elliptical, .0003 in. long, .00016 broad.

Pileus 1 to 2.5 in. broad; stem 1 to 1.5 in. long, 3 to 5 lines thick.

Among mosses in open places. Greene county. September. Rare.

Rigida

Pileus rigid, in compact species hard and somewhat cartilaginous, in thinner species very fragile, the margin naked, the pellicle of the pileus rigid, punctate granulate, or broken up when dry into small smooth scales, neither viscid, floccose-scaly nor torn into fibrils.

No representative.

Sericella

Pileus at first slightly silky, soon becoming glabrous, very dry, neither moist, viscid, hygrophanous nor distinctly scaly, rather thin, opaque, absorbing moisture, but the flesh of the same color as the lamellæ; stem fleshy, fibrous.

T. fallax and *T. infantile* are somewhat moist in wet weather, but are placed in this group because of their manifest nearness to species belonging to it. The same is true of *T. albiflavidum.*

Pileus white or whitish, often darker on the disk or umbo.... 1
Pileus some other color..... 5
1. Pileus acutely umbonate ..... subacutum.
1. Pileus not acutely umbonate..... 2
2. Lamellæ subdistant 3
2. Lamellæ crowded 4
3. Plant inodorous, pileus wholly white..... silvaticum.
3. Plant with a strong odor, pileus darker on the disk.. terræolens.
4. Stem slightly bulbous ..... albiflavidum.
4. Stem not at all bulbous ..... lascivum.
5. Stem solid 6
5. Stem hollow..... 7
6. Lamellæ white, pileus pale tan color ..... lascivum.
6. Lamellæ and pileus yellowish... ..... chrysenteroides.
7. Lamellæ yellow..... fallax.
7. Lamellæ whitish ..... infantile.

Tricholoma subacutum *Pk.*

SUBACUTE TRICHOLOMA

(N. Y. State Mus. Rep. 42, p. 16.)

Pileus at first ovate or broadly conical, then convex and *subacutely umbonate*, dry, silky and obscurely virgate with *minute innate fibrils, whitish*, tinged with smoky-brown or bluish-gray, darker on the umbo, flesh white, taste acrid or peppery; lamellæ rather close, slightly adnexed, white; stem equal, *stuffed or hollow*, silky-fibrillose, white; spores broadly elliptical or subglobose, .00025 to .0003 in. long, .0002 to .00025 broad.

Pileus 1.5 to 3 in. broad; stem 2 to 4 in. long, 3 to 6 lines thick.

Woods and groves. Essex county. September.

This species is perhaps too closely related to *T. virgatum*, but it is separable by its prominent subacute umbo, paler pileus, hollow stem and hot or peppery taste. The cuticle is separable from the pileus.

Tricholoma silvaticum *Pk.*

WOOD TRICHOLOMA

(N. Y. State Mus. Rep. 42, p. 17).

Pileus convex or nearly plane, dry, *glabrous*, *subumbonate*, whitish; lamellæ broad, ventricose, subdistant, adnexed, white; stem subequal, *solid*, white; spores *rather large*, elliptical, .00045 to .0005 in. long, .0003 broad.

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

Mossy ground in woods. Essex county. September.

The whole plant is white or whitish, as in *T. leucocephalum*, from which it is separated by its subdistant lamellæ, somewhat umbonate pileus and by the absence of any farinaceous odor.

Tricholoma terræolens *Pk.*

EARTH-SMELLING TRICHOLOMA

(N. Y. State Mus. Rep. 38, p. 84.)

Pileus thin, convex or nearly plane, slightly silky-fibrillose, whitish with a brownish or grayish-brown slightly prominent disk, *taste and odor strong, unpleasant;* lamellæ subdistant, emarginate, white: stem equal, slightly silky, shining, *stuffed or hollow*, white; spores subglobose or broadly elliptical, .00025 to .0003 in. long, .0002 to .00025 broad.

Pileus 10 to 15 lines broad; stem 1 to 1.5 in. long, about 2 lines thick.

Under ground hemlock, *Taxus Canadensis.* Saratoga county. September.

The species is related to *T. inamœnum*, from which it is separated by its smaller size, less distant lamellæ, stuffed or hollow stem and different odor. Nor is the stem radicating or the disk tinged with yellow as in that species. The odor is decidedly earthy, resembling that of vegetable mold or mossy rocks. Its taste is similar to its odor and remains in the mouth and throat a long time.

Tricholoma lascivum *Fr.*

DISGUSTING TRICHOLOMA

(Hym. Europ., p. 65, Syl. Fung., Vol. V., p. 112.)

Pileus fleshy, convex or nearly plane, obtuse, at length somewhat depressed, silky, then glabrous, even, whitish or pale tan color, the margin at first involute, flesh white; lamellæ adnexed, thin, *crowded, white;* stem solid, equal, rigid, *rooting and tomentose at the base*, fibrillose, white; spores .0003 to .0004 in. long, .00014 broad.

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

Open places. Albany county. September.

The European plant has the pileus pallid-tan color and has a strong odor. In our plant there was no marked odor and the pileus was nearly white.

Tricholoma albiflavidum *Pk.*

YELLOWISH-WHITE TRICHOLOMA

(N. Y. State Cabinet Rep., 23, p. 75.)

Pileus fleshy, convex, becoming plane or slightly depressed, glabrous, even, *white sometimes tinged with yellow*, the margin at first involute, flesh white; lamellæ narrow, crowded, thin, emarginate,

white; stem equal, solid, fibrillose-striate, *somewhat bulbous*, whitish; spores elliptical, .0003 to .00035 in. long, .00016 to .0002 broad.

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

Woods and fields. Essex and Rensselaer counties. August.

This species is very closely allied to the preceding one of which it is perhaps only a variety. It is separable by the pileus which varies in color from white to yellowish and by the stem which is slightly bulbous thickened at the base but not radicated. The stem is generally very slender in proportion to the size of the pileus. This is sometimes slightly and broadly umbonate. In very wet weather the pileus is moist but the species has been placed here because of its affinity with *T. lascivum*.

Tricholoma chrysenteroides *Pk.*

GOLDEN-FLESH TRICHOLOMA

(N. Y. State Mus. Rep. 24, p. 60.)

Pileus fleshy, convex or plane, not at all umbonate, firm, dry, glabrous or slightly silky, *pale-yellow or buff*, becoming dingy with age, the margin sometimes reflexed, *flesh pale-yellow, taste and odor farinaceous;* lamellæ rather close, emarginate, yellowish, becoming dingy or pallid with age, *marked with transverse veinlets along the upper edge*, the interspaces venose; stem equal, firm, *solid*, glabrous, fibrous-striate, yellowish without and within; spores elliptical, .0003 to .0004 in. long, .0002 to .00024 broad.

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

Woods. Lewis and Cattaraugus counties. September.

Nearly allied to *T. chrysenterum*, but separable by the lamellæ, which are somewhat veiny and not free, by the entire absence of an umbo and by its farinaceous odor and taste.

Tricholoma fallax *Pk.*

FALLACIOUS TRICHOLOMA

(N. Y. State Mus. Rep. 25, p. 74. Plate 1, figs 5 to 8.)

Pileus firm, convex or nearly plane, rarely centrally depressed, moist in wet weather, glabrous, dull saffron, subochraceous or reddish yellow, flesh yellowish when dry; lamellæ narrow, close, tapering outwardly, rounded behind, *yellow;* stem short, glabrous, slightly tomentose at the base, equal or tapering downward, *stuffed or hollow*, colored like the pileus; spores minute, elliptical, .00012 to .00016 in. long.

Pileus 6 to 15 lines broad; stem about 1 in. long, 1 to 2 lines thick.

Under spruce and balsam trees. Essex, Lewis, Herkimer and Onondaga counties. August and September.

This pretty little agaric is liable to be mistaken for a species of Naucoria, because of its peculiar colors, but its spores are white. It is apparently closely related to *T. cerinum*, but the pileus of that species is described as very dry, the flesh white and the stem glabrous at the base, characters which are not well shown by our plant. Because of its affinity to *T. cerinum* it has been placed in the tribe Sericella notwithstanding its pileus is moist in wet weather.

Tricholoma infantile *Pk.*

INFANTILE TRICHOLOMA

(Bulletin N. Y. State Mus., Vol. 1, Number 2.)

Pileus thin, convex or nearly plane, even, minutely silky, *moist in wet weather*, *reddish-gray*, the margin at first incurved and whitish: lamellæ subdistant, plane or slightly ventricose, often eroded on the edge, whitish; stem short, equal or tapering upward, hollow, slightly silky, colored like the pileus or a little paler; spores broadly elliptical, .0003 to .00035 in. long, .0002 to .00025 broad, often containing a shining nucleus.

Pileus 4 to 12 lines broad; stem 1 to 1.5 in. long, 1 to 2 lines thick.

Gravelly soil in fields. Rensselaer county. June.

This small species is apparently related to *P. cœlatum*, from which it is separated by its pileus which is not at all umbilicate, but on the other hand is sometimes papillate. The stem is fleshy-fibrous and hollow but its cavity is very small. In the larger specimens the margin of the pileus is often wavy or irregular and the edge of the lamellæ eroded. This and the preceding species by being somewhat moist in wet weather form a transition to the next Series.

SERIES B

Pileus glabrous, either watery-spotted, moist or hygrophanous, not viscid, its flesh very thin or becoming soft or spongy; veil pruinose.

Guttata

Pileus fleshy, soft, fragile, spotted as if by drops or rivulose; stem solid. Mostly vernal, growing in troops or cæspitose.

No representative.

Spongiosa

Pileus compact, becoming spongy, fleshy quite to the margin, obtuse, even, glabrous, moist; stem stout, fibrous-spongy, commonly thickened at the base; lamellæ at length spuriously but sinuately decurrent.

Mostly autumnal, growing in troops. *T. album. T. nobile* and *T. laterarium*, though having the pileus dry, are placed in this group because of their affinities and their agreement with it in other respects.

Lamellæ reticulately connected ..... patulum.
Lamellæ distinct 1
1. Pileus wholly white or white tinged with yellow rust color ... 2
1. Pileus some other color 6
2. Stem hollow ..... leucocephalum.
2. Stem solid 3
3. Margin of the pileus with subdistant short radiating ridges ..... laterarium.
3. Margin of the pileus even 4
4. Lamellæ changing color with age ..... grave.
4. Lamellæ not changing color 5
5. Pileus glabrous ..... album.
5. Pileus minutely squamulose ..... nobile.
6. Lamellæ at first violaceous ..... personatum.
6. Lamellæ at first white or whitish 7
7. Lamellæ becoming tawny or subochraceous ..... grave.
7. Lamellæ not assuming this color 8
8. Pileus greenish ..... virescens.
8. Pileus smoky-yellow ..... fumosiluteum.
8. Pileus whitish tinged with brown ..... fumidellum.

Tricholoma patulum *Fr.*

WIDE TRICHOLOMA

(Hym. Europ. p. 69. Syl. Fung., Vol. v, p. 125. *Clitocybe patuloides.* N. Y. State Mus. Rep., 32, p. 25.)

Pileus fleshy, firm, convex or plane, obtuse, often repand, even, glabrous, pale cinereous inclining to yellowish, flesh white; lamellæ emarginate, crowded, *reticulately connected*, white; stem thick, solid, firm, equal, elastic, glabrous, white or whitish; spores subglobose or broadly elliptical, .00025 to .0003 in. long.

Pileus 1 to 4 in. broad; stem 2 to 3 in. long, 4 to 10 lines thick.

Thin woods and groves. Onondaga county. September.

The American plant differs slightly from the description of the European, in having the lamellæ somewhat decurrent, and on this account it was formerly referred to the genus Clitocybe and described as distinct. The spore characters here given are taken from the American plant.

Tricholoma album *Schæff.*

WHITE TRICHOLOMA

(Hym. Europ., p. 70. Syl. Fung., Vol. v, p. 127.)

Pileus fleshy, tough, convex, becoming plane or depressed, obtuse, very dry, even, *glabrous, white,* sometimes yellowish on the disk, rarely wholly yellowish, the margin at first involute, flesh white, taste *acrid or bitter;* lamellæ emarginate, somewhat crowded, distinct, white; stem solid, elastic, equal or tapering upward, externally fibrous, obsoletely pruinose at the apex, white; spores elliptical, .0002 to .00025 in. long.

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

Woods. Common. Albany, Essex, Herkimer, Cattaraugus and Greene counties. August to October.

This species is variable in color and in size, being sometimes robust, sometimes slender. It grows singly, in troops or in tufts. It has no decided odor but a bitter unpleasant taste. It departs from the character of the tribe in having the pileus quite dry and on this account, as Fries remarks, it might perhaps be better placed in the tribe Sericella. The same remark is applicable to the two following species. The variety *cæsariatus* differs from the typical form in having the pileus thin, and at first silky, the lamellæ almost free and the slender fragile stem somewhat pruinose at the apex. *T. alboides,* Report 32, p. 25, apparently belongs to this variety.

Tricholoma nobile *Pk.*

NOBLE TRICHOLOMA

(N. Y. State Mus. Rep. 42, p. 17.)

Pileus fleshy, convex or nearly plane, dry, *minutely punctate or squamulose with innate fibrils,* whitish or tinged with yellow, flesh white, taste unpleasant; lamellæ broad, rather close, *rounded behind and slightly adnexed,* white, slowly changing to pale-yellow where wounded; stem equal, solid, slightly floccose-pruinose, whitish; spores minute, subglobose, .00016 to .0002 in. broad.

Pileus 2 to 4 in. broad; stem 1.5 to 2.5 in. long, 4 to 8 lines thick.

Woods. Essex county. September.

This plant might easily be mistaken for *T. album*, so close is the resemblance between them, and yet it is quite distinct by its minute though rather obscure squamules, the insertion of the lamellæ and the subglobose spores. Its taste is very unpleasant and leaves a burning sensation in the mouth and throat for a long time.

Tricholoma laterarium *Pk.*

SIDE-MARKED TRICHOLOMA

(N. Y. State Mus. Rep., 26, p. 51.)

Pileus convex or nearly plane, sometimes slightly depressed in the center, pruinose, whitish, the *disk often tinged with brick-red or brown*, the thin *margin marked with slight, subdistant, short radiating ridges*, flesh white; lamellæ narrow, crowded, emarginate, decurrent in slight lines, white; stem nearly equal, solid, white; spores globose, .00018 in. broad.

Pileus 2 to 4 in. broad; stem 2 to 3 in. long, 3 to 5 lines thick.

Woods. Otsego and Oneida counties. June and July.

It resembles some forms of *T. album*, but is separable by the markings on the margin of the pileus and by its globose spores.

Tricholoma leucocephalum, *Fr.*

WHITE-CAP TRICHOLOMA

(Hym. Europ., p. 71. Syl. Fung., Vol. v. p. 128.)

Pileus fleshy, thin, tough, convex or plane, obtuse or obtusely umbonate, even, moist, at first *minutely silky, then glabrous, white*, the margin spreading, naked, flesh white, odor farinaceous; lamellæ thin, crowded, rounded behind, free, white; stem *hollow, glabrous, rooting* at the narrowed solid base, subcartilaginous, white.

Pileus 1 to 2.5 in. broad; stem 1 to 2 in. long; 2 to 4 lines thick.

Pine groves. Green county. September.

European authors do not agree in the dimensions ascribed to the spores of this species. In Sylloge Fungorum they are said to be .00036 to .0004 in. long, .00028 to .00032 broad, and according to Lanzi they are .0002 to .00024 in. long, .00016 broad. In our plant they are of the latter dimensions.

Tricholoma fumidellum, *Pk.*

LITTLE-SMOKY TRICHOLOMA

(N. Y. State Mus. Rep. 26, p. 52.)

Pileus convex, then expanded, subumbonate, glabrous, moist, *dingy-white or clay-color clouded with brown*, the disk or umbo generally smoky-brown; lamellæ crowded, subventricose, whitish;

stem equal, glabrous, *solid*, whitish; spores minute, subglobose, .00018 in. long, .00015 broad.

Pileus 1 to 2 in. broad; stem 1.5 to 2.5 in. long, 2 to 3 lines thick.

Woods. Albany county and Catskill Mountains. September and October.

The stem splits easily and the pileus becomes paler in drying. It sometimes becomes rimose-areolate.

Tricholoma virescens *Pk.*

GREENISH TRICHOLOMA

(N. Y. State Mus. Rep. 25, p. 74. *Agaricus viriditinctus*, Rep. 33, p. 36. *Tricholoma viriditinctum*, Syl. Fung., Vol. V., p. 128.)

Pileus convex or nearly plane, sometimes centrally depressed, moist, glabrous, *dingy-green*, the margin sometimes wavy or lobed; lamellæ close, gradually narrowed toward the outer extremity, rounded or slightly emarginate at the inner, white; stem subequal, *stuffed or hollow*, thick but brittle, whitish, sometimes tinged with green; spores broadly elliptical, .0002 in. long, .00015 broad.

Pileus 3 to 5 in. broad; stem 3 to 4 in. long, 6 to 12 lines thick.

Thin woods. Essex county. July.

The dull smoky-green hue of the pileus is the distinguishing feature of this species. The elevation of the Friesian subgenera to generic rank enables me to restore the original name of this species, for *Agaricus virescens* B. and C., which antedated it, now becomes *Leptonia virescens*.

Tricholoma fumosiluteum *Pk.*

SMOKY-YELLOW TRICHOLOMA

(N. Y. State Mus. Rep. 27, p. 92.)

Pileus fleshy, convex or nearly plane, moist, glabrous, *smoky-yellow*, flesh white, tinged with yellow under the cuticle, taste farinaceous; lamellæ broad, close, rounded behind and deeply emarginate, white; stem stout, glabrous, hollow, white, spores subglobose, .00018 to .00024 in. in diameter.

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

Woods. Sullivan, Cattaraugus, Ulster and Greene counties. September.

The flesh, when cut, emits a farinaceous odor. The plant sometimes grows in tufts. In size and general character it is related to *T. virescens* so closely that it might easily be regarded as a mere yellowish variety of it. The disk of the pileus is often darker than the margin, and the pileus is sometimes spotted.

Tricholoma personatum *Fr.*

MASKED TRICHOLOMA

(Hym. Europ. p. 72. Syl. Fung., Vol. V. p. 130.)

Pileus compact, becoming soft, thick, convex or plane, obtuse, regular, moist, glabrous, variable in color, generally pallid or cinereous tinged with violet or lilac, the margin at first *involute and villose-pruinose*, flesh whitish; lamellæ broad, crowded, rounded behind, free, *violaceous becoming sordid-whitish or fuscous;* stem generally thick, subbulbous, solid, fibrillose or villose-pruinose, whitish or colored like the pileus; spores *sordid-white*, subelliptical, .0003 to .00035 in. long, .00016 to .0002 broad.

Pileus 2 to 5 in. broad; stem 1 to 3 in. long, 6 to 12 lines thick.

Woods and open places. Common. Albany, Rensselaer, Greene, Delaware, Cattaraugus and Madison counties. September and October.

This species is quite variable in color, but easily recognized after it is known. The pileus is rarely whitish or cinereous, but usually it exhibits dull violaceous or dingy lilac or fuscous hues and the lamellæ are somewhat similar in color. The lamellæ are separable from the hymenophore and the species has for this reason sometimes been placed in the genus Lepista. A form occurs in which the stem is decidedly bulbous, and there is also a small form scarcely attaining the dimensions given above. It grows either singly or in troops, rarely in tufts. It is an edible species with tender and well-flavored flesh.

Tricholoma grave *Pk.*

HEAVY TRICHOLOMA

(N. Y. State Mus. Rep. 43, p. 17.)

Pileus at first hemispherical, then convex, compact, glabrous, *grayish-tawny* and somewhat spotted when moist, paler when dry, the margin paler, irregular, involute, covered with a minute close grayish-white tomentum or silkiness, flesh grayish-white; lamellæ sub-distant, rounded behind or sinuate, adnexed, at first *whitish, then pale-ochraceous or tawny;* stem stout, compact, solid, subsquamulose, grayish-white, penetrating the soil deeply; spores broadly elliptical, .0003 in long, .0002 broad.

Pileus 5 to 8 in. broad; stem 4 in. long, 1 to 1.5 in. thick.

Mixed woods. Suffolk county. September.

This species is remarkable for its great size and weight. It is apparently allied in this respect to *T. Colossus*, from which it is separated by the absence of any viscidity of the pileus, by the

radicating character of the base of the stem and by the flesh not assuming a reddish color. Its moist pileus places it among the Spongiosi rather than the Limacini among which *T. Colossus* is placed.

Hygrophana

Pileus thin, subumbonate, hygrophanous, the flesh at first compact, then soft, very thin toward the margin, moist or watery.

Stem solid or stuffed 1
Stem hollow 4
1. Lamellæ whitish, often tinged with brown or violaceous 2
1. Lamellæ white or yellowish 3
2. Stem less than one inch long . . . . . brevipes.
2. Stem one inch or more in length . . . . . sordidum.
3. Stem white . . . . . Trentonense.
3. Stem not white . . . . . microcephalum.
4. Pileus some shade of red 5
4. Pileus grayish or brownish 6
5. Lamellæ whitish . . . . . Sienna.
5. Lamellæ alutaceous . . . . . thujinum.
6. Lamellæ cinereous . . . . . putidum.
6. Lamellæ yellowish . . . . . Hebeloma.

Tricholoma brevipes *Bull.*

SHORT-STEMMED TRICHOLOMA

(Hym. Europ., p. 75. Syl. Fung., Vol. V, p. 135.)

Pileus fleshy, convex becoming plane, rigid, then soft, glabrous, umber or isabelline, becoming pale with age; lamellæ close, ventricose, emarginate, fuscous becoming whitish; stem *very short, solid,* firm, rigid, somewhat thickened at the base, *fuscous;* spores elliptical, .0003 in. long, .0002 broad.

Pileus 1 to 2 in. broad; stem 6 to 9 lines long, 2 to 3 lines thick.

Fields and gardens. Albany county. October.

Tricholoma sordidum *Fr.*

SORDID TRICHOLOMA

(Hym. Europ., p. 77. Syl. Fung., Vol. V, p. 139.)

Pileus thin, campanulate or convex, then plane or centrally depressed, sometimes with a small umbo, often irregular or eccentric, glabrous, hygrophanous, brown with a reddish or violaceous tint and striatulate on the margin when moist, sordid or subcinereous when dry, flesh white; lamellæ thin, moderately close, rounded or sinuately and slightly decurrent, violaceous whitish or fuligin-

ous; stem equal or slightly thickened at the base, solid or stuffed, fibrillose-striate, colored like the pileus, white within; spores elliptical. .00024 to .0003 in. long, .00016 to .0002 broad.

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

Manured ground. Albany county. May.

It sometimes grows in a crowded subcæspitose manner. It has a peculiarly sordid appearance and a strange admixture of colors difficult to describe.

Tricholoma Trentonense *Pk.*

TRENTON TRICHOLOMA

(N. Y. State Mus. Rep. 24, p. 60.)

Pileus thin, convex or nearly plane, often irregular, glabrous or subvirgate, hygrophanous, slightly striatulate on the margin when moist, dingy-white, the disk generally brown; lamellæ very narrow, crowded, slightly emarginate, white inclining to yellowish; stem short, equal, *solid*, slightly striate, *white;* spores .0002 in. long, .00016 broad.

Pileus 1 to 2 in. broad; stem 1 to 1.5 in. long, 3 to 5 lines thick.

Woods on the ground or on decaying wood. Oneida county. September. The plant is gregarious or subcæspitose. It has not been found since its discovery in 1870.

Tricholoma microcephalum *Karst.*

SMALL-CAP TRICHOLOMA

(Syl. Fung., Vol. V, p. 135.)

Pileus fleshy, thin, sooty-livid, when dry isabelline-livid; lamellæ adnexed, very crowded, soft, white; stem tall, stuffed, equal, naked, striatulate, becoming pallid; spores subglobose .0002 to 00024 in. long, .0002 broad.

Pileus 9 to 14 lines broad; stem 2 to 3 in. long, 1 to 2 lines thick.

Meadows and pastures. Essex county. September.

Our specimens do not agree fully with the above description. In color they correspond very closely with the figures of *T. melaleucum* in Mycological Illustrations, but the spore characters agree better with those ascribed to *T. microcephalum.*

Tricholoma Sienna *Pk.*

YELLOWISH-RED TRICHOLOMA

(N. Y. State Rep. 24, p. 60.)

Pileus rather thin, convex then plane or slightly depressed, glabrous, hygrophanous, obscurely striatulate on the extreme margin when moist, *yellowish-red;* lamellæ moderately close, whitish; stem

equal, glabrous, *hollow, colored like the pileus;* spores elliptical, .00024 to .0003 in. long, .00016 to .0002 broad.

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

Woods. Lewis county. September.

Not found since its discovery in 1870.

Tricholoma thujinum *Pk.*

ARBOR-VITÆ TRICHOLOMA

(N. Y. State Mus. Rep. 26, p. 52.)

Pileus convex or centrally depressed, glabrous, hygrophanous, pale-alutaceous, the margin generally irregular wavy or lobed; lamellæ crowded, thin, abruptly emarginate, *alutaceous;* stem slightly thickened at the top, glabrous, hollow, colored like the pileus, whitish-villose at the base; spores minute, .00016 in. long, about half as broad.

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

Swampy ground under trees of arbor-vitæ, *Thuja occidentalis* Onondaga county. July.

Not found since its discovery in 1872.

Tricholoma putidum *Fr.*

STRONG-SMELLING TRICHOLOMA

(Hym. Europ., p. 78. Syl. Fung., Vol. V, p. 140.)

Pileus somewhat fleshy, hemispherical, umbonate, even, soft, hygrophanous, somewhat olivaceous-gray when moist, hoary when dry, occasionally sprinkled with a white silkiness, odor like that of rancid meal; lamellæ adnexed, appearing free, ventricose, crowded, *cinereous;* stem hollow, soft, fragile, fibrous, equal or subcompressed, pruinose, grayish: spores .0003 to .0004 in. long, .00016 broad.

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

Pine groves. Greene county. September.

In the New York specimens the pileus is not umbonate, but in other respects they agree well with the description of the species.

Tricholoma Hebeloma *Pk.*

HEBELOMA-LIKE TRICHOLOMA

(N. Y. State Mus. Rep. 26, p. 53.)

Pileus thin, broadly conical or subcampanulate, obtuse, hygrophanous, brown with a darker disk and striatulate on the margin when moist, grayish when dry; lamellæ broad, rounded behind and

deeply emarginate, adnexed, *yellowish;* stem equal, hollow, glabrous, pallid; spores .00025 in. long, .00016 broad.

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

Woods. Otsego county. July.

Agaricus hordus, Rep. 25, p. 73, and *Agaricus prœfoliatus*, Rep. 32, p. 55, are both referable to *Collybia platyphylla*, Fr. as large fleshy-stemmed forms.

Agaricus multipunctus, Rep. 25, p. 73, is scarcely distinct from *Clitocybe decora* Fr. and is therefore omitted here.

Agaricus Schumacheri, Rep. 24, p. 60, proves to be a form of *Clitocybe nebularis* Batsch.

Agaricus limonium, Rep. 26, p. 52, is referable to *Collybia scorzonerea* Batsch.

Agaricus lacunosus, Rep. 26, p. 51, has a very tough substance and must be referred to Collybia.

Agaricus rubescentifolius, Rep. 39, p. 38, has also been shown by later observations to be a species of Collybia and now stands as *Collybia rubescentifolia.*

(F)

FUNGI OF MARYLAND

The fungi recorded in the following pages have been found in Maryland, and most of them have been illustrated and described in a large manuscript volume by Mary E. Banning of Baltimore, Maryland. This volume she has most generously donated to the New York State Museum, and it has been made the basis of the following enumeration. Nearly all the species represented in the volume belong to the larger fleshy fungi and are included among the Hymenomycetes and Gasteromycetes. Of these, 14 have been described as new species and these descriptions have been here transcribed for publication that they may thereby be made more accessible to students of mycology. Remarks have also been freely quoted from the volume when they seemed to have especial interest or scientific value. The name of each species is followed by the name of the locality where it was found, except in the case of very common ones, and by the number of the plate on which it is figured. In some instances different forms or varieties of one species are figured on different plates. The old subgenera of the former genus Agaricus are here raised to generic rank, according to the plan of Sylloge Fungorum.

Amanita rubescens *Pers.* Druid Hill Park ..... Plate 1
" " Eastern Maryland ..... Plate 2
" " Halls Spring near Baltimore.. Plate 3

"Found in woods in every section of Maryland from July until September, but very variable in size as well as in depth of color. Plate 2 represents plants collected in Eastern Maryland in 1870, also in woods near Halls Spring, Baltimore county. Its spores are globose."

The plants represented on Plate 2 also have the stem beautifully and distinctly adorned below the annulus with red scales. These and the globose spores indicate that the plant is worthy of distinction as a variety if not as a species.

Amanita muscaria *L.* Eastern Maryland..... Plate 4
" " ..... Plate 5
" " ..... Plate 6
" " ..... Plate 7

Plate 4 represents a large form with pileus yellow; plate 6 a small form with pileus brownish, thereby approaching variety *umbrina;* plate 7 represents a form wholly white.

"I have found the scarlet form in the primeval forests of the eastern shore of Maryland. The white form is not so common as those with a yellow pileus."

Amanita solitaria *Bull.* Carroll county..... Plate 8
Amanita strobiliformis *Vitt.* Druid Hill Park ..... Plate 9

"I found this plant during the great drought of 1879. The earth was dry and hard, yet some of the plants had reached a very large size. * * * They grew near a spring, which may account for the perfection of the plants. * * * The odor from them was delightful, somewhat resembling that of our edible *A. campestris*, but more powerful. The aroma from the bulb is even greater than from the pileus."

Amanita nitida, *Fr.* Halls Spring..... Plate 10

"Common in nearly every woods in Maryland."

Amanita phalloides *Fr.* Common ..... Plate 11
Amanita verna *Bull.* Druid Hill Park ..... Plate 12
Amanita spissa *Fr.* Carroll county ..... Plate 174

"I have referred this plant to *A. spissa* because it so closely agrees with the description of that species as given in all the books. It must be the American form of that plant. * * * Spores white, globose or subglobose, .00024 inch. The spore measure does not agree with W. G. Smith's measurement which is .0005 in. long, pear shaped or balloon shaped, with a short stalk."

Amanita pellucidula *n. sp.* Baltimore..... Plate 15

"Pileus at first campanulate, then expanded, slightly viscid, fleshy in the center, attenuated at the margin, smooth, bright red, deeper at the top, shaded into clear transparent yellow at margin, glossy, flesh white, unchanging; lamellæ ventricose, free, numerous, yellow; ring descending, fugacious; stem stuffed. I have named this plant 'pellucidula' because of its bright color. I could not get the spore measure. It has not appeared since July, 1877. I am now, August 20, 1888, under the impression that it is an aborted form or variety of *Amanita cæsarea* Scop. I have met with several like it, near or in company with more perfect larger forms. The stem is white in most cases, or very pale cream color, always ventricose. Spores the same as those of *A. cæsarea.*"

The plant figured differs from the true *A. cæsarea* in its brilliantly colored pileus with even margin and in the white stem.

Amanita cæsarea *Scop.* Common..... Plate 16
" " ..... Plate 17
" " ..... Plate 18

"This plant varies greatly in color. Sometimes the pileus is bright scarlet with yellow margin, then burnt sienna color with yellowish margin. It varies also in size. It generally appears in July and continues until the last of August, and even into September. Its taste is not disagreeable. * * * There is not one doubt that this fungus can be eaten with impunity. The taste is mild and pleasant, it has no disagreeable odor, and it is plentiful."

Amanitopsis vaginata *Bull.* Druid Hill Park..... Plate 13
" " ..... Plate 14

"For three successive years I found this fungus in Druid Hill Park in one spot, on or about the fifteenth of July. In 1878 it was missing there, but appeared plentiful in a distant wood. In 1880 it again made its apperance in Druid Hill Park, on the fifteenth of July, and under the same tree. There was not the slightest variation in the size or color of the plants that appeared under this tree during the first three years, neither in 1880."

Amanitopsis volvata *Peck.* Baltimore..... Plate 19
Lepiota Americana *Peck.* Druid Hill Park..... Plate 20
" " Carroll county..... Plate 22

"This figure is from plants found in Carroll county, Maryland. They were plentiful in lawns and gardens, and much larger and more perfect than those found in Druid Hill Park. The pileus is not so red, the margin is plicate and the flesh turns red when cut or bruised, but it does not exude a red juice like the others."

The plants represented on Plate 20 approach very closely to *Lepiota Badhami* B. & Br. but are brighter colored than it.

Lepiota procera *Scop.* Druid Hill Park..... Plate 21
Lepiota cepæstipes *Sow.* Carroll county..... Plate 23
Lepiota rubrotincta *Peck.* Carroll county..... Plate 24
" " Carroll county..... Plate 25
Lepiota cristata *A. & S.* Carroll county..... Plate 26
Armillaria mellea *Vahl.* Common..... Plate 27
" " ..... Plate 28
" " ..... Plate 171
" " ..... Plate 172

"Plate 28 represents a form with smooth pileus, the most common form in Maryland. It abounds at the roots of trees, on old stumps, in the corners of old fences, in fact everywhere where there is old wood. The taste is not so nauseous as some represent it, yet it reveals the fact that deception may lurk under a pleasant title, 'the honey agaric.' * * One taste led me to suspect it was a wolf in sheep's clothing."

Tricholoma rancidulum *n. sp.* Druid Hill Park ... . Plate 29

"Pileus 6 to 8 inches across, dry, sometimes marked with rugose lines, glossy, white with a tinge of ochre at the disk, flesh white, brittle, margin striate, sometimes sinuate, then regular, odor very disagreeable; lamellæ slightly decurrent, at first nearly white, then dingy pinkish or brownish ochre, narrow, brittle, separated from the pileus by a touch, close, forked; stem white or dingy white, brownish at base, curved, stuffed, elastic, nearly equal, smooth; spores .00016 x .0002 inch, white.

"In woods. Gregarious. It grows chiefly in vegetable mold."

Tricholoma cellare *Banning* Baltimore..... Plate 30
Tricholoma subdurum *n. sp.* Druid Hill Park..... Plate 31

"Pileus at first hemispherical, then expanded, white, turning dark in age, margin more or less waved, flesh hard, tough; lamellæ yellow, adnexed, close, forked; stem stout, 2.5 inches high, enlarged at base, attenuated upward, white, solid.

"In woods. October, 1875."

Tricholoma Brownei *Banning.* Common..... Plate 32
Tricholoma magnum *n. sp.* Baltimore..... Plate 33

"Pileus at first hemispherical, then expanded, 6 inches broad, fleshy, smooth, silky, cream color, flesh white, firm; lamellæ adnate, emarginate, not crowded, at first white, turning pale salmon or cream color; stem at first solid, then hollow, short, tapering at the base."

Tricholoma nudum *Bull.* Baltimore .... Plate 34
Tricholoma edurum *n. sp.* " .... Plate 35

"Pileus at first convex, obtuse, thick, fleshy, undulating, hygrophanous, in age expanded, with a slight central depression, margin at first involute, expanding unequally, sometimes lobed, at first dingy white or alutaceous, deepened in shade at the apex, epidermis thin, easily separable; lamellæ white or cream color, adnexed, not crowded except at the margin, easily separable from the flesh of the pileus; stem white, firm, thickened at base, tapering toward the top, sometimes nearly equal, at first solid, then stuffed; spores nearly globose, white, .00025 to .0003 in. broad.

"Pileus 4 to 5 in. across; stem 3 to 4 in. long.

"Taste mild, odor pleasant but powerful, resembling that of our edible mushroom, *A. campestris.* Gregarious."

Tricholoma personatum *Fr.* Baltimore .... Plate 37
Clitocybe illudens *Schw.* Anne Arundel county .... Plate 173
" " Howard county .... Plate 38
Clitocybe trullisata *Ellis.* Baltimore county .... Plate 39
" " .... Plate 40
Clitocybe infundibuliformis *Schœff.* Druid Hill Park ... Plate 41
Clitocybe amethystina *Bolt.* Druid Hill Park .... Plate 42

"This is the amethystine variety of *Clitocybe laccata.* The spores are the same in size and color, though the pileus differs greatly in appearance."

Clitocybe laccata *Scop.* Druid Hill Park .... Plate 43
" " Halls Spring .... Plate 44
" " " .... Plate 154

"Plate 154 shows this plant with a zoned pileus. Rev. J. Stevenson speaks truly when he calls it 'a most provoking agaric.' At first I thought I had in it a new species, but upon close examination I found that *C. laccata* had taken a freak to come out in a decidedly zoned dress. This is the third drawing in this book showing the variations in this plant."

Clitocybe odora *Bull.* Baltimore .... Plate 45
Clitocybe aquatica *n. sp.* Druid Hill Park .... Plate 46

"Pileus at first obtuse, then expanded, pale ochre, often flesh color, depressed in the center, sprinkled with floccose evanescent scales, margin waved and slightly striate; lamellæ narrow, decurrent, not crowded, forked, ochraceous; stem 6 to 7 inches long, densely cæspitose, stuffed, elastic, attenuated at base, enlarged at the apex and striate from the lengthened lamellæ, concolorous; spores .00018x.00032 in., white.

"I have found this plant in various sections of the State and always growing in wet places in woods or by streams; thus I name it *C. aquatica.*"

Collybia platyphylla *Fr*, Baltimore ..... Plate 36
Collybia radicata *Relh.* Druid Hill Park..... Plate 48
Collybia siticulosa *n. sp.* Baltimore ..... Plate 47

"Pileus fleshy in the center, thin at margin, at first decidedly umbonate, then depressed, margin at first involute, ochraceous; lamellæ free, not distant, dirty white or pale cream color; stem cartilaginous, hollow, twisted, flattened where it unites with the pileus, very pale ochre.

"This fungus is particularly tough and dry, so much so that it is unnecessary to submit it to the usual process for preservation. Hence its name *siticulosa.*"

Collybia subrigua *n. sp.* Carroll county..... Plate 49

"Pileus convex, then expanded. sometimes broadly umbonate, then centrally depressed, dark brown at disk, ochraceous at the margin, hygrophanous, shining when dry, flesh white, margin thin, split; lamellæ white, narrow, adnate, forked, close, turning dirty white in age; stem stuffed with thready particles, nearly equal, blunt at base, flattened at the apex, twisted, striate where it meets the lamellæ, pallid; spores .00022x.00034 in. white.

"The plant was excessively hygrophanous when first collected, it then became dry and shining."

Pleurotus mitis *Pers.* Druid Hill Park..... Plate 50
Pleurotus ostreatus *Jacq.* Druid Hill Park ..... Plate 51

"The flesh is hard and when eaten it requires much cooking to make it palatable. According to my own taste the 'tree oyster' is much more pleasing to the eye than to the palate. At no time have I ever been able to discover the slightest resemblance to the animal bivalve for which it is named. I have eaten it before and after cooking."

Pleurotus spathulatus *Pers.* Baltimore ..... Plate 52
Pleurotus euosmus *Berk.* Druid Hill Park ..... Plate 53

"I am very doubtful whether the plant figured is truly *P. euosmus* Berk. I have never met it since 1878."

The spores of the plant figured are represented as globose, rose colored, .00018 in. broad. The doubt is therefore well founded.

Pleurotus sapidus *Kalchb.* Druid Hill Park..... Plate 54
Volvaria bombycina *Schœff.* Baltimore county..... Plate 55
Volvaria parvulus *Weinm.* Western Maryland ..... Plate 158
Pluteus cervinus *Schœff.* Western Maryland..... Plate 157

Clitopilus Orcella *Bull.* Baltimore county ..... Plate 56
Pholiota rubecula *n. sp.* Baltimore ..... Plate 57

"Pileus fleshy, dry, smooth, glossy, expanded, in age centrally depressed, subrufescent, margin involute; lamellæ adnate, not distant, reddish-brown; stem solid, equal. At the roots of trees or on the ground. July to November."

Pholiota mollicula *n. sp.* Druid Hill Park ..... Plate 170

"Pileus fleshy, smooth, hygrophanous, whitish, deepened into yellow at the disk, flesh moist, even, wet so that the plant withers rapidly; lamellæ close or crowded, emarginate, white, turning cinnamon color in age; stem stuffed, then hollow, pubescent, at length smooth, white, regular; annulus large, white; spores, .0002 x .0003 in. ferruginose, somewhat irregular.

"In woods at roots of trees. The plant is difficult to dry, nearly always rapidly devoured by insect larvæ and falls out of shape from excessive moisture."

Pholiota dura *Bolt.* Frederick county ..... Plate 58
Pholiota præcox *Pers.* Frederick county ..... Plate 59
" " ..... Plate 159
Pholiota adiposa *Fr.* Carroll county and Baltimore .... Plate 60
Inocybe subroindica *n. sp.* Frederick county..... Plate 61

"Pileus at first campanulate, obtuse, dry, cracked longitudinally, glossy, fleshy at the disk, thin at margin, flesh white or slightly pinkish; lamellæ adnate, close, forked, lanceolate, cream color, turning brownish ochre; stem nearly regular, twisted, marked with reddish fibrils, stuffed, hard, brittle.

"In open places in woods. August and September."

Inocbye lanuginosa *Fr.* Druid Hill Park..... Plate 63

"For five years this plant appeared regularly in July and August under a group of cedar trees."

Naucoria semiorbicularis *Bull.* Baltimore ..... Plate 64
Crepidotus mollis *Schœff.* Eastern Maryland..... Plate 65
Agaricus campestris *L.* Druid Hill Park ..... Plate 66
Agaricus comptulus *Fr.* Eastern and Western Maryland. Plate 67
Agaricus silvaticus *Schœff.* Druid Hill Park ..... Plate 68
Hypholoma appendiculatum *Bull.* Frederick county.... Plate 69
Hypholoma Candolleanum *Fr.* Frederick county..... Plate 72
Hypholoma subaquilum *n. sp.* Druid Hill Park ..... Plate 155

"Pileus brown, convex, smooth, hygrophanous, often shaded into ochre at margin, veil delicate, silk-like, encircling and covering the marginal extremities of the lamellæ but forming no ring on the stem, flesh white, turning umber when cut; lamellæ adnexed or nearly free, close, forked, umber; stems cæspitose, regular, hollow, silky, white, two to three inches long; spores brown, .00016 x .0002 inch."

Hypholoma perplexum *Pk.* Baltimore ..... Plate 70

This is probably a mere variety of *H. sublateritium* Schæff.

Hypholoma fasciculare *Huds.* Baltimore..... Plate 71

Coprinus virgineus *n. sp.* Maryland..... Plate 160

"Pileus ovate, campanulate or cylindrical, pale ochre, the margin thin, torn, floccose; lamellæ narrow, close, forked, at first white, turning dark but never black, adnexed; stem three and a half inches long, stout, somewhat stuffed, attenuated where it meets the pileus, flattened, floccose; spores black.

"Cæspitose or gregarious at the roots of trees or about old stumps. Also found in Virginia.

"The plant is not rapidly deliquescent, remaining perfect for some hours."

Coprinus atramentarius *Bull.* Druid Hill Park ..... Plate 71

Coprinus comatus *Fr.* Baltimore ..... Plate 74

Coprinus micaceus *Fr.* Baltimore county..... Plate 75

Coprinus plicatilis *Fr.* Western Maryland..... Plate 161

Paxillus panuoides *Fr.* Maryland..... Plate 76

" " " ..... Plate 77

"The two plants figured are the same in character though they differ in color and shape. Both were found on barrel hoops in the same cellar."

Hygrophorus chlorophanus *Fr.* Baltimore ..... Plate 78

Lactarius alpinus *Pk.* Western Maryland ..... Plate 79

Lactarius uvidus *Fr.* Eastern and Western Maryland... Plate 80

Lactarius insulsus *Fr.* " " " " ... Plate 81

Lactarius Indigo *Schw.* Baltimore county..... Plate 82

Lactarius piperatus *Fr.* Common ..... Plate 83

Lactarius volemus *Fr.* Baltimore ..... Plate 84

" " " ..... Plate 85

"This plant was plentiful in July, 1877, and uniformly slender, as represented in plate 84. In 1878 it was also plentiful but large, as shown in plate 85. * * This plant is edible and makes an agreeable dish in the culinary department. I tried it stewed in beef gravy which it greatly improved in flavor. When eaten raw it is pleasant to the taste. Both the flesh and the milk turn brown upon exposure to the air."

Lactarius pyrogalus *Fr.* Howard and Carroll counties .. Plate 86
Russula atropurpurea *Pk.* Eastern and Western Maryland ..... Plate 87
Russula fœtens *Fr.* Eastern and Western Maryland.... Plate 88
Russula viridipes *n. sp.* Baltimore..... Plate 89

"Pileus dull verdigris green somewhat mottled with a darker shade, flesh brittle, white, unchanging, taste extremely acrid, margin inflexed; lamellæ meet the stem, dingy ochre or pale buff, narrow, forked, the short ones apparently anastomosing; stem hollow, 1 to 2 inches high, tapering at base, enlarged at the apex, smooth, a brighter green than the pileus; spores .00032 in.

"This fungus has very little moisture though gathered after a heavy rain. At first I thought it was *Lactarius viridis* Fr., but there was no milk. Have not met with it since."

The figure has the appearance of *Lactarius atroviridis* Pk.

Russula emetica *Fr.* Baltimore ..... Plate 90
Russula virescens *Fr.* " ..... Plate 91

"Very variable in color as well as in size. Sometimes it is green as represented in the figure, then greenish ochre, or yellowish white tinged with green. It is very easy to dry except in wet weather, and even then when kept in a warm dry room."

The plant figured is a variety having a thin striate acute margin.

Russula alutacea *Fr.* Baltimore ..... Plate 92

"Taste mild and agreeable. * * I have good reason for placing our American plant among the edible species, for I ate a portion without ill effect."

Russula rubra *Fr.* Baltimore ..... Plate 93
Russula lepida *Fr.* Anne Arundel county..... ..... Plate 94
Russula variata *Banning.* Baltimore..... Plate 95
Russula cinnamomea *Banning.* Baltimore ..... Plate 96
Cantharellus floccosus *Schw.* Carroll county ..... Plate 97
Cantharellus cibarius *Fr.* Druid Hill Park ..... Plate 98
Cantharellus cinnabarinus *Schw.* Druid Hill Park..... Plate 99
Marasmius rotula *Fr.* Carroll county..... Plate 100
Marasmius oreades *Fr.* Frederick county ..... Plate 101
Lentinus lepideus *Fr.* Druid Hill Park ..... Plate 102

The figure represents a form with branching stem.

Lentinus strigosus *Schw.* Knoxville..... ... Plate 162
Lenzites Cookei *Berk.* Maryland..... Plate 163
Panus strigosus *B. & C.* Eastern Maryland..... .... Plate 103

Boletus ornatipes *Pk.* Baltimore ..... Plate 104
Boletus Peckii *Frost.* Baltimore county ..... Plate 106
" " Druid Hill Park ..... Plate 113
Boletus felleus *Bull.* Baltimore ..... Plate 107

"In 1886 I found this fungus in Virginia measuring 18 inches across the pileus."

Boletus ignoratus, *n. sp.* Druid Hill Park ..... Plate 108

"Pileus convex, viscid, bright lemon color, marked with rugose lines of orange color, which are distributed over the pileus giving it a streaked appearance, flesh white, solid, does not change color when cut or broken, taste slightly acid; pores lemon color, moderately large, free, connected with the stem by web-like filaments; stem larger at the apex, somewhat tapering toward the base, yellow, smooth, solid; spores .00018x.00044 in."

This closely approaches *Boletus unicolor* Frost, from which it scarcely differs except in its white flesh and free tubes.

Boletus affinis *Pk.* Eastern and Western Maryland ..... Plate 109
Boletus eximius *Pk.* Druid Hill Park ..... Plate 110

This is *Boletus robustus* Frost, of which the name is preoccupied.

Boletus luridus *Fr.* Druid Hill Park ..... Plate 111
" " Howard county ..... Plate 112
Boletus Russellii *Frost.* Baltimore ..... Plate 114

"One of the plants, as shown in the figure, had Polyporus splendens and what I took to be Nyctalis asterophora growing upon the pileus."

It is certainly remarkable to find two species of fungi growing upon one pileus, and that too before the pileus was much decayed.

Boletus subtomentosus *L.* Eastern and Western Maryland ..... Plate 115
Boletus modestus *Pk.* Eastern Maryland ..... Plate 116

"The plant figured is a monstrosity, which seemed undecided whether to remain a Boletus or to become an Agaric. Its hymenium was decidedly lamellated on one side nearly to the margin; all other sides were lamellated only as the tubes neared the reticulated stem."

Strobilomyces strobilaceus *Berk.* Baltimore county .... Plate 105

This is *Boletus strobilaceus* Scop.

Polyporus Beattiei *Banning.* Druid Hill Park ..... Plate 118
Polyporus tomentosus *Fr.* Baltimore ..... Plate 119

Polyporus splendens *Pk.* Druid Hill Park ..... Plate 120
Polyporus applanatus *Fr.* Baltimore ..... Plate 121
Polyporus cinnabarinus *Jacq.* Baltimore county ..... Plate 122
Polyporus parvulus *Klotsch.* Baltimore ..... Plate 123
Polyporus rimosus *Berk.* Western Maryland ..... Plate 124

"Found on Acacia trees. It is valuable for retaining fire, and is much used by the colored people. One specimen will last a whole night to build fires and light their pipes."

Polyporus sulphureus *Fr.* Baltimore county ..... Plate 125
Polyporus versicolor *Fr.* Common ..... Plate 126
Polyporus pergamenus *Fr.* Common ..... Plate 127
Polyporus nidulans *Fr.* Druid Hill Park ..... Plate 128
Polyporus poripes *Fr.* Halls Spring ..... Plate 129
Polyporus Curtisii *Berk.* Druid Hill Park ..... Plate 130
Polyporus lactifluus *Pk.* Druid Hill Park ..... Plate 131

"The flesh when cut exuded a white milk profusely."

Merulius lachrymans. Maryland ..... Plate 132
Fistulina hepatica *Fr.* Halls Spring ..... Plate 133
Hydnum rufescens *Pers.* Lutherville ..... Plate 134

"It is found most plentiful in pine and oak woods, solitary or gregarious, often inclined to grow in circles."

Hydnum repandum *L.* Baltimore ..... Plate 135
Hydnum imbricatum *L.* Halls Spring ..... Plate 136
Hydnum cæspitosum *n. sp.* Carroll county ..... Plate 137

"Pileus yellow or very pale ochre, dry, eccentric; aculei short, decurrent, very pale ochre; stem solid, cream color; flesh turns yellow when cut.

"It grows in clusters at the roots of trees and near old stumps."

Irpex lacteus *Fr.* Maryland ..... Plate 164
Craterellus pistillaris *Schœff.* Druid Hill Park ..... Plate 138
Craterellus cornucopioides *Fr.* Druid Hill Park ..... Plate 139
Corynites Ravenlii *B. & C.* Baltimore county ..... Plate 140

"This plant is now placed in the genus Mutinus."

Phallus Dæmonum *Rumph.* Druid Hill Park ..... Plate 141
Phallus impudicus *L.* Druid Hill Park ..... Plate 142
Geaster fimbriatus. Baltimore ..... Plate 143
Geaster saccatus *Fr.*
Geaster striatus *DC.* } Frederick county ..... Plate 166
Geaster triplex *Jungh.*
Lycoperdon cyathiforme *Bosc.* Maryland ..... Plate 144

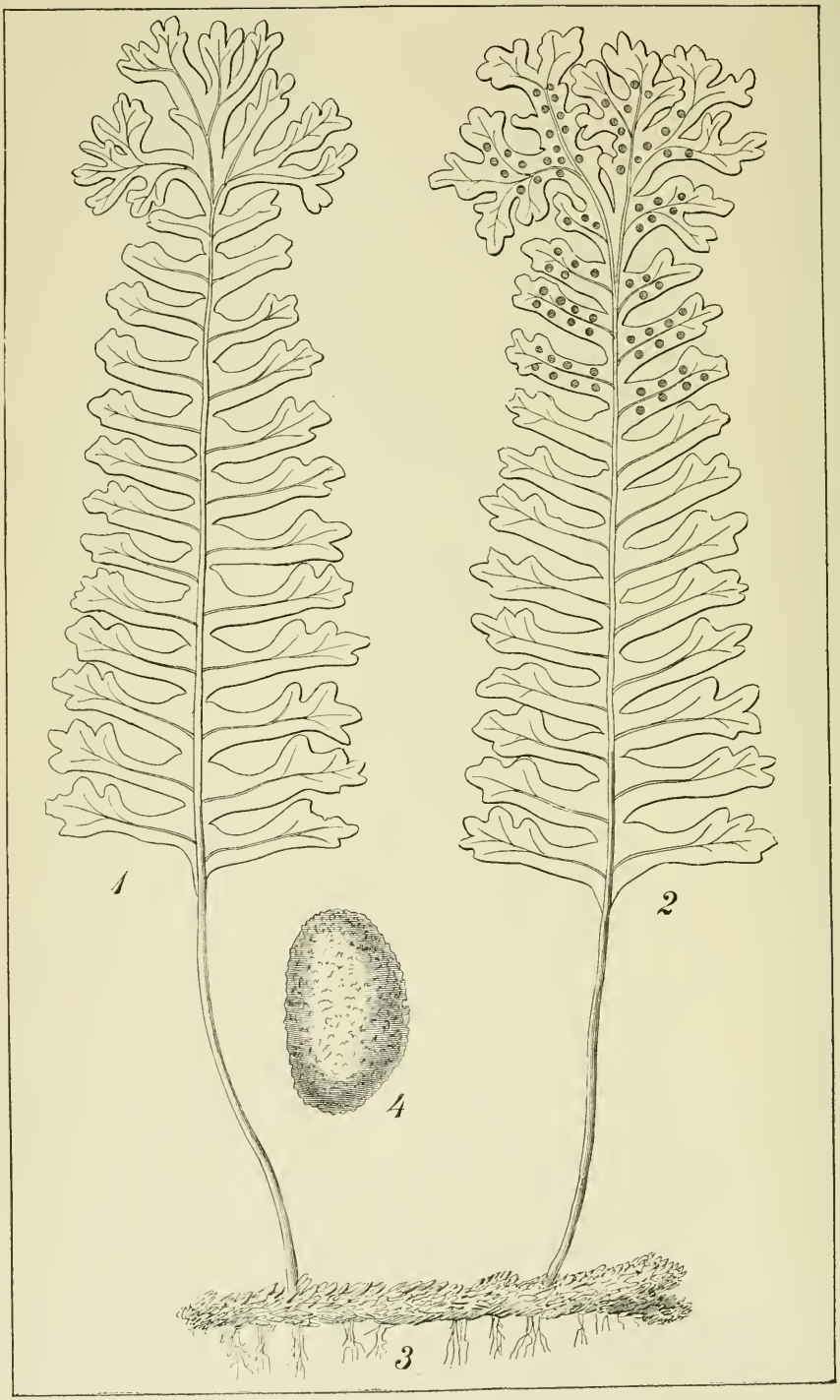
Lycoperdon gemmatum *Batsch.* Baltimore ..... Plate 145
Lycoperdon pyriforme *Schœff.* Common ..... Plate 147
Lycoperdon giganteum *Batsch.* Common ..... Plate 167
Lycoperdon Frostii *Pk.* Carroll county ..... Plate 148
Scleroderma vulgare *Fr.* Blue Ridge Mountains ..... Plate 146
Cyathus vernicosus *DC.* Lutherville ..... Plate 149
Crucibulum vulgare *Tul.* Common ..... Plate 150
Hypomyces Banningii *Pk.* Baltimore ..... Plate 151
Hypomyces lactifluorum *Schw.* Lutherville ..... Plate 152
Xylaria polymorpha *Grev.* Druid Hill Park ..... Plate 153
Hirneola auricula-Judæ *Berk.* Common ..... Plate 165
Morchella esculenta *Pers.* Western Maryland ..... Plate 168
Helvella crispa *Fr.* Druid Hill Park ..... Plate 169

Plates 62, 87 and 117 represent species unnamed or unidentified.

Plate 175 represents *Boletus Morgani* Pk., which has not yet been found in Maryland.

The species found in Maryland by Miss Banning but not included in the Volume of Illustrations are 28. Their names are as follows:

Lepiota gracilenta *Krombh.*
Lepiota mastoidea *Fr.*
Armillaria mucida *Fr.*
Tricholoma carneum *Bull.*
Clitocybe flaccida *Sow.*
Clitocybe dealbata *Fr.*
Clitocybe metachroa *Fr.*
Pleurotus ulmarius *Bull.*
Pleurotus algidus *Fr.*
Omphalia grisea *Fr.*
Pluteus chrysophæus *Schœff.*
Entoloma placentum *Batsch.*
Clitopilus prunulus *Scop.*
Naucoria melinoides *Fr.*
Stropharia semiglobatus *Batsch.*
Panæolus separatus *L.*
Coprinus domesticus *Fr.*
Coprinus Hendersonii *Fr.*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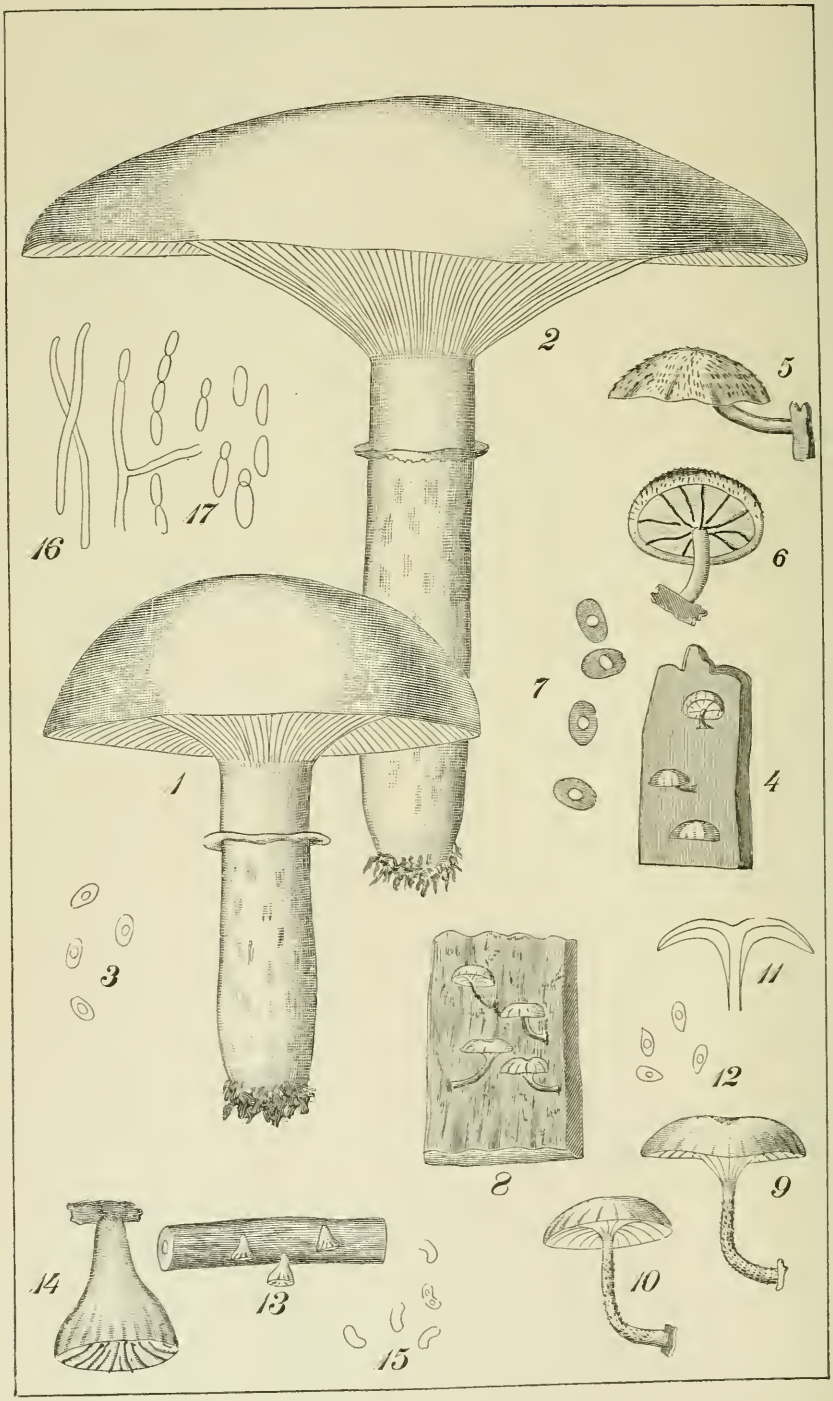
EXPLANATION OF PLATE 1

POLYPODIUM VULGARE *L.* VAR. CRISTATUM *Lowe.*

Fig. 1. A frond showing the upper surface.
Fig. 2. A frond showing the lower surface with its fruit dots.
Fig. 3. The creeping rootstock.
Fig. 4. A spore x 400.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EXPLANATION OF PLATE 2

ARMILLARIA VISCIDIPES *Peck.*

Fig. 1. An immature plant.
Fig. 2. A mature plant.
Fig. 3. Four spores x 400.

CREPIDOTUS DISTANS *Peck.*

Fig. 4. Piece of bark bearing three plants.
Fig. 5. A plant enlarged, showing the upper surface of the pileus.
Fig. 6. A plant enlarged, showing the lamellæ.
Fig. 7. Four spores x 400.

OMPHALIA CORTICOLA *Peck.*

Fig. 8. A piece of bark bearing four plants.
Fig. 9. A plant enlarged, showing the umbilicus of the pileus.
Fig. 10. A plant enlarged, showing the lamellæ.
Fig. 11. Vertical section of a pileus and the upper part of the stem.
Fig. 12. Four spores x 400.

PLEUROTUS CAMPANULATUS *Peck.*

Fig. 13. A branch bearing three plants.
Fig. 14. A plant enlarged.
Fig. 15. Five spores x 400.

SACCHAROMYCES BETULÆ *Pk. & Pat.*

Fig. 16. Three hyphæ, one of them branched.
Fig. 17. Several spores x 400.


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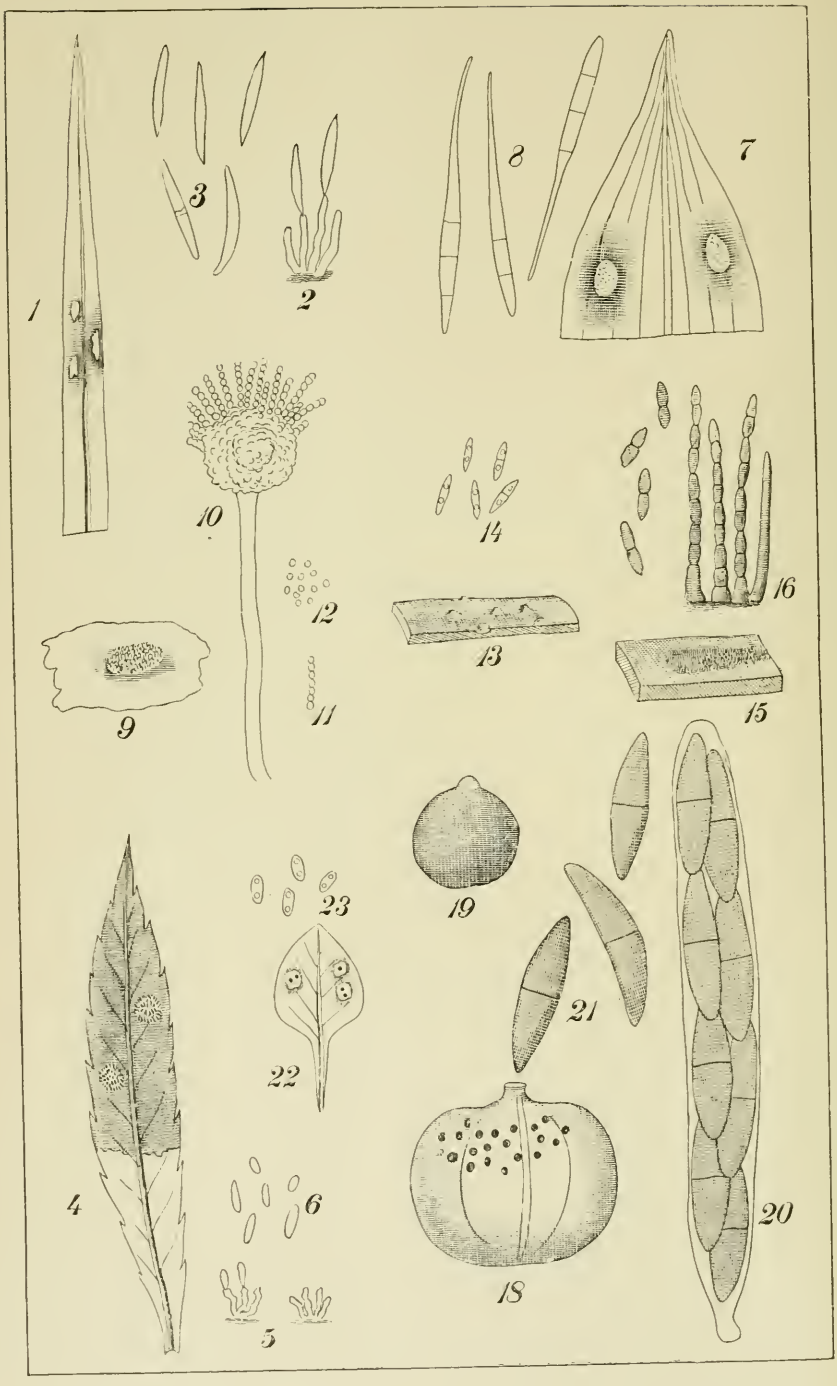
EXPLANATION OF PLATE 3

CORTINARIUS ALBIDUS *Peck.*

Fig. 1. An immature plant.
Fig. 2. A mature plant.
Fig. 3. Vertical section of a pileus and the upper part of the stem.
Fig. 4. Four spores x 400.

TRICHOLOMA GRANDE *Peck.*

Fig. 5. An immature plant.
Fig. 6. A mature plant.
Fig. 7. Half of a vertical section of a pileus and upper part of the stem; these three figures about two-thirds natural size.
Fig. 8. Four spores x 400.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EXPLANATION OF PLATE 4

Ramularia graminicola *Peck.*

Fig. 1. Upper part of a grass leaf marked with three fungous spots.
Fig. 2. A cluster of four hyphæ, two of them bearing spores, x 400.
Fig. 3. Five spores x 400.

Ramularia destruens *Peck.*

Fig. 4. A leaflet with the upper half blackened by the fungus and showing two fungous spots.
Fig. 5. Tufts of hyphæ, two filaments bearing spores, x 400.
Fig. 6. Six spores x 400.

Cercosporella Veratri *Peck.*

Fig. 7. Upper part of a leaf with two fungous spots.
Fig. 8. Three spores x 400.

Aspergillus aviarius *Peck.*

Fig. 9. Piece of membrane bearing a patch of the fungus.
Fig. 10. A spore-bearing vesicle and its filament, the former partly denuded of its chains of spores, x 400.
Fig. 11. A single chain of spores x 400.
Fig. 12. A group of free spores x 400.

Septomyxa Carpini *Peck.*

Fig. 13. A piece of bark bearing six heaps of spores.
Fig. 14. Five spores x 400.

Bispora effusa *Peck.*

Fig. 15. Piece of wood bearing a patch of the fungus.
Fig. 16. Three chains of spores and a sterile hypha x 400.
Fig. 17. Four free spores x 400.

Caryospora minor *Peck.*

Fig. 18. A hickory nut bearing a group of the perithecia.
Fig. 19. A perithecium enlarged.
Fig. 20. An ascus containing spores x 400.
Fig. 21. Three spores x 400.

Phyllosticta Ludwigiæ *Peck.*

Fig. 22. A leaf showing three fungous spots.
Fig. 23. Four spores x 400.