

THIRTY-FIFTH ANNUAL REPORT

ON THE

NEW YORK STATE MUSEUM OF NATURAL HISTORY.

BY THE

REGENTS OF THE UNIVERSITY

OF THE

STATE OF NEW YORK.

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35 Reg. Report  
REPORT OF THE BOTANIST. for year 1881

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Hon. DAVID MURRAY, LL. D.,

*Secretary of the Board of Regents of the University:*

SIR — Since the date of my last report, specimens of two hundred and forty-eight species of plants have been mounted and placed in the State Herbarium, of which ninety-four species were previously unrepresented therein. The others represent species by improved specimens, or are forms or varieties not before represented. A list of the names is marked (1).

During the past season specimens have been collected in the counties of Albany, Greene, Putnam and Rensselaer. These represent one hundred and fifteen species, of which sixty-seven are new to the State and to the Herbarium, and forty are believed to be unpublished. A list of the names of the collected specimens is marked (2).

Among the contributed specimens, only one collected in the State proves to be new to our flora. A list of the names of contributors and their contributions is marked (3).

A record of the species now added to our flora and of the descriptions of such as are yet unpublished is marked (4).

A part of the report containing remarks and observations upon various species and a list of the New York Carices at present known is marked (5).

In pursuance of the plan introduced in the Thirty-third Report, in reference to the subgenus *Amanita*, and for the reasons therein stated, descriptions of all the hitherto known New York species of *Agarics* belonging to the subgenus *Lepiota* have been drawn up, and, in many instances, made more complete by the addition of the dimensions and character of the spores. Full remarks concerning the peculiarities, variations and distinctive features of each species are added to its description, and important characters are italicized. A synoptical table is introduced, which is intended to aid in tracing any given species to its name. This monograph of our *Lepiotæ* is marked (6).

A table case has been filled with specimens of earth-stars (*Geaster*), puff-balls (*Lycoperdon* and *Bovista*) and sap-balls (*Polyporus*) placed

in paper trays. All of our fleshy and tough or corky species of fungi ought to be exhibited in this manner. Many are too bulky to be mounted entire in the usual manner, and many are in better condition for study and recognition if preserved in their natural shape than if pressed and mounted on herbarium sheets and stacked away in cabinets.

(1.)

## PLANTS MOUNTED.

*Species not new to the Herbarium.*

- |                                      |   |
|--------------------------------------|---|
| Clematis verticillaris, <i>DC.</i>   | Mentha Canadensis, <i>L.</i>            |
| Thalictrum anemonoides, <i>Mx.</i>   | M. piperita, <i>L.</i>                  |
| Ranunculus Pennsylvanicus, <i>L.</i> | Lycopus Virginicus, <i>L.</i>           |
| Nymphæa odorata, <i>Ait.</i>         | Origanum vulgare, <i>L.</i>             |
| Nuphar advena, <i>Ait.</i>           | Scutellaria lateriflora, <i>L.</i>      |
| N. Kalmiana, <i>Ait.</i>             | Echium vulgare, <i>L.</i>               |
| Cardamine hirsuta, <i>L.</i>         | Chenopodium album, <i>L.</i>            |
| Sisymbrium officinale, <i>Scop.</i>  | Polygonum amphibium, <i>L.</i>          |
| Raphanus sativus, <i>L.</i>          | Euphorbia maculata, <i>L.</i>           |
| Lepidium ruderales, <i>L.</i>        | E. hypericifolia, <i>L.</i>             |
| Malva rotundifolia, <i>L.</i>        | Urtica gracilis, <i>Ait.</i>            |
| Vitis æstivalis, <i>Mx.</i>          | Humulus Lupulus, <i>L.</i>              |
| Acer Pennsylvanicum, <i>L.</i>       | Juglans nigra, <i>L.</i>                |
| Robinia viscosa, <i>Vent.</i>        | Taxus Canadensis, <i>Willd.</i>         |
| Rubus odoratus, <i>L.</i>            | Sparganium simplex, <i>Huds.</i>        |
| R. villosus, <i>Ait.</i>             | Potamogeton Oakesianus, <i>Robbins.</i> |
| Rosa Carolina, <i>L.</i>             | P. Claytonii, <i>Tuckerm.</i>           |
| R. lucida, <i>Ehrh.</i>              | P. amplifolius, <i>Tuckerm.</i>         |
| Ribes hirtellum, <i>Mx.</i>          | P. gramineus, <i>L.</i>                 |
| R. prostratum, <i>L'Her.</i>         | P. lucens, <i>L.</i>                    |
| Epilobium angustifolium, <i>L.</i>   | P. pusillus, <i>L.</i>                  |
| E. coloratum, <i>Muhl.</i>           | Sagittaria variabilis, <i>Engel.</i>    |
| Aralia hispida, <i>Mx.</i>           | Trillium erectum, <i>L.</i>             |
| Sambucus pubens, <i>Mx.</i>          | Lilium Philadelphicum, <i>L.</i>        |
| Viburnum nudum, <i>L.</i>            | Juncus tenuis, <i>Willd.</i>            |
| Galium verum, <i>L.</i>              | J. marginatus, <i>Rost.</i>             |
| Aster corymbosus, <i>Ait.</i>        | Carex lagopodioides, <i>Schk.</i>       |
| A. cordifolius, <i>L.</i>            | C. cristata, <i>Schw.</i>               |
| A. multiflorus, <i>Ait.</i>          | C. mirabilis, <i>Dew.</i>               |
| A. Tradescanti, <i>L.</i>            | C. scoparia, <i>Schk.</i>               |
| A. longifolius, <i>Lam.</i>          | C. straminea, <i>Schk.</i>              |
| A. puniceus, <i>L.</i>               | C. tenera, <i>Dew.</i>                  |
| Solidago latifolia, <i>L.</i>        | C. stipata, <i>Muhl.</i>                |
| S. stricta, <i>Ait.</i>              | C. sparganioides, <i>Muhl.</i>          |
| S. serotina, <i>Ait.</i>             | C. sterilis, <i>Willd.</i>              |
| Bidens connata, <i>Muhl.</i>         | C. gynandra, <i>Schw.</i>               |
| B. cernua, <i>L.</i>                 | C. gracillima, <i>Schw.</i>             |
| Artemisia Canadensis, <i>Mx.</i>     | C. formosa, <i>Dew.</i>                 |
| Lactuca Canadensis, <i>L.</i>        | C. conoidea, <i>Schk.</i>               |
| Campanula rotundifolia, <i>L.</i>    | C. virescens, <i>Muhl.</i>              |
| Plantago major, <i>L.</i>            | C. triceps, <i>Mx.</i>                  |
| Verbascum Blattaria, <i>L.</i>       | C. laxiflora, <i>Lam.</i>               |
| Mimulus ringens, <i>L.</i>           | C. arctata, <i>Boott.</i>               |

- Carex debilis*, *Mx.*  
*C. flava*, *L.*  
*C. tentaculata*, *Muhl.*  
*C. oligosperma*, *Mx.*  
*Leersia Virginica*, *Willd.*  
*L. oryzoides*, *Sw.*  
*Agrostis scabra*, *Willd.*  
*A. perennans*, *Tuckerm.*  
*A. vulgaris*, *With.*  
*A. alba*, *L.*  
*Muhlenbergia sylvatica*, *T. and G.*  
*M. Mexicana*, *Trin.*  
*Spartina cynosuroides*, *Willd.*  
*Dactylis glomerata*, *L.*  
*Phleum pratense*, *L.*  
*Festuca elatior*, *L.*  
*F. nutans*, *Willd.*  
*Poa alsodes*, *Gr.*  
*P. serotina*, *Ehrh.*  
*P. pratensis*, *L.*  
*Glyceria acutiflora*, *Torr.*  
*G. fluitans*, *R. Br.*  
*G. Canadensis*, *Trin.*  
*G. pallida*, *Trin.*  
*G. nervata*, *Trin.*  
*Eatonia obtusata*, *Gr.*  
*E. Pennsylvanica*, *Gr.*  
*Panicum agrostoides*, *Spreng.*  
*P. depauperatum*, *Muhl.*  
*P. dichotomum*, *L.*  
*P. Crus-galli*, *L.*  
*Phalaris arundinacea*, *L.*  
*Anthoxanthum odoratum*, *L.*  
*Elymus Virginicus*, *L.*  
*Elymus Canadensis*, *L.*  
*Triticum violaceum*, *Hornem.*  
*T. repens*, *L.*  
*Setaria viridis*, *Beauv.*  
*Phegopteris polypodioides*, *Fee.*  
*P. hexagonoptera*, *Fee.*  
*Aspidium Noveboracense*, *Sw.*  
*A. aculeatum*, *Sw.*  
*Pteris aquilina*, *L.*  
*Equisetum sylvaticum*, *L.*  
*E. limosum*, *L.*  
*Bartramia Marchica*, *Brid.*  
*Coprinus micaceus*, *Fr.*  
*Stereum rugosum*, *Fr.*  
*S. sanguinolentum*, *Fr.*  
*Polyporus pubescens*, *Fr.*  
*P. pergamenus*, *Fr.*  
*P. ferruginosus*, *Fr.*  
*Hydnum alutaceum*, *Pers.*  
*Tremella sarcoides*, *Sm.*  
*Ptychogaster albus*, *Cd.*  
*Septoria Rhoidis*, *B. and C.*  
*S. Rubi*, *B. and C.*  
*Haplographium apiculatum*, *Pk.*  
*Ramularia obovata*, *Fekl.*  
*Trichoderma viride*, *Pers.*  
*Sphærotheca Castagnei*, *Lev.*  
*Erysiphe lamprocarpa*, *Lev.*  
*Stictis versicolor*, *Fr.*  
*Xylaria digitata*, *Grev.*  
*Hypoxylon multifforme*, *Fr.*  
*Eutypa spinosa*, *Tul.*  
*Sphæria Coryli*, *Batsch.*  
*S. callista*, *B. and R.*

*Species new to the Herbarium.*

- Triosteum angustifolium*, *L.*  
*Carum Carui*, *L.*  
*Coreopsis discoidea*, *T. and G.*  
*Lamium maculatum*, *L.*  
*Potamogeton rufescens*, *Schrad.*  
*Eleocharis quadrangulata*, *Br.*  
*Carex adusta*, *Boott.*  
*C. glaucodea*, *Tuckerm.*  
*C. Sullivantii*, *Boott.*  
*Polypogon Mouspeliensis*, *Desf.*  
*Zea Mays*, *L.*  
*Nitella opaca*, *Ag.*  
*N. intermedia*, *Nordst.*  
*Agaricus spectabilis*, *Fr.*  
*A. ornellus*, *Pk.*  
*Hygrophorus limacinus*, *Fr.*  
*Polyporus hypococcinus*, *Berk.*  
*P. undosus*, *Pk.*  
*P. semipileatus*, *Pk.*  
*Irpex viticola*, *C. and P.*  
*Grandinia crustosa*, *Fr.*  
*Pterula densissima*, *B. and C.*  
*Tremella epigæa*, *B. and Br.*  
*T. subochracea*, *Pk.*  
*Hymenula vulgaris*, *Fr.*  
*Geaster mammosus*, *Chev.*  
*Arcyria macrospora*, *Pk.*  
*Cribraria dictydioides*, *C. and B.*  
*Hendersonia Cydoniæ*, *C. and E.*  
*Phyllosticta Grossulariæ*, *Sacc.*  
*P. Nesææ*, *Pk.*  
*Septoria Galeopsidis*, *West.*  
*S. Hydrocotyles*, *Desm.*  
*S. Violæ*, *West.*  
*S. Cucurbitacearum*, *Sacc.*  
*S. corylina*, *Pk.*  
*S. betulicola*, *Pk.*  
*S. microsperma*, *Pk.*  
*S. Pileæ*, *Thum.*  
*Septoglæum Apocyni*, *Pk.*  
*Vermicularia circinans*, *Berk.*  
*Morthiera Thumenii*, *Cke.*  
*Pestalozzia Stevensonii*, *Pk.*  
*Puccinia Thalictri*, *Chev.*

- Puccinia Cirsii*, *Lasch.*  
 P. simplex, *Pk.*  
*Protomyces polysporus*, *Pk.*  
*Æcidium pedatatum*, *Schw.*  
*Helicomyces mirabilis*, *Pk.*  
*Septocylindrium Ranunculi*, *Pk.*  
*Ramularia Spirææ*, *Pk.*  
 R. rufomaculans, *Pk.*  
 R. sambucina, *Pk.*  
 R. Impatientis, *Pk.*  
 R. Rudbeckii, *Pk.*  
*Cercospora reticulata*, *Pk.*  
*Cercospora depazeoides*, *Sacc.*  
 C. beticola, *Sacc.*  
 C. Violæ, *Sacc.*  
 C. Bœhmeriæ, *Pk.*  
 C. Acalyphæ, *Pk.*  
 C. graphioides, *Ell.*  
 C. clavata, *Ger.*  
*Verticillium candidum*, *Pk.*  
*Diplocladium minus*, *Bon.*  
*Fusisporium tenuissimum*, *Pk.*  
*Aspergillus phæocephalus*, *D. and M.*  
 A. clavellus, *Pk.*  
*Monilia Harknessii*, *Pk.*  
*Ellisiella caudata*, *Sacc.*  
*Sporocybe nigriceps*, *Pk.*  
*Periconia sphaerophila*, *Pk.*  
*Graphium gracile*, *Pk.*  
*Macrosporium concinnum*, *Berk.*  
*Helminthosporium Tiliæ*, *Fr.*  
 H. septemseptatum, *Pk.*  
 H. inconspicuum, *C. and E.*  
 H. arbusculoides, *Pk.*  
*Zygodemus bicolor*, *C. and E.*  
*Rhinotrichum subalutaceum*, *Pk.*  
*Zasmidium cellare*, *Pers.*  
*Peziza hydrophila*, *Pk.*  
 P. atrata, *Fr.*  
 P. fusarioides, *Berk.*  
 P. aurelia, *Pers.*  
 P. balsamicola, *Pk.*  
*Meliola balsamicola*, *Pk.*  
*Hypoxyton marginatum*, *Schw.*  
*Diatrype punctulata*, *B. and R.*  
*Diatrypella angulata*, *Fr.*  
*Valsa myinda*, *C. and E.*  
*Dothidea melanoplaca*, *Desm.*  
*Lophiostoma angustilabrum*, *B. and Br.*  
*Sphaerella Leersiae*, *Pass.*

(2.)

## PLANTS COLLECTED.

*Not new to the Herbarium.*

- Ranunculus abortivus*, *L.*  
*Brassica arvensis*, *L.*  
*Viola Selkirkii*, *Pursh.*  
*Acer Pennsylvanicum*, *L.*  
*Trifolium repens*, *L.*  
*Rubus triflorus*, *Richardson.*  
*Tiarella cordifolia*, *L.*  
*Heracleum lanatum*, *Mx.*  
*Tanacetum vulgare*, *L.*  
*Vaccinium corymbosum*, *L.*  
 V. Pennsylvanicum, *Lam.*  
*Scutellaria galericulata*, *L.*  
*Marrubium vulgare*, *L.*  
*Polygonum orientale*, *L.*  
*Fraxinus pubescens*, *Lam.*  
 F. sambucifolia, *Lam.*  
*Quercus alba*, *L.*  
 Q. coccinea, *Wang.*  
 Q. tinctoria, *Bart.*  
 Q. rubra, *L.*  
*Carya amara*, *Nutt.*  
*Potamogeton gramineus*, *L.*  
 P. pusillus, *L.*  
 P. pectinatus, *L.*  
*Polygonatum giganteum*, *Diet.*  
*Uvularia sessilifolia*, *L.*  
*Carex vulpinoidea*, *Mx.*  
 C. cephalophora, *Muhl.*  
 C. Muhlenbergii, *Schk.*  
 C. lagopodioides, *Schk.*  
 C. cristata, *Schw.*  
 C. mirabilis, *Dew.*  
 C. adusta, *Boott.*  
 C. stricta, *Lam.*  
 C. granularis, *Muhl.*  
 C. gracillima, *Schw.*  
 C. virescens, *Muhl.*  
 C. plantaginea, *Lam.*  
 C. laxiflora, *Lam.*  
 C. Emmonsii, *Dew.*  
 C. Pennsylvanica, *Lam.*  
*Zizania aquatica*, *L.*  
*Stipa avenacea*, *L.*  
*Bromus racemosus*, *L.*  
*Poa trivialis*, *L.*  
*Aira flexuosa*, *L.*  
*Osmunda cinnamomea*, *L.*  
*Aspidium Boottii*, *Tuckerm.*

*New to the Herbarium.*

Agaricus alluviinus, <i>Pk.</i>	Septoria musiva, <i>Pk.</i>
A. rubroinctus, <i>Pk.</i>	Phyllosticta Cratægi, <i>Pk.</i>
A. albus, <i>Schwff.</i>	P. variabilis, <i>Pk.</i>
A. stellatus, <i>Fr.</i>	Protomyces macrosporus, <i>Ung.</i>
A. pascuus, <i>Pers.</i>	Ustilago pallida, <i>Schræt.</i>
A. sinuatus, <i>Fr.</i>	Acalyptospora Populi, <i>Pk.</i>
A. fastibilis, <i>Fr.</i>	Macrosporium transversum, <i>Pk.</i>
A. alnicola, <i>Fr.</i>	Alternaria tenuis, <i>Nees.</i>
A. sulcatipes, <i>Pk.</i>	Ellisiella caudata, <i>Sacc.</i>
A. hærens, <i>Pk.</i>	Botrytis ceratioides, <i>Pk.</i>
A. tiliophilus, <i>Pk.</i>	Dactylium dendroides, <i>Fr.</i>
A. nitidipes, <i>Pk.</i>	Verticillium Lactarii, <i>Pk.</i>
A. epimyces, <i>Pk.</i>	Cercospora Tiliæ, <i>Pk.</i>
Hygrophorus fuliginus, <i>Frost.</i>	C. Lepidii, <i>Pk.</i>
H. flavodiscus, <i>Frost.</i>	C. Daturæ, <i>Pk.</i>
Russula heterophylla, <i>Fr.</i>	C. longispora, <i>Pk.</i>
Marasmius salignus, <i>Pk.</i>	C. varia, <i>Pk.</i>
Polyporus immitis, <i>Pk.</i>	Ramularia Ranunculi, <i>Pk.</i>
P. fraxinophilus, <i>Pk.</i>	R. Vaccinii, <i>Pk.</i>
Irpex crassus, <i>B. and C.</i>	R. Hamamelidis, <i>Pk.</i>
I. mollis, <i>B. and C.</i>	R. aquatilis, <i>Pk.</i>
Corticium effuscatum, <i>C. and E.</i>	Asterophora Pezizæ, <i>Cd.</i>
Thelephora rosella, <i>Pk.</i>	Peziza lætirubra, <i>Che.</i>
Clavaria pinophila, <i>Pk.</i>	P. singularia, <i>Pk.</i>
Cyphella læta, <i>Fr.</i>	Tympanis Nemopanthis, <i>Pk.</i>
Phoma cucurbitale, <i>B. and C.</i>	Cenangium betulinum, <i>Pk.</i>
Sphæropsis Caryæ, <i>C. and E.</i>	Triblidium clavæsporium, <i>Pk.</i>
Discella hysteriella, <i>Pk.</i>	Ascomyces deformans, <i>Berk.</i>
D. albomaculans, <i>Pk.</i>	Gymnascella aurantiaca, <i>Pk.</i>
Gleosporium fraxinea, <i>Pk.</i>	Valsa tomentella, <i>Pk.</i>
Septoria cannabina, <i>Pk.</i>	Sphæria petiolophila, <i>Pk.</i>
S. Sicyi, <i>Pk.</i>	Sphærella fraxinea, <i>Pk.</i>
S. Calystegiæ, <i>Sacc.</i>	Venturia curviseta, <i>Pk.</i>
S. Cirsii, <i>Niessl.</i>	

## (3.)

## CONTRIBUTORS AND THEIR CONTRIBUTIONS.

*Mrs. S. M. Rust, Syracuse, N. Y.*

Potamogeton crispus, *L.* Smilax hispida, *Muhl.*  
 Geranium maculatum, *L.*

*Mary E. Banning, Baltimore, Md.*Pachyma Cocos, *Fr.**Lizzie G. Barnett, Cannonsburg, Pa.*Secotium Warnei, *Pk.**Eloise Butler, Minneapolis, Minn.*Secotium Warnei, *Pk.**W. R. Gerard, New York, N. Y.*Æcidium Rusbyi, *Ger.* Polyporus arcularius, *Fr.**J. B. Ellis, Newfield, N. J.*

Corticium effuscatum, *C. and E.* Puccinia Mikaniæ, *Speg.*  
 Rostafinskia australis, *Speg.* Graphium verticillatum, *Speg.*  
 Lycoperdon constellatum, *Fr.*

*C. J. Sprague, Boston, Mass.*

*Lecidea vescicularis Hoffm.*

*Biatora globifera, Ach.*

*S. H. Wright, M. D., Penn Yan, N. Y.*

*Æcidium Asperifolii, Pers.*

*Erysiphe Montagnei, Lev.*

*Æ. Falcarii, D. C.*

*Polythrincium Trifolii, Cd.*

*Puccinia coronata, Cd.*

*Peronospora Schachtii, Fckl.*

*E. C. Howe, M. D., Yonkers, N. Y.*

*Eragrostis pilosa, Beauv.*

*Carex Muhlenbergii v. enervis, Boott.*

*E. Purshii, Schrad.*

*M. F. Merchant, M. D., Moravia, N. Y.*

*Mitchella repens, L.*

*H. W. Barnum, Valley Falls, N. Y.*

*Trillium grandiflorum, Salisb.*

*Prof. C. E. Bessey, Ames, Iowa.*

*Secotium Warnei, Pk.*

*C. W. Irish, Iowa City, Iowa.*

*Polyporus fraxinophilus, Pk.*

*Trametes Peckii, Kalchb.*

*I. Cowles, Flushing, N. Y.*

*Opuntia Rafinesquii, Engelm.*

*J. L. Bennett, Providence, R. I.*

*Carex cristata Schw.*

*Carex conjuncta, Boott.*

*C. aurea, Nutt.*

*C. alopecoidea, Tuckerm.*

*C. miliaris, Mx.*

*C. rosea, Schk.*

*C. microdonta, Torr.*

*C. stipata, Muhl.*

*C. panicea, L.*

*C. sparganioides, Muhl.*

*C. vividula, Mx.*

*C. cephaloidea, Boott.*

*C. festiva, Dew.*

*C. cephalophora, Muhl.*

*C. synocephala, Carey.*

*C. bicostata, Olney.*

*C. athrostachya, Olney.*

*C. vulpinoidea, Mx.*

*C. scoparia, Schk.*

*C. Kunzei, Olney.*

*C. lagopodioides, Schk.*

*C. Gayana, Desu.*

*C. festucacea, Schk.*

*C. teretiuseula,*

*C. straminea, Schk.*

*C. prairea, Dew.*

*C. Haleana, Olney.*

*C. siccata, Dew.*

*C. alata, Torr.*

*C. disticha, Huds.*

*C. Bonplandii, Kunth.*

*C. bromoides, Schk.*

*C. torta, Boott.*

*C. stenophylla, Wahl.*

*C. crinita, Lam.*

*C. Douglassii, Boott.*

*C. pallescens, L.*

*C. chordorhiza, Ehrh.*

*C. flaccosperma, Dew.*

*C. tenella, Schk.*

*C. grisea, Wahl.*

*C. canescens, L.*

*C. virescens, Muhl.*

*C. vitilis, Fr.*

*C. gynocrates, Wormsk.*

*C. tenuiflora, Wahl.*

*C. capitata, L.*

*C. trisperma, Dew.*

*C. nigricans, Mey.*

*C. Deweyana, Schw.*

*C. pauciflora, Lightf.*

*C. albolutescens, Schw.*

*C. filifolia, Nutt.*

*C. maritima, Mull.*

*C. polytrichoides, Muhl.*

*C. aquatilis, Wahl.*

*C. Muhlenbergii, Schk.*

*C. lenticularis, Mx.*

Carex aperta, <i>Boott.</i>	Carex miliacea, <i>Muhl.</i>
C. rigida, <i>Good.</i>	C. arctata, <i>Mx.</i>
C. limosa, <i>L.</i>	C. debilis, <i>Mx.</i>
C. Buxbaumii, <i>Wahl.</i>	C. filiformis, <i>L.</i>
C. Stuedellii, <i>Kunth.</i>	C. striata, <i>Mx.</i>
C. atrata, <i>L.</i>	C. trichocarpa, <i>Muhl.</i>
C. nigra, <i>Alli.</i>	C. Pseudo-Cyperus, <i>L.</i>
C. Willdenovii, <i>Schk.</i>	C. hystericina, <i>Willd.</i>
C. Backii, <i>Boott.</i>	C. intumescens, <i>Rudge.</i>
C. Geyeri, <i>Boott.</i>	C. Grayii, <i>Carey.</i>
C. longirostris, <i>Torr.</i>	C. lupulina, <i>Muhl.</i>
C. amplifolia, <i>Boott.</i>	C. subulata, <i>Mx.</i>
C. Fraseriana, <i>Sims.</i>	C. squarrosa, <i>L.</i>
C. retroflexa, <i>Muhl.</i>	C. retrorsa, <i>Schw.</i>
C. stellulata, <i>Good.</i>	C. Schweinitzii, <i>Dew.</i>
C. Davisii, <i>S. &amp; T.</i>	C. utriculata, <i>Boott.</i>
C. gracillima, <i>Schw.</i>	C. monile, <i>Tuckerm.</i>
C. triceps, <i>Mx.</i>	C. pulla, <i>Mx.</i>
C. plantaginea, <i>Lam.</i>	C. Whitneyi, <i>Olney.</i>
C. Careyana, <i>Torr.</i>	C. Tuckermanni, <i>Boott.</i>
C. platyphylla, <i>Carey.</i>	C. Olneyi, <i>Boott.</i>
C. retrocurva, <i>Dew.</i>	C. Raynoldii, <i>Dew.</i>
C. laxiflora, <i>Lam.</i>	C. podocarpa, <i>R. Br.</i>
C. eburnea, <i>Boott.</i>	C. foetida, <i>All.</i>
C. umbellata, <i>Schk.</i>	C. Rossii, <i>Boott.</i>
C. Emmonsii, <i>Dew.</i>	C. Halleriana, <i>Asso.</i>
C. nigromarginata, <i>Schw.</i>	C. Cherokeeensis, <i>Schw.</i>
C. Pennsylvanica, <i>Lam.</i>	C. debilis, <i>Mx.</i>
C. varia, <i>Muhl.</i>	C. oxylepis, <i>Torr.</i>
C. Richardsonii, <i>R. Br.</i>	C. Boottiana, <i>Benth.</i>
C. pubescens, <i>Muhl.</i>	

## (4.)

## SPECIES NOT BEFORE REPORTED.

ERAGROSTIS PURSHII, *Schrad.*

Waste places about Yonkers. *E. C. Howe.*

AGARICUS METULÆSPORUS, *B. and Br.*

Woods. Adirondack mountains. August and September.

AGARICUS ALLUVIINUS, *Pk.*

Alluvial soil, among weeds. Albany. July.

AGARICUS RUBROINCTUS, *Pk.*

Thin woods and open places. July—September.

For the description of this and the two species next preceding, see the synopsis of the subgenus *Lepiota* in the closing pages of this report.

AGARICUS ALBUS, *Schæff.*

Woods. East Berne, Albany county. August.

AGARICUS STELLATUS, *Fr.*

Decaying prostrate trunks of trees in woods. East Berne, August.

AGARICUS PASCUUS, *Pers.*

Woods. East Berne. August. Sometimes the freshly broken plant has a slight odor of meal.

AGARICUS SINUATUS, *Fr.*

Woods. East Berne. August.

AGARICUS FASTIBILIS, *Fr.*

Thin woods. Albany. October. The plant here noticed is a white variety, approaching var. *alba*, but with a short stem. The spores are almost ochraceous. The drops of moisture on the lamellæ at length dry up and leave brownish stains or granules resembling those on the stem and tubes of *Boletus granulatus*.

AGARICUS ALNICOLA, *Fr.*

In low swampy woods about the base of alders. Sandlake. October.

AGARICUS (GALERA) SULCATIPES, *n. sp.*

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

Plant gregarious, 1.5'—3' high, pileus 5"—8" broad, stem 1" thick.

Woods. East Berne. August.

The plants were found growing on a bed of buckwheat bran. The stem is white and almost shining; striate and silky above, and pulverulent or floccose-pruinose at the base, where it generally assumes a greenish-blue color if handled when moist. When dry the stem is distinctly furrowed. The pileus fades in drying to subochraceous or subalutaceous. The lamellæ are sometimes white on the edge.

AGARICUS (CREPIDOTUS) HÆRENS, *n. sp.*

Pileus convex, sessile, cuneiform or dimidiate, glabrous, hygrophanous, viscid and striatulate on the margin when moist, white or whitish when dry; lamellæ moderately close, narrow, tapering toward each end, subcinereous, then brownish; spores elliptical, pale-ferruginous, .0003' long, .0002' broad.

Pileus 4"—12" long and broad.

Decaying wood. Albany. September.

The elliptical spores and viscid pileus are distinguishing characters in this species. The pileus is often stained by the spores and it then has a sordid or squalid appearance. When not so stained it is very white if dry, watery-white if moist. The margin is very thin. The lamellæ are dingy, when young, and they become darker with age. The stem is wanting or merely rudimentary. The pileus is attached by white filaments.

AGARICUS (CREPIDOTUS) TILIOPHILUS, *n. sp.*

Pileus rather thin, convex, minutely pulverulent or subglabrous, hygrophanous, watery-brown and striatulate on the margin when moist, dingy buff-color when dry; lamellæ rather broad, subdistant, rounded behind, adnexed, colored like the pileus, becoming ferruginous-cinnamon; stem very short, often curved, solid, eccentric, whitish, pruinose, with a white pubescence at the base; spores ovate or subelliptical, brownish-ferruginous, .0002'— .00025' long, .00016'— .00018' broad.

Pileus 6"—12" broad, stem 2"—4" long, 1" thick.

Dead trunks and branches of basswood, *Tilia Americana*. East Berne. August.

Sometimes the plants are so closely crowded that they appear cæspitose.

AGARICUS (HYPHOLOMA) NITIDIPES, *n. sp.*

Pileus fleshy, firm, convex, glabrous or obscurely fibrillose, whitish or yellowish; lamellæ close, adnexed, whitish or subcinereous, becoming rosy-brown, generally white on the edge; stem equal or slightly thickened at the base, solid, silky, shining, whitish; spores ovate, rosy-brown, .0002'— .00025' long, .00016'— .00018' broad.

Plant 2'—4' high, pileus 2'—3' broad, stem 3'—4' thick.

Damp, shaded ground. Albany. September.

Externally this species resembles *A. præcox*, from which its solid stem and smaller spores at once distinguish it.

AGARICUS (PANÆOLUS) EPIMYCES, *n. sp.*

Pileus fleshy, at first subglobose, then convex, white, silky-fibrillose, flesh soft, white or whitish; lamellæ rather broad, somewhat close, rounded behind, adnexed, dingy-white, becoming brown or blackish, with a white edge; stem short, stout, tapering upwards, strongly striate and minutely mealy or pruinose, solid in the young plant, hollow in the mature plant, but with the cavity small, hairy or substrigose at the base; spores elliptical, black, .0003'— .00035' long, .0002'— .00025' broad.

Plant 1'—1.5' high, pileus 8"—12" broad, stem 3"—4" thick.

Parasitic on fungi. North Greenbush. November.

This singular species is referred to the subgenus *Panæolus* because of its black spores. Its thick, fleshy stem and pileus do not well accord with the character of these parts in the other species of this subgenus, and, notwithstanding the color of the spores, it may seem best to some to refer the species to the subgenus *Hypholoma*. *A. Loveianus*, *A. alumnus*, *A. cirrhatus*, *A. tuberosus*, *A. racemosus* and *A. pilipes* are other species of *Agaricus* which are parasitic on putrid fungi. The species of *Nyctalis* also have a similar habitat.

**HYGROPHORUS FULIGINEUS, Frost MS.**

Pileus convex or plane, smooth, glutinous, fuscous or smoky-brown, the disk usually darker or almost black, the margin sometimes wavy or irregular, and in old specimens often reflexed, flesh white; lamellæ moderately broad, adnate or decurrent, subdistant, white, the interspaces often veiny; stem variable, long or short, equal or ventricose, sometimes attenuated at the base, solid, glutinous, white, sometimes slightly stained with smoky-brown; spores elliptical, .0003'—0.00035' long, .0002' broad.

Plant 2'—4' high, pileus 1'—4' broad, stem 4"—10" thick.

Pine woods. West Albany. November.

The abundant gluten which covers the pileus gives it when dry a shining appearance, as if varnished. There is a short space at the top of the stem which is free from gluten, slightly silky and very white. The plant grows either singly or in tufts of three or four individuals.

**HYGROPHORUS FLAVODISCUS, Frost MS.**

Pileus convex or plane, smooth, glutinous, white, with a pale-yellow or reddish-yellow disk, flesh white; lamellæ adnate or decurrent, subdistant, white, sometimes with a slight flesh-colored tint, the interspaces sometimes veiny; stem subequal, solid, glutinous, white, sometimes slightly stained with yellow; spores elliptical, .00025'—0.0003' long, .00016' broad.

Plant 2'—3' high, pileus 1'—3' broad, stem 2"—8" thick.

Pine woods. West Albany. November.

The late Mr. C. C. Frost sent me manuscript descriptions of a few species of fungi which he had found in Vermont and regarded as new species. Among them are descriptions of the two species of *Hygrophorus* now found for the first time within our limits. I have adopted the names given by Mr. Frost, but have remodeled his descriptions and extended them so as to include the character and dimensions of the spores. Both species were found growing together, and but for the marked difference in the coloration of the pileus both might readily be taken for forms of one species.

This, like the preceding one, has a short white space at the top of the stem, free from the viscosity that exists elsewhere. It resembles in many respects *Hygrophorus speciosus*, which has the pileus red, fading to yellow with advancing age. Perhaps the three may yet prove to be forms of one very variable species, for the most conspicuous differences between them consist in the colors of the pileus. The constancy with which the three styles of coloration has thus far been maintained indicates a specific difference, but color alone is not generally regarded as having any specific value.

RUSSULA HETEROPHYLLA, *Fr.*

Woods. East Berne. August.

MARASMIUS SALIGNUS, *n. sp.*

Pileus submembranous, convex or plane, without striæ, dry, glabrous or subpruinose, whitish; lamellæ rather narrow, adnate, subdistant, whitish, sometimes united behind in pairs, occasionally branched; stem short, slender, stuffed, reddish-brown, slightly mealy or pruinose, inserted; spores ovate or subelliptical, pointed at one end, .00025'— .00032' long, 00016' broad.

Plant 6"—10" high, pileus 2"—5" broad, stem scarcely half a line thick.

Bark of living willow trees. Bethlehem. September.

This species is closely related to *M. ramealis*, but in that species the pileus, according to the description, is rufescent either wholly or on the disk, and the stem is white; in our species the pileus is white or whitish and the stem is reddish-brown. Only in young specimens is the stem white and then only at the apex. Sometimes there is a slight depression or umbilicus in the center of the pileus.

POLYPORUS (MERISMA) IMMITIS, *n. sp.*

Pilei cæspitose-imbricated, broad, slightly convex or flattened, more or less rough or uneven, radiate-rugose, tuberculose or fibrous-hispid, zoneless, white, becoming tinged with yellow or alutaceous in drying, flesh white, slightly fibrous, soft and moist when fresh, cheesy when dry, with a subacid odor; pores minute angular or even subflexuous, about equal in length to the thickness of the pileus, the dissepiments thin, white, often at length dentate or lacerate on the edge; spores minute, white, elliptical, .00012'— .00016' long, .00007'— .00008' broad.

Pilei 2'—4' broad, the flesh commonly 3"—4" thick.

Decaying ash trunks. East Berne. August.

The species is apparently related to *P. cesareus*, but the character of the pores is quite different in the two species.

POLYPORUS (PLACODERMEI) FRAXINOPHILUS, *Pk.*

Pileus sessile, thick, corky, subtriquetrous, narrow, somewhat decurrent behind, the first year whitish, with a minute whitish tomentum or hairiness, then gray, finally blackish, in old specimens concentrically sulcate, rimose, the substance within obscurely zoned, at first whitish, then isabelline or pale-tawny, the margin obtuse; pores stratose, plane or subconvex, small, nearly equal, subrotund, the dissepiments obtuse, entire, whitish; spores white, broadly elliptical,  $.0003'$ — $.00035'$  long,  $.00025'$ — $.0003'$  broad.

Pileus  $2'$ — $4'$  long,  $1'$ — $1.5'$  broad.

Trunks and branches of dead or languishing ash trees. Coeymans, Albany county. May and September.

The species belongs to the tribe *Fomentarii*, and is related by its whitish pores and surface to *P. connatus*, but its colored substance and larger pores will easily distinguish it from that species.

IRPEX CRASSUS, *B. and C.*

Oak stumps. North Greenbush. October.

IRPEX MOLLIS, *B. and C.*

Decaying wood. Helderberg mountains. October.

The teeth in this species are sometimes compressed in such a manner that they appear like radiating lamellæ broken up into narrow segments. They have a coarse stout appearance even when most of them are subulate. The pileus is whitish and moist when fresh. A resupinate form occurs, both of this species and of *I. lacteus*.

CORTICIUM EFFUSCATUM, *C. and E.*

Dead branches. East Berne. August.

THELEPHORA ROSELLA, *n. sp.*

Very small, tufted, rosette-like, variously laciniate, dentate or subfimbriate on the margins, whitish or subincarnate, developing from a blackish tubercle; spores minute, narrowly elliptical or sublanceolate,  $.0002'$ — $.00025'$  long, scarcely half as wide.

Dead branches of alder, *Alnus incana*. Sandlake. July.

This is a very singular species, and may prove to be an imperfect condition of some fungus quite unlike this one.

CLAVARIA PINOPHILA, *n. sp.*

Stems short, more or less tufted, much branched; branches crowded, often compressed above and subdigitately divided, pale-ochraceous, ultimate ramuli rather long, subulate, white; spores oblong or sublanceolate,  $.0004'$ — $.0005'$  long,  $.00016'$  broad.

Thin woods under pine trees. East Berne. August.

The tufts are about one inch high. The spores appear white when caught on brown paper.

CYPHELLEA LÆTA, *Fr.*

Dead stems of herbs lying on the ground. East Berne. August.  
The beautiful sulphur color is lost in drying.

PHOMA CUCURBITALE, *B. and C.*

Old squashes. Sandlake. July.

SPHÆROPSIS CARYÆ, *C. and E.*

Dead bark of hickory trees, *Carya alba*. West Troy. May.  
The perithecia do not always grow in lines, but are frequently arranged in an irregular manner.

DISCELLA HYSTERIELLA, *n. sp.*

Perithecia hysteriiform, nestling in the fibres of the wood, opening by a longitudinal chink or a wide elliptical aperture, black; spores numerous, oblong, obtuse at each end, colorless, obscurely uniseptate, .0003'—.0004' long, .00012'—.00015' broad.

Decorticated wood. North Greenbush. Autumn and Spring.

DISCELLA ALBOMACULANS, *n. sp.*

Perithecia punctiform, hemispherical, prominent, gregarious on an indefinite whitish spot, black, opening by a simple irregular or triradiate aperture; spores abundant, oblong, colorless, obscurely uniseptate, .0004'—.0005' long, .00012' broad.

Dead twigs of grape-vines. Helderberg mountains. May.

Related to, but distinct from, the preceding by its perithecia, narrower and longer spores and by its forming a whitish spot on the matrix.

GLEOSPORIUM FRAXINEA, *n. sp.*

Spots numerous, small, pale-red with a darker or purplish-red border and usually with a minute whitish center, nuclei few; spores oblong-elliptical, colorless, .0002'—.00025' long, .00016' broad, sometimes with a minute nucleus at each end.

Living leaves of ash, *Fraxinus pubescens*. Albany. June.

SEPTORIA CANNABINA, *n. sp.*

Spots suborbicular, small, unequal, cinereous, often with a reddish-brown border; perithecia minute, numerous, epiphyllous, central on the spot, blackish; spores filiform, colorless, curved, .0008'—.0012' long.

Living leaves of hemp, *Cannabis sativa*. Cold Spring. June.

SEPTORIA SICYI, *n. sp.*

Spots small, suborbicular, scattered or rarely subconfluent, whitish or cinereous, arid; perithecia few, epiphyllous, blackish; spores filiform, straight or curved, colorless, .0016'—.0024' long.

Living leaves of *Sicyos angulatus*. Albany. June.

SEPTORIA CALYSTEGIÆ, *Sacc.*

Living leaves of *Calystegia Sepium*. Albany. June.

SEPTORIA CIRSII, *Niessl.*

Living leaves of Canada thistle, *Cirsium arvense*. West Albany. June.

SEPTORIA MUSIVA, *n. sp.*

Spots small, numerous, angular, brown, usually obscurely mottled by minute angular patches of paler color; perithecia few, epiphyllous, depressed, black or blackish; spores cylindrical, slightly curved, colorless, sometimes obscurely triseptate,  $.0012'$  —  $.0018'$  long.

Living leaves of cottonwood, *Populus monilifera*. Albany. July.

This species differs from *S. Populi*, Desm., in the character of the spots which are variegated like mosaic work, and in the septation of the spores.

PHYLLOSTICTA ~~CRATÆGI~~<sup>rubra</sup>, *n. sp.*

Spots small, angular or irregular, sometimes confluent, red; perithecia one to five on a spot, epiphyllous, minute, black; spores broadly elliptical or subglobose, colorless,  $.0003'$  long,  $.00025'$  broad.

Living leaves of thorn bushes, *Cratægus tomentosa*. Albany. July.

PHYLLOSTICTA VARIABILIS, *n. sp.*

Spots small or large, suborbicular or irregular, brown or reddish-brown, the center at length dotted with whitish arid areas or becoming entirely arid, finally falling away; perithecia minute, epiphyllous, black; spores oblong-elliptical, colorless,  $.0002'$  —  $.0003'$  long,  $.0001'$  —  $.00012'$  broad.

Living leaves of purple-flowered raspberry, *Rubus odoratus*. Albany. September.

PROTOMYCES MACROSPORUS, *Ung.*

Living leaves and stems of the great ragweed, *Ambrosia trifida*. Albany. June.

When this fungus attacks the stems it forms prominent swellings which are generally about half an inch long and nearly as broad and of a pale-green color. The spores are globose or subglobose and vary considerably in size, ranging from  $.0014'$  —  $.0024'$  in diameter. They are imbedded in the tissues of the swellings.

USTILAGO PALLIDA, *Schrœt.*

Flowers of wild buckwheat, *Polygonum cilinode*.

Three species of smut occur on our knot-weeds. *Ustilago utriculosa* is common on *Polygonum Pennsylvanicum*, *U. Candollei* is found on *P. sagittatum* and *U. pallida* on *P. cilinode*. Catskill mountains and Grafton, Reusselaer county.

ACALYPTOSPORA POPULI, *n. sp.*

Spots irregular or suborbicular, reddish-brown, definite; spores epiphyllous, oblong-ovate or subfusiform, scarcely pedicellate, colored, one to two-septate,  $.0008'$ — $.0009'$  long,  $.0003'$ — $.00033'$  broad.

Living leaves of the great-toothed poplar, *Populus grandidentata*. Center. July.

The fungus was found on the leaves of young trees. The affected tissues soon break up and fall out. The spores appear to form gummy patches or reticulations slightly darker than the general color of the spot.

MACROSPORIUM TRANSVERSUM, *n. sp.*

Spots pale, at first greenish-yellow, then whitish and arid, sometimes with a reddish-brown border, forming transverse bands on the leaf; flocci tufted, subflexuous, septate, colored,  $.0016'$ — $.0025'$  long,  $.00016'$ — $.0002'$  broad; spores apical, oblong-ovate or oblong-clavate, either obtuse at both ends or acuminate or subrostrate at one end, three to five-septate, with here and there a longitudinal septum, colored,  $.001'$ — $.002'$  long.

Living leaves of *Carex stricta*. West Albany. May.

The discolored spots are often sterile. Frequently the leaves are narrowed at the affected spots by the contraction of the tissues and are thereby weakened and abruptly bent.

ALTERNARIA TENUIS, *Nees*.

Inner surface of old pods of silkweed, *Asclepias Cornuti*. North Greenbush. November.

In some specimens the rostrum of the spores is not dilated at the apex as figured by Corda, but as the two forms grow intermingled in the same patch they are evidently all one species. The spots, as I find them, are generally thinly effused and indefinite, not definite as figured in "*Fungi Italici*."

ELLISIELLA CAUDATA, *Sacc.*

Dead leaves of broom-grass, *Andropogon scoparius*. Center. May.

This genus appears to me to be founded on very slight characters. It scarcely differs from *Colletotrichum*, except in having the spores longer pointed.

BOTRYTIS CERATIOIDES, *n. sp.*

Flocci white, flaccid, suberect, obscurely septate, simple or sparingly branched, obtuse and sometimes bilobed at the apex, the upper part densely pulverulent with spores; spores globose, smooth, subochraceous or isabelline,  $.00025'$ — $.0003'$  in diameter.

Decaying wood of hemlock, *Abies Canadensis*. Albany. June.

This fungus forms more or less extensive patches over the surface of the wood. The upper part of the flocci being covered with spores, the general aspect is somewhat similar to that of some species of *Ceratium*, e. g., *C. hydroides*. The spores are so abundant that they hide the flocci and at first sight the whole fungus appears to be pale ochraceous. The smooth spores and white flocci separate this species from *B. carnea*, Schum.

DACTYLIUM DENDROIDES, *Fr.*

Decaying wood and fungi. East Berne. August.

*Verticillium agaricinum*, Bon., is closely related if not, indeed, the same species.

VERTICILLIUM LACTARII, *n. sp.*

Flocci branched, white; branches either simple, opposite or verticillate, the ultimate ramuli tapering to the apex; spores apical, obovate or oblong-elliptical, smooth, colorless, .0006'— .0012' long, .0004'— .0005' broad, usually with a slight point or apiculus at the base.

Putrescent Lactarii, especially *L. subdulcis*. Center and East Berne. June — August.

CERCOSPORA TILLÆ, *Pk.*

Living leaves of basswood, *Tilia Americana*. Sandlake. July.

CERCOSPORA LEPIDII, *n. sp.*

Spots small, orbicular, grayish-brown or subcinereous, usually marked with faint concentric lines; flocci amphigenous, about .0016' long, single or two to three in a cluster, pallid; spores very long, tapering upwards, slightly constricted at the septa, eight to nine-septate, .005'— .007' long, .0007'— .0008' broad in the widest part, greenish.

Living leaves of the field pepper-grass, *Lepidium campestre*. New Baltimore, Greene county. May.

This is a very singular species. The fungus occurs on both sides of the leaf, but is more abundant on the upper surface. The flocci are short and thick and occasionally branched. The septa occur in the broad part of the spore, the upper part being much narrowed. Occasionally a cell is divided by a longitudinal septum.

CERCOSPORA DATURÆ, *n. sp.*

Spots suborbicular or irregular, varying in color from cinereous to reddish-brown, sometimes marked by irregular or flexuous elevated lines; flocci amphigenous, scarcely tufted, about equal to the spores in length; spores rather large, narrowed upwards, greenish, four to six-septate, .002'— .003' long, about .0005' broad in the widest part.

Living leaves of stramonium, *Datura Stramonium*. Cold Spring, Putnam county. June.

**CERCOSPORA LONGISPORA, n. sp.**

Spots suborbicular, sometimes confluent and irregular, grayish-brown, the margin slightly darker; flocci amphigenous, sometimes epiphyllous only, tufted, .0008'— .0016' long, colored; spores very long, variously curved or flexuous, colorless, simple or obscurely septate, sometimes forked, .0024'— .0056' long, about .00016' broad.

Living leaves of lupine, *Lupinus perennis*. Center. July.

The species is apparently very distinct from *C. Lupini*, Cke., and is well marked by its densely tufted black flocci and its very long hyaline spores.

**CERCOSPORA VARIA, n. sp.**

Spots suborbicular, sometimes large and irregular, reddish-brown, with a darker margin, reddish-gray beneath; flocci few, hypophyllous, tufted, short, slightly colored; spores subcylindrical, one to five septate, sometimes multinucleate, .0016'— .003' long.

Living leaves of maple-leaved Viburnum. East Berne. August.

A form of this species occurs on *Viburnum Lentago*, in which the spots are brown and the flocci are shorter.

**RAMULARIA RANUNCULI, n. sp.**

Spots suborbicular, scattered, brown; flocci hypophyllous, tufted, colorless, subflexuous; spores oblong, sometimes narrowed toward one end, simple or uniseptate, occasionally catenulate, colorless, .00065' — .0016' long, .0003'— .0005' broad.

Living leaves of hooked crowfoot, *Ranunculus recurvatus*. West Albany. June.

**RAMULARIA VACCINII, n. sp.**

Spots few or many, orbicular, rarely confluent, whitish or yellowish-green, becoming brown when old; flocci short, nearly colorless, sometimes creeping, hypophyllous, rarely amphigenous, spores very abundant, forming a continuous stratum, often catenulate, very variable, elliptical, ovate, oblong or cylindrical, colorless, .0003'— .0012' long, .00016'— .0002' broad.

Living leaves of blueberry, *Vaccinium corymbosum* and *Vaccinium Pennsylvanicum*. Center. July.

This species is remarkable both for the abundance and the variability of its spores.

**RAMULARIA HAMAMELIDIS, n. sp.**

Spots small, angular, reddish-brown, a little paler on the lower surface; flocci hypophyllous, tufted, short, slightly colored; spores fusiform or oblong-cylindrical, colorless, .0005 — .0014' long.

Living leaves of witch-hazel, *Hamamelis Virginica*. Sand-lake. July.

Though the spots are distinct enough, the fungus is so minute that it is scarcely visible to the naked eye.

*RAMULARIA AQUATILIS*, *n. sp.*

Spots small, pale; flocci epiphyllous, tufted, very slender, short, flexuous, white, .0003' — .0006' long; spores subfiliform, narrowed toward one end, sometimes three to four-nucleate, colorless, .0003' — .0012' long, .0001' — .00012' broad.

Living leaves of pond-weed, *Potamogeton lonchites*. Albany. September.

The tufts are numerous and very small and white. When magnified they have a stellate appearance, the spores diverging like rays from the central mass of flocci.

*ASTEROPHORA PEZIZÆ*, *Cd.*

Hymenium of *Peziza hemispherica*. Center. July.

This fungus covers the inner surface of the *Peziza* with a white stratum of slender filaments and stellately warted spores.

*PEZIZA LÆTIRUBRA*, *Cke.*

Decaying leaves lying on damp, sandy soil. Center. September.

*PEZIZA (MOLLISIA) SINGULARIA*, *n. sp.*

Cups minute, waxy, sessile, flattened or convex, not distinctly margined, seated on irregular, indefinite pallid spots, dingy-gray or pale amber-brown; asci cylindrico-clavate, .002' — .003' long, .0003' — .0004' broad; spores crowded or biseriate, colorless, oblong, sometimes slightly narrowed toward one end, .0005 — .0006' long, .00016' — .0002' broad; paraphyses filiform, scarcely thickened at the apex.

Under surface of living leaves of hispid crowfoot, *Ranunculus hispidus*. East Berne. August.

This is one of the few species of *Peziza* that attack living plants. Sometimes the cups, or rather the receptacles, are confluent and irregular. Perhaps a form of *Pseudopeziza Ranunculi*, Fckl.

*TYMPANIS NEMOPANTHIS*, *n. sp.*

Receptacles minute, densely tufted, substipitate, black, at first sphaeriiform and opening by a slight irregular chink, then with the disk exposed, slightly margined, concave or plane; asci

cylindrical, or oblong-clavate,  $.003'$ — $.0045'$  long, about  $.00032'$  broad; spores filiform, variously curved, sometimes multinucleate,  $.0016'$ — $.003'$  long.

Dead stems and branches of mountain holly, *Nemopanthes Canadensis*. Grafton, Rensselaer county. July.

The tufts are erumpent and quite prominent. They vary much in size, but are generally one to two lines broad. The receptacles are so closely crowded that the disk is often angular from mutual pressure. The species is similar in its appearance to *Tympanis alnea*.

CENANGIUM BETULINUM, *n. sp.*

Receptacles cæspitose or subseriate, erumpent through short transverse chinks in the bark, at first sphaeriiform, then open, black, the disk nearly plane, slightly margined, often irregular from mutual pressure,  $.007'$ — $.014'$  broad; asci oblong or sub-clavate,  $.0016'$  long, about  $.0004'$  broad; spores crowded, oblong, obtuse, slightly colored, triseptate,  $.0004'$ — $.0005'$  long, about  $.00016'$  broad.

Dead bark of white birch, *Betula populifolia*. Cēter. May.

This species differs from *C. seriatum*, which also occurs on birch, in its small size, smaller tufts, which usually contain five to ten plants, and in its septate spores.

TRIBLIDIUM CLAVÆSPORUM, *n. sp.*

Receptacles, when moist, suborbicular, plane or slightly convex, margined,  $.03'$ — $.04'$  broad, black, when dry more or less contracted, hysteriiform, with thick labiæ; asci clavate or cylindrical,  $.0035'$ — $.0045'$  long; spores oblong-clavate, crowded or biseriate, colored, four-septate,  $.0009'$ — $.0011'$  long,  $.0003'$ — $.0004'$  broad.

Decorticated wood of willows, *Salix nigra*. Albany. July.)

ASCOMYCES DEFORMANS, *Berk.*

Living leaves of peach trees. Sandlake.

GYMNASCELLA, *gen. nov.*

Perithecia wanting; asci numerous, subglobose, produced upon or among slender, branching filaments.

Externally this fungus has the aspect of species of *Sporotrichum*, but the spores are produced in asci.

GYMNASCELLA AURANTIACA, *n. sp.*

Filaments slender, branched, intricate, colored, forming minute subconfluent bright-orange or scarlet-colored tufts; asci numerous, subglobose, produced among the filaments,  $.0004'$ — $.0006'$  long; spores orbicular,  $.00016'$ — $.0002'$  broad, crowded in the ascus, colorless, generally uninucleate.

Old bones in damp places. Albany. May.

The bright red color of the tufts readily attract the attention. The spores are flattened, and when viewed edgewise appear narrowly elliptical. The asci are produced upon short branches of the filaments and frequently form dense clusters or masses. I have seen no evidence of a perithecium, and indeed the asci are thin and somewhat fugacious, and from the crowding of the spores are with difficulty seen. I have not been able to detect with certainty more than six spores in an ascus, though probably there are eight in some cases.

By the absence of a perithecium, or receptacle, this fungus is related to *Ascomyces* and kindred genera, but its whole character otherwise is very different. In its habitat it is related to *Onygena*, the species of which affect animal substances, but it forms no definite head or peridium. It also presents some analogies with other genera, but with none does it seem to agree in all respects. I am disposed, however, to regard it as belonging to the *Onygeni*, notwithstanding the absence of a definite peridium.

**VALSA (CRYPTOSPORA) TOMENTELLA, n. sp.**

Perithecia four to eight, subcircinate, nestling in the inner bark, black, clothed below with a whitish tomentum, disk lanceolate, whitish or brownish, erumpent through a narrow transverse chink which is acute at each end, pierced by the smooth black ostiola; asci oblong, broad, subcylindrical to fusiform, sessile, .002'—.003' long; spores cylindrical, crowded, colorless, more or less curved, obtuse at the ends, usually multinucleate, .002'—.0027' long, .00016'—.0002' broad.

Bark of white birch, *Betula populifolia*. West Albany. May.

This species is related to *V. cinctula*, but the peculiar character of the disk and the whitish tomentum that invests the base of the perithecia afford available characters by which to separate it from that and other allied species.

**SPHAERIA PETIOLOPHILA, n. sp.**

Perithecia minute, scattered, covered by the epidermis which is pierced by the prominently papillate or short rostrate ostiola, depressed-globose, black; asci narrow, subcylindrical, .0016'— .0018' long; spores narrowly fusiform, pointed at each end, colorless, biseriate, .0005'— .0006' long; about .00008' broad, sometimes containing three or four nucleoli.

Petioles of fallen leaves of mountain maple, *Acer spicatum*. Helderberg mountains. May.

This species belongs to the modern genus *Gnomonia*, section

Eugnomonia. In *S. petiolorum* Schw., which according to Fuckel is the same as *S. amœna* Nees., the perithecia are surrounded by a white tubercle and the spores are shorter and half as broad as long.

SPHÆRELLA FRAXINEA, *n. sp.*

Perithecia numerous, minute, .003' broad, black, either epiphyllous or hypophyllous, generally collected in groups forming suborbicular spots; asci oblong, often slightly narrowed above, .0014'— .0016' long; spores crowded, oblong-ovate, uniseptate, colorless, .0004'— .00045' long, .00016'— .0002' broad, divided by the septum into two very unequal parts, the smaller part one-third or one-fourth the length of the larger.

Fallen leaves of ash, *Fraxinus Americana*. Helderberg mountains. May.

Distinct from *Sphærie Fraxicola* Schw., in the character of the spots and of the perithecia. I have not seen fertile specimens of that species.

VENTURIA CURVISETA, *n. sp.*

Perithecia numerous, minute, .003'— .004' in diameter, clustered or subgregarious, black, bearing near the apex five to eight diverging black setæ, .003'— .005' long and abruptly curved near the base; asci oblong, narrowed above, often slightly curved .0016'— .002' long; spores crowded or biseriate, oblong, colorless, .00045'— .0005' long, .00016'— .0002' broad, faintly uniseptate, the upper cell broader than the lower.

Callen leaves of mountain holly, *Nemopanthes Canadensis*. Fenter. May and June.

The peculiar feature of this species is found in the curved bases of the setæ. These are so strongly bent that they spread nearly horizontally and appear like stellate rays when the perithecia are viewed from above. They are few in number and often unequal in length.

(5.)

REMARKS AND OBSERVATIONS.

GERANIUM MACULATUM, *L.*

A form with white flowers. Syracuse. *Mrs. S. M. Rust.*

CASSIA NICTITANS, *L.*

Banks of the Hudson river. North Greenbush.

MITCHELLA REPENS, *L.*

The form producing white berries occurs near Moravia. *M. F. Merchant.*

PLANTAGO LANCEOLATA, *L.*

A singular form was found by Mrs. Rust near Syracuse. It had a compound spike, ovate in outline. The branches were short and densely crowded. It appeared as if many of the flowers had been transformed into short branches.

POTAMOGETON AMPLIFOLIUS, *Tuckerm.*

This fine large species is plentiful in Warner's lake, East Berne. *P. pusillus*, *P. pectinatus* and both varieties of *P. gramineus* also abound there.

SMILAX HISPIDA, *Muhl.*

Flowering specimens were found in Cicero swamp, Onondaga county, by Mrs. Rust.

CALOPOGON PULCHELLUS, *R. Br.*

A white-flowered form. Syracuse. *Mrs. M. C. Still.*

JUNIPERUS VIRGINIANA, *L.*

This tree is common along the Hudson river from Albany to West Point. It here has a peculiar aspect. The branches are very numerous and frequently diverge from the trunk at a small angle. They afford a dense spray beautifully symmetrical in outline and having nearly the form of an elongated cone. Its beauty of figure renders it a very desirable acquisition for the adornment of parks, court-yards and ornamental grounds. It is freely attacked by three species of fungus, one of which produces oblong or spindle-shaped swellings in the branches and which probably has something to do in determining the peculiar aspect of these trees. The other two produce the subglobose galls which are commonly known as "Cedar apples." These fungi do not appear to destroy the life of the tree, though they cling to it year after year as a parasite.

BROMUS TECTORUM, *L.*

This beautiful introduced grass has become common all along the Hudson River railroad between Albany and Cold Spring and probably still farther south. Railroads are very effective agents in the dissemination and distribution of many plants.

CORTINARIUS IODES, *B. & C.*

The pileus in this species is sometimes spotted with white. The bulbous white stem is adorned with lilac-colored fibrils.

LENZITES SEPIARIA, *Fr.*

This species usually inhabits wood of coniferous trees, but it sometimes occurs on other wood. It was found near Albany in company with *Lenzites vialis* on a prostrate trunk of the

necklace poplar or cottonwood, *Populus monilifera*. It has occurred also on willow, *Salix discolor*.

STEREUM RUGOSUM, *Fr.*

Well-developed specimens occurred near East Berne. The margin was narrowly reflexed, blackish and zonate. A cupulate form was also found.

NEW YORK CARICES.

Since the publication of the New York State Flora, several changes in the nomenclature of the genus *Carex* have been made. A revised list of the New York Carices is here given, the names in the left-hand column being those adopted by Dr. Torrey in the New York State Flora; those in the right-hand column are the names applied to the same species in the last edition of Gray's Manual.

Names in N. Y. S. Flora.		Names in Gray's Manual.
<i>Carex dioica</i> , <i>L.</i>		<i>Carex gynocrates</i> , <i>Wormsk.</i>
<i>C. exilis</i> , <i>Dew.</i>		<i>C. exilis</i> , <i>Dew.</i>
<i>C. pauciflora</i> , <i>Lightf.</i>		<i>C. pauciflora</i> , <i>Lightf.</i>
<i>C. polytrichoides</i> , <i>Muhl.</i>		<i>C. polytrichoides</i> , <i>Muhl.</i>
<i>C. Willdenovii</i> , <i>Schk.</i>		<i>C. Willdenovii</i> , <i>Schk.</i>
<i>C. Backii</i> , <i>Boott.</i>		<i>C. Backii</i> , <i>Boott.</i>
<i>C. disperma</i> , <i>Dew.</i>		<i>C. tenella</i> , <i>Schk.</i>
<i>C. chordorhiza</i> , <i>Ehrh.</i>		<i>C. chordorhiza</i> , <i>Ehrh.</i>
<i>C. cephalophora</i> , <i>Muhl.</i>		<i>C. cephalophora</i> , <i>Muhl.</i>
<i>C. Muhlenbergii</i> , <i>Schk.</i>		<i>C. Muhlenbergii</i> , <i>Schk.</i>
<i>C. siccata</i> , <i>Dew.</i>		<i>C. siccata</i> , <i>Dew.</i>
<i>C. rosea</i> , <i>Schk.</i>		<i>C. rosea</i> , <i>Schk.</i>
<i>C. retroflexa</i> , <i>Muhl.</i>		<i>C. retroflexa</i> , <i>Muhl.</i>
<i>C. sparganioides</i> , <i>Muhl.</i>		<i>C. sparganioides</i> , <i>Muhl.</i>
<i>C. stipata</i> , <i>Muhl.</i>		<i>C. stipata</i> , <i>Muhl.</i>
<i>C. vulpinoidea</i> , <i>Mx.</i>	}	<i>C. vulpinoidea</i> , <i>Mx.</i>
<i>C. setacea</i> , <i>Dew.</i>		
<i>C. bromoides</i> , <i>Schk.</i>		<i>C. bromoides</i> , <i>Schk.</i>
<i>C. alopecoidea</i> , <i>Tuckerm.</i>		<i>C. alopecoidea</i> , <i>Tuckerm.</i>
<i>C. Sartwellii</i> , <i>Dew.</i>		<i>C. disticha</i> , <i>Huds.</i>
<i>C. teretiuscula</i> , <i>Good.</i>		<i>C. teretiuscula</i> , <i>Good.</i>
<i>C. decomposita</i> , <i>Muhl.</i>		<i>C. decomposita</i> , <i>Muhl.</i>
<i>C. trisperma</i> , <i>Dew.</i>		<i>C. trisperma</i> , <i>Dew.</i>
<i>C. Deweyana</i> , <i>Schw.</i>		<i>C. Deweyana</i> , <i>Schw.</i>
<i>C. canescens</i> , <i>L.</i>		<i>C. canescens</i> , <i>L.</i>
<i>C. can. v. sphærostachya.</i>		<i>C. can. v. vitilis.</i>
<i>C. stellulata</i> , <i>Good.</i>		<i>C. stellulata</i> , <i>L.</i>
<i>C. stell. v. sterilis.</i>		<i>C. sterilis</i> , <i>Willd.</i>
<i>C. stell. v. scirpoides.</i>		<i>C. stell. v. scirpoides.</i>
<i>C. tenuiflora</i> , <i>Wahl.</i>		<i>C. tenuiflora</i> , <i>Wahl.</i>
<i>C. scoparia</i> , <i>Schk.</i>		<i>C. scoparia</i> , <i>Schk.</i>
<i>C. scop. v. lagopodioides.</i>		<i>C. lagopodioides</i> , <i>Schk.</i>
<i>C. straminea</i> , <i>Schk.</i>		<i>C. straminea</i> , <i>Schk.</i>
<i>C. stram. v. fœnea.</i>		<i>C. fœnea</i> , <i>Willd.</i>
<i>C. stram. v. moniliformis.</i>		<i>C. fœn. v. ? sabulonum.</i>

Names in N. Y. S. Flora.	Names in Gray's Manual.
Carex stram. v. festucacea.	Carex stram. v. festucacea.
C. stram. v. cristata.	C. cristata, Schw.
C. stram. v. mirabilis.	C. crist. v. mirabilis.
C. pedunculata, Muhl.	C. pedunculata, Muhl.
C. squarrosa, L.	C. squarrosa, L.
C. Buxbaumii, Wahl.	C. Buxbaumii, Wahl.
C. triceps, Mx.	C. triceps, Mx.
C. virescens, Muhl.	C. virescens, Muhl.
C. gracillima, Schw.	C. gracillima, Schw.
C. formosa, Dew.	C. formosa, Dew.
C. Davisii, Schw. & Torr.	C. Davisii, Schw. & Torr.
C. rigida, Good.	C. rigida v. ? Bigelovii.
C. angustata, Boott.	C. stricta, Lam.
C. cæspitosa, L.?	C. vulgaris, Fr.
C. aquatilis, Wahl.	C. aquatilis, Wahl.
C. aurea, Nutt.	C. aurea, Nutt.
C. crinita, Lam.	C. crinita, Lam.
C. oligosperma, Mx.	C. oligosperma, Mx.
C. bullata, Schk.	C. bullata, Schk.
C. bull. v. cylindracea.	C. monile, Tuckm.
C. cylindrica, Tuckm.	C. Tuckermani, Boott.
C. utriculata, Boott.	C. utriculata, Boott.
C. subulata, Mx.	C. subulata, Mx.
C. folliculata, L.	C. folliculata, L.
C. intumescens, Rudge.	C. rostrata, Mx.
C. int. v. globularis.	C. intumescens, Rudge.
C. lupulina, Muhl.	C. Grayii, Carey.
C. lup. v. polystachya.	C. lupulina, Muhl.
C. scabrata, Schw.	C. lupuliformis, Sartw.
C. Schweinitzii, Dew.	C. scabrata, Schw.
C. retrorsa, Schw.	C. Schweinitzii, Dew.
C. tentaculata, Muhl.	C. retrorsa, Schw.
C. hystericina, Willd.	C. tentaculata, Muhl.
C. Pseudo-Cyperus, L.	C. hystericina, Willd.
C. longirostris, Torr.	C. Pseudo-Cyperus, L.
C. trichocarpa, Muhl.	C. comosa, Boott.
C. aristata, R. Br.	C. longirostris, Torr.
C. umbellata, Schk.	C. trichocarpa, Muhl.
C. Pennsylvanica, Lam.	C. aristata, R. Br.
C. Penn. v. Muhlenbergii.	C. umbellata, Schk.
C. Novæ-Angliæ, Schw.	C. Pennsylvanica, Lam.
C. filiformis, L.	C. varia, Muhl.
C. lanuginosa, Mx.	C. Novæ-Angliæ, Schw.
C. vestita, Willd.	C. filiformis, L.
C. pubescens, Muhl.	C. lanuginosa, Mx.
C. limosa, L.	C. vestita, Willd.
C. lim. v. irrigua.	C. pubescens, Muhl.
C. livida, Willd.	C. limosa, L.
C. flava, L.	C. irrigua, Sm.
C. Cederi, Ehrh.	C. livida, Willd.
C. pallescens, L.	C. flava, L.
C. Torreyi, Tuckm.	C. Cederi, Ehrh.
C. striata, Mx.	C. pallescens, L.
C. granularis, Muhl.	C. Torreyi, Tuckm.
C. laxiflora, Lam.	C. polymorpha, Muhl.
C. conoidea, Schk.	C. granularis, Muhl.
C. digitalis, Willd.	C. grisea, Wahl.
	C. conoidea, Schk.
	C. digitalis, Willd.

## Names in N. Y. S. Flora.

Carex oligocarpa, *Schk.*  
 C. olig. v. major.  
 C. tetanica, *Schk.*  
 C. anceps, *Willd.*  
 C. blanda, *Dew.*  
 C. Crawei, *Dew. mss.*  
 C. plantaginea, *Lam.*  
 C. Careyana, *Torr.*  
 C. eburnea, *Boott.*  
 C. flexilis, *Rudge.*  
 C. aretata, *Boott.*  
 C. debilis, *Mx.*  
 C. miliacea, *Muhl.*  
 C. lacustris, *Willd.*

## Names in Gray's Manual.

Carex oligocarpa, *Schk.*  
 C. Hitchcockiana, *Dew.*  
 C. tetanica, *Schk.*  
 C. laxiflora, *Lam.*  
 C. lax. v. blanda.  
 C. Crawei, *Dew.*  
 C. plantaginea, *Lam.*  
 C. Careyana, *Torr.*  
 C. eburnea, *Boott.*  
 C. flexilis, *Rudge.*  
 C. aretata, *Boott.*  
 C. debilis, *Mx.*  
 C. miliacea, *Muhl.*  
 C. riparia, *Curtis.*

The list derived from the Flora of New York comprises ninety-one species and fifteen varieties, which in the Manual are regarded as one hundred and one species and six varieties. Representatives of the following species and varieties have been added to the Herbarium since the publication of the Flora :

Carex scirpoidea, *Mx.*  
 C. Steudelii, *Kunth.*  
 C. sychnocephala, *Carey.*  
 C. alata, *Torr.*  
 C. adusta, *Boott.*  
 C. torta, *Boott.*  
 C. aperta, *Boott.*  
 C. lenticularis, *Mx.*  
 C. gynandra, *Schw.*  
 C. platyphylla, *Carey.*  
 C. Richardsonii, *R. Br.*  
 C. Sullivantii, *Boott.*  
 C. striata, *Mx.*  
 C. Houghtonii, *Torr.*  
 C. extensa, *Good.*  
 C. glaucodea, *Tuckerm.*  
 C. tentaculata v. gracilis, *Boott.*  
 C. tent. v. altior, *Boott.*  
 C. tent. v. unispicata, *Pk.*

Carex capillaris, *L.*  
 C. retrocurva, *Dew.*  
 C. Muhlenbergii v. enervis, *Boott.*  
 C. teretiuscula v. major, *Koch.*  
 C. vulpinoidea v. platycarpa, *Olney.*  
 C. rosea v. radiata, *Dew.*  
 C. scoparia v. minor, *Boott.*  
 C. adusta v. sparsiflora, *Olney.*  
 C. straminea v. tenera, *Boott.*  
 C. stram. v. aperta, *Boott.*  
 C. stram. v. Crawei, *Boott.*  
 C. stricta v. strictior, *Gr.*  
 C. stricta v. xerocarpa, *Gr.*  
 C. laxiflora v. intermedia, *Boott.*  
 C. laxiflora v. plantaginea, *Boott.*  
 C. laxiflora v. latifolia, *Boott.*  
 C. retrorsa v. Hartii, *Gr.*  
 C. lupulina v. giganteoidea, *Dew.*  
 C. Emmonsii v. elliptica, *Boott.*

The whole number of species now known to inhabit the State is one hundred and nineteen. Adding to these the twenty-six varieties whose names are given in the preceding list and we have a total of one hundred and forty-five species and varieties.

(6)

## NEW YORK SPECIES OF LEPIOTA.

“White-spored, hymenophorum distinct from the stem, veil universal, concrete with the epidermis of the pileus. Lamellæ free, often remote, neither sinuate nor decurrent.” — *Hymen. Europ.*, p. 29.

The word *Lepiota* has reference to the scaly character of the pileus. The species grouped under this name may be distinguished from the species of *Amanita* by the character of the scales of the pileus, which in that subgenus are wart-like and superficial and for the most part easily separable from the pileus, while in this they are intimately united to the cuticle, which usually breaks up into scales or scale-like fragments. On the other hand they are distinguished from the species of *Armillaria* by the lamellæ which in most of the species do not reach the stem but are wholly free from it. In the few instances in which they reach the stem they are but slightly attached to it, and not sinuate or decurrent as in *Armillaria*.

The species are mostly of medium size, though *Agaricus procerus* has few rivals in length of stem, and *A. Morgani* in breadth of pileus. The pileus is soft and fleshy but generally rather thin. The cuticle, which is usually entire in the very young plant, soon breaks up into scales which are appressed or erect, large or small, fibrillose, floccose, granular or mealy according to the species. These scales often give an ornamental or variegated appearance to the pileus which is quite attractive. In form, the pileus in the young plant is subglobose or ovate, then it becomes convex or campanulate and finally in many species it is nearly flat with a central prominence or umbo. This umbo in such species as *A. procerus* and *A. mastoideus* is especially prominent.

The lamellæ are white or whitish in most of the species. Occasionally they may be tinged with yellow and in a few species they assume a smoky-red or pinkish-brown hue in old age or in drying. In *A. Badhami*, *A. meleagris* and *A. Americanus* the whole plant changes color when wounded or in drying.

The stem in most of the species is rather slender and either hollow or stuffed with webby or cottony filaments. The annulus or ring that is attached to and surrounds the stem is sometimes slight and disappears in very wet weather or in old age. The spores, which are normally white, sometimes assume a yellowish hue when kept a long time. *A. Morgani*, an Ohio species, is remarkable for producing spores of a bright-green color which soon fades to a dull-green. The spores vary

much in size in the different species and afford, in several instances, excellent specific characters. *A. procerus* has very large spores, *A. cristatus* small ones and *A. metulaesporus* long ones.

Several of the species occur in woods and are especially fond of a loose soil composed chiefly of decayed vegetable matter, others grow in open grassy places, in fields, gardens and cultivated grounds. A few are occasionally found on old stumps and much decayed wood. *A. acutesquamosus*, *A. cepæstipes*, and some others are sometimes found growing in conservatories.

None of our species are reputed to be poisonous, yet only two, *A. procerus* and *A. naucinoides*, have been reported edible.

Fries divides this subgenus into two primary sections, the first containing the species with a dry pileus, the second, those with a viscid pileus. The first section, which has by far the greater number of species, is subdivided into five groups, all but one of which are represented in our flora. Of the Mesomorphi, "smaller, slender species with a hollow stem, a dry pileus and an entire, not granulose lacerated cuticle," we have not yet detected any representatives.

We have followed the system of Fries in our arrangement of the species.

SYNOPSIS OF THE SPECIES.

1. Pileus dry.....		2
2. Pileus with the margin even.....		3
3. Annulus movable, stem more than five inches long...	<i>A. procerus</i> .	4
3. Annulus not movable, stem less than five inches long,		
4. Pileus smooth, lamellæ becoming pinkish-brown..	<i>A. naucinoides</i> .	5
4. Pileus rough with erect acute scales. ....		
5. Lamellæ crowded, some of them forked.....	<i>A. Friesii</i> .	6
5. Lamellæ close, simple ..	<i>A. acutesquamosus</i> .	7
4. Pileus with fibrillose, floccose or appressed scales..		6
6. Scales reddish or reddish-brown.....		7
7. Scales soon disappearing from the margin....	<i>A. cristatus</i> .	
7. Scales everywhere persistent .....	<i>A. rubrotinctus</i> .	8
6. Scales blackish or blackish-brown .....		
8. Stem short, bulbous .....	<i>A. fuscusquameus</i> .	
8. Stem rather long, not bulbous ..	<i>A. felinus</i> .	
6. Scales pale yellow..	<i>A. alluviinus</i> .	9
4. Pileus with granular, branny or mealy scales .....		
9. Pileus rusty-yellow or reddish-yellow, lamellæ		
adnexed .....	<i>A. granulosus</i> .	
9. Pileus ochraceous-yellow, lamellæ adnate .....	<i>A. amianthinus</i> .	
9. Pileus dingy-white or brownish.....	<i>A. pusillomyces</i> .	
9. Pileus white .....	<i>A. cristatellus</i> .	
2. Pileus with the margin striate or substriate .....		10
10. Stem enlarged above the base.....		11
11. Plant becoming brownish-red in drying ..	<i>A. Americanus</i> .	
11. Plant not becoming brownish-red in drying ...	<i>A. cepæstipes</i> .	
10. Stem not enlarged above the base.....	<i>A. metulaesporus</i> .	
1. Pileus viscid.....		12
12. Pileus white .....	<i>A. illinitus</i> .	
12. Pileus alutaceous or dingy-yellow.....	<i>A. oblitus</i> .	

## CUTICLE OF THE PILEUS DRY.

## PROCERI.

*Annulus persistent, movable, distinct from the volva.*

This tribe is distinguished by its species having a well-developed annulus, which soon breaks loose from its attachment to the stem and thus forms a movable ring upon it, and a distinct cavity or depression in the pileus beneath the umbo for the reception of the stem.

The only representative thus far found in our State is *A. procerus*, but *A. rhacodes*, *A. excoriatus*, *A. mastoideus* and *A. Morgani* have been reported from neighboring States and will probably yet occur in our limits. All the European species of this tribe are classed by Fries as edible.

## AGARICUS PROCERUS, Scop.

## Tall Agaric. Parasol Mushroom.

Pileus at first ovate, then broadly convex or expanded, *strongly umbonate*, scaly or spotted from the breaking up of the cuticle, whitish alutaceous or brownish, the deflexed margin generally silky-fibrillose, the flesh soft, white; lamellæ close, free or remote, whitish, sometimes tinged with yellow or pink; *stem tall*, cylindrical or slightly tapering upward, bulbous, hollow, squamose or furfuraceous, colored like the pileus, sometimes spotted, the annulus thick, firm, *movable*, white; *spores large*, elliptical, .00055'—.0007' long, .00035'—.00045' broad.

Plant 5'—10' high; pileus 3'—6' broad; stem 4"—6" thick.

Fields, pastures, roadsides and occasionally in woods. July to September.

This Agaric resembles a parasol in shape, whence the popular name. It is easily distinguished from the allied species by its long stem, movable ring and prominent umbo. Generally the scales of the pileus are rather broad and distant from each other toward the margin, but closer toward the umbo on which the cuticle usually remains unruptured. For this reason the umbo is generally darker colored than the rest of the pileus. Sometimes the scales are appressed and spot-like, again they are slightly reflexed and then they give a rougher appearance to the pileus. They may be brownish, tawny-brown or reddish-brown in color. They often disappear almost wholly from the margin of the pileus which then has a whitish silky appearance. The stem is remarkable for its great length when compared with its thickness and is suggestive of the specific name, *procerus*. In extreme cases it is nearly or quite a foot long, though rarely more than half an inch thick. In a dried specimen before me the stem is nine inches long and one-fourth of an inch thick. The surface of the stem is in many cases

merely scurfy, in others it is scaly from the cracking of the cuticle into small areas or fragments. Rarely it has a spotted appearance. Generally the plant grows singly, but sometimes it forms large tufts or clusters.

Fries remarks that its odor and taste are pleasant and that it is edible but tough. Probably for esculent purposes it would be better to use only the younger plants.

#### CLYPEOLARIÆ.

*Annulus persistent, fixed, homogeneous with the universal veil which coats the stem.*

In this tribe the annulus does not become movable on the stem and the fibrils or scales of the veil clothe that part of the stem which is below the annulus and the exterior or lower surface of the annulus also. The species are mostly small or of medium size and some possess a distinct odor.

#### AGARICUS FRIESII, *Lasch.*

##### Fries' Agaric.

"Pileus fleshy, soft, lacerated into *appressed tomentose scales*; stem hollow, with a webby pith, subbulbous, squamose; annulus superior, pendulous, equal; lamellæ subremote, linear, crowded, branched." — *Hymen. Europ.*, p. 31.

Pileus fleshy but rather thin, convex or nearly plane, clothed with a soft tawny or brownish-tawny tomentum which breaks up into appressed often subconfluent scales, the disk rough with small acute erect scales, flesh soft, white; lamellæ *narrow, crowded*, free, white, *some of them forked*; stem equal or slightly tapering upward, subbulbous, hollow, colored like the pileus below the annulus and there clothed with soft tomentose fibrils which sometimes form floccose or tomentose scales, white and pruinose above, annulus well-developed, flabby, white above, tawny and floccose-scaly below; spores .00028' — .00032' long, .00012' — .00016' broad.

Plant 2' — 5' high; pileus 1' — 4' broad; stem 2 — 5'' thick.

Soft loose soil in woods and low bushy places. July — September. Catskill mountains and East Worcester.

I have quoted the description of this species as it is given in *Epicrisis*, because the American plant which I have referred to it does not in all respects agree with this description, but comes so near it that it can scarcely be specifically distinct. In the American plant, so far as I have seen it, erect acute scales are always present, especially on the disk, and the tomentum of the pileus does not always break up into

distinct areas or scales. Neither is the stem usually scaly but rather clothed with soft tomentose or almost silky fibrils. The lamellæ are crowded and some of them are forked. At the furcations there are slight depressions which interrupt the general level of the edges and give them the appearance of having been eaten by insects. The plant has a slight odor, especially when cut or bruised.

AGARICUS ACUTESQUAMOSUS, *Wein.*

Acute-scaled Agaric.

“Pileus fleshy, obtuse, at first *hairy-floccose*, then *bristly with erect acute squarrose scales*; stem somewhat stuffed, stout, bulbous, pruinose above the moderate-sized annulus; lamellæ approximate, lanceolate simple.” — *Hymen. Europ.*, p. 31.

Pileus convex or nearly plane, obtuse or broadly subumbonate clothed with a soft tawny or brownish-tawny tomentum which usually breaks up into imperfect areas or squamæ, rough with erect acute scales which are generally larger and more numerous on the disk; lamellæ close, free, white or yellowish; stem equal, hollow or stuffed with webby filaments, subbulbous; spores about .0003' long, .00012' — .00016' broad.

Plant of the same size as the last.

Woods and conservatories. Buffalo, *G. W. Clinton.* Albany, *A. F. Chatfield.* Adirondack mountains and Brewerton.

Fries remarks that this species agrees so closely with the preceding one that he thinks the two should be united. The chief differences set forth in the descriptions already quoted consist in the appressed, tomentose scales and branched lamellæ of the one and the erect acute scales and simple lamellæ of the other. Now in the American plants I find erect acute scales on all the specimens, both those with branched and those with simple lamellæ, so that the difference between the two forms is reduced with us to that of the lamellæ alone. It is therefore probable that they will have to be united. The form found in the hot houses seems to have the tomentum of the pileus less dense and the erect scales more numerous than in the form growing in woods. The annulus is frequently lacerated. In the specimens of the woods the erect scales are sometimes blackish in color, and they then contrast quite conspicuously with the tawny or brownish-tawny tomentum beneath them. They vary in size and shape. Some resemble pointed papillæ, others, being more elongated, are almost spine-like. These are sometimes curved. They are generally larger and more numerous on the disk than elsewhere, and often they are wholly wanting on the margin.

AGARICUS CRISTATUS, *A. & S.*

## Crested Agaric.

Pileus thin, campanulate or convex, then nearly plane, *obtuse*, at first with an even reddish or reddish-brown surface, then *white adorned with reddish or reddish-brown* scales formed by the breaking up of the cuticle, the central part or disk colored like the scales; lamellæ close, free, white; stem slender, hollow, equal, smooth or silky-fibrillose below the ring, whitish, annulus small, white; spores *oblong* or *narrowly subelliptical*. .0002' — .00028' long, .00012' — .00015' broad.

Plant 1' — 2' high; pileus .5' — 1.5' broad; stem 1" — 2" thick.

Grassy places and borders of woods. June — September.

This species is easily known by its small size and the crested appearance of the white pileus, an appearance produced by the orbicular unruptured portion of the cuticle that remains like a colored spot on the disk. The fragments or scales are more close near this central part and more distant from each other toward the margin, where they are often wholly wanting. The scales are sometimes very small and almost granular. In very wet weather the margin of the pileus in this and some other species becomes upturned or reflexed.

The spores when viewed in one position appear as if truncated at one end and acute or pointed at the other, in another position they appear narrowly elliptical, the truncate end being slightly rounded. The spores of *A. Friesii* are somewhat similar in shape but are a little longer.

The plant usually has a distinct odor.

AGARICUS RUBROINCTUS, *Pk. n. sp.*

## Red-tinted Agaric.

Pileus thin, convex or nearly plane, sometimes slightly and broadly umbonate, at first even with a reddish or pinkish surface, a little darker and sometimes slightly rough on the disk, then adorned with appressed scales formed by the breaking up of the cuticle; lamellæ close, free, white or whitish; stem hollow, equal or slightly thickened at the base, smooth or slightly silky-fibrillose below the annulus, whitish, the annulus *well developed, membranous*, white or pinkish, *persistent*; spores *subelliptical, uninucleate*, .00035' — .00045' long, .0002' — .00025' broad.

Plant 1.5' — 3.5' high; pileus 1' — 2.5' broad; stem 2" — 3" thick.

Thin woods and open places. July — September. Helderberg mountains and East Worcester.

When young this Agaric closely resembles the preceding one from which it is distinguished by its larger size, more scaly and less white pileus, larger and more persistent annulus and larger spores. The cuticle sometimes remains entire and sometimes cracks in a radiating manner toward the margin, thereby giving to the pileus a sort of fibrillose or virgate appearance. The annulus sometimes partly breaks from its attachment to the stem and becomes almost movable.

AGARICUS FELINUS, *Pers.*

Cat Agaric.

Pileus thin, subcampanulate or convex, subumbonate, adorned with numerous *subtomentose* or *floccose blackish-brown scales*; lamellæ close, free, white; stem *slender, rather long*, equal or slightly tapering upward, hollow, clothed with soft loose floccose filaments, brown, annulus slight, evanescent; spores elliptical, .00025'—.0003' long, .00016'—.0002, broad. 5 - 7 5

Plant 2'—3.5' high; pileus .5'—1.5' broad; stem 1"—2" thick.

Woods. Adirondack mountains. August and September.

This is not a common species with us, having occurred thus far only in the woods of our mountainous regions. The scales or adornments of the pileus are similar in character to those of *A. Friesii*, but are much darker in color. Fries unites this Agaric with *A. clypeolarius* as a variety, but says that it is so frequent and so constant in the pine woods of Europe that it deserves to be noticed separately. It is easily distinguished from *A. rubrotinctus* by the darker color of the scales of the pileus, by the loose floccose filaments that clothe the brown stem, by the fugacious annulus and the smaller spores.

AGARICUS FUSCOSQUAMEUS, *Pk.*

Brown-scaled Agaric.

Pileus rather thin, hemispherical or convex, subumbonate, adorned with numerous *substrigose, erect or reflexed blackish-brown scales*; lamellæ close, free, white; stem *short, rather stout*, equal, hollow or stuffed with a cottony pith, clothed with loose soft dingy floccose filaments, *bulbous*, brown; annulus slight, evanescent; spores narrowly elliptical, .00025'—.0003' long, .00012'—.00015" broad.

Plant 2'—3' high; pileus 1.5'—2.5' broad; stem 3"—4" thick.

Pine and hemlock woods. Croghan. September.

This species is closely related to the preceding one, and might, perhaps, be considered a variety of it. It has the same color, but is dis-

tinguished by its more strigose erect scales, its short but stouter bulbous stem, broader pileus and narrower spores. It is apparently very rare, having been detected only in the locality here given.

AGARICUS ALLUVIINUS, *Pk., n. sp.*

Alluvial Agaric.

Pileus thin, convex or plane, sometimes reflexed on the margin, *white, adorned with minute pale-yellow hairy or fibrillose scales*; lamellæ thin, close, free white or yellowish; stem slender, fibrillose, whitish or pallid, slightly thickened at the base, annulus slight, subpersistent, often near the middle of the stem; spores elliptical,  $.00025'$ — $.0003'$  long,  $.00016'$ — $.0002'$  broad.

Plant 1'—2' high; pileus  $.5'$ —1' broad; stem 1"—1.5" thick.

Alluvial soil, among weeds. Albany. July.

In the fresh plant the scales are of a pale-yellow or lemon color, but in drying they and the whole pileus take a deeper rich yellow hue. The annulus is generally remote from the pileus, sometimes even below the middle of the stem.

AGARICUS METULÆSPORUS, *B. and Br.*

Long-spored Agaric.

Pileus thin, campanulate or convex, subumbonate, at first with a uniform pallid or brownish surface, which soon breaks up into *small brownish scales, the margin more or less striate*, often appendiculate with fragments of the veil; lamellæ close, free, white; stem slender, equal or slightly tapering upward, hollow, adorned with soft loose floccose scales or filaments, pallid, annulus slight, evanescent; spores *long, subfusiform*,  $.00055'$ — $.00075'$  long,  $.00025'$ — $.0003'$  broad.

Plant 2'—3.5' high; pileus  $.5'$ —1.5' broad; stem 1"—2" thick.

Woods. Adirondack mountains. August and September.

This species occurs with us in the same localities as *A. felinus*, which it very much resembles in size, shape and general characters, differing only in color, the striate margin of the pileus and the character of the spores. Both were at first taken to be forms of *A. clypeolarius*, and were included in the description of that species in Report 23, p. 72. Judging from the published descriptions of *A. clypeolarius*, it is probable that in Europe also it has been made to include forms which will yet be considered distinct species. In *Epicrisis* it is said to "vary wonderfully in size and color," and in the *Hand-book of British Fungi* the pileus is said to be "white, yellow, pink, rufous, brown, etc." In *Icones Selectæ*, Fries figures what he considers the typi-

cal form of the species, a form which I have not observed here, and which probably does not occur with us. It is a little remarkable that none of the published descriptions and figures of this species, so far as I have seen them, give the spore characters. Those characters are often of the utmost value in distinguishing closely related species. In regard to the spores of *A. metulæsporus*, the descriptions do not all agree, but the discrepancies are probably due to variability in the spores and to lack of care in the examination. In *Epicrasis* they are said to be twice as large as in the allied species, and acutely pointed at one end. In *Grevillea*, Vol. I, p. 55, they are said to be nine-pin shaped or obliquely clavate. In *Mycological Illustrations*, by M. C. Cooke, they are represented as fusiform and acute at both ends. In our plant they are nearly fusiform in shape, but varying somewhat in the character of the apices, which are sometimes acute, sometimes blunt, and sometimes acute at one end and blunt at the other. The species has a wide range, having been found in Ceylon, England and Alabama.

#### ANNULOSI.

*Annulus superior, fixed, subpersistent, universal veil adnate to the pileus.*

The species of this tribe are chiefly distinguished by the well-developed but fixed and rather persistent annulus. They are generally larger and more fleshy than those of the preceding tribe. In some species the lamellæ, and in others the whole plant changes color in drying.

#### AGARICUS CEPÆSTIPES, Sow.

##### Onion-stemmed Agaric.

Pileus thin, at first ovate, then campanulate or expanded, umbonate, soon adorned with numerous *minute brownish scales* which are often *granular or mealy, plicate striate* on the margin, white or yellow, the umbo darker; lamellæ thin, close, free, white, becoming dingy with age or in drying; stem rather long, tapering toward the apex, generally *enlarged in the middle or near the base*, hollow, annulus thin, subpersistent; spores subelliptical, uninucleate, .0003' — .0004' long, .0002' — .0003' broad.

Plant often caespitose, 2'—4' high; pileus 1' — 2' broad; stem 2" — 3" thick.

Rich ground and decomposing vegetable matter. Also in graperies and conservatories. Buffalo, *G. W. Clinton*. Albany, *A. F. Chatfield*.

The species takes its name from the peculiar oblong swelling or enlargement in the middle or the lower part of the stem. It is similar to

the enlargement in the flowering stem of an onion. The plants sometimes occur in tufts or clusters of many individuals. When very young the pileus is ovate and of a uniform color, but the surface soon breaks up into minute scales which rest upon a white or whitish ground color. In drying the lamellæ generally assume a dingy or smoky hue, but the pileus does not generally change color. Two forms occur in hot-houses, the one having a white, the other a yellow pileus. The striations of the margin are rather deep and close and give a somewhat plicate appearance to that part of the pileus. The form that grows in the open air has shorter striations on the margin, and the stem is not so regularly enlarged in the middle, the enlargement being mostly near the base and sometimes wanting entirely. Possibly this form may be the *A. rorulentus* Panizzi, but it seems to me too near *A. cepæstipes* to be separated.

#### AGARICUS AMERICANUS, *Pk.*

##### American Agaric.

Pileus rather fleshy, at first ovate, then convex or expanded, *umbonate*, more or less striate on the margin, the cuticle breaking up, except on the umbo, into *reddish or reddish-brown appressed scales*, white, flesh white; lamellæ rather broad, close, free, white, narrower toward the stem and there sometimes anastomosing; stem tapering upward, *enlarged at or a little above the base*, hollow, white, annulus rather large, but thin and flabby, sometimes separating from its attachment to the stem, occasionally evanescent; spores subelliptical, uninucleate, .0003' — .0004' long, .0002' — .0003' broad.

Plant sometimes cæspitose, 3'—5' high; pileus 1.5' — 4' broad; stem 2" — 5" thick.

Lawns and grassy places, sometimes on decaying wood. July and August.

This species has many points of resemblance to the preceding one but it is larger, with a stouter stem and a more fleshy pileus, with much broader and more distinct scales. The stem is enlarged as in that species but the enlargement is generally at or near the base. When bruised the flesh changes color and in drying the whole plant assumes a dull brownish-red or smoky-red hue, a character by which the species may be easily distinguished. The European species, *A. Badhami* and *A. meleagris*, change color under similar circumstances, but the latter becomes red and the former saffron-red. They also differ in other respects from our plant. This has been found by Miss Banning near Baltimore, Maryland, with a pileus sometimes seven inches in diameter. She has observed that it sometimes exudes a reddish juice when cut or

wounded. The striations of the margin vary in different plants, being sometimes distinct, sometimes obscure.

I have placed this species in the tribe Annulosi because of its relation to *A. cepæstipes*. It has also a close relation to the Proceri and might with almost equal propriety be placed among them. The annulus both in this and the next species occasionally loosens from the stem and becomes a movable ring.

#### AGARICUS NAUCINOIDES, *Plk.*

##### Smooth Agaric.

Pileus at first subglobose, then convex, fleshy, soft, *smooth*, rarely slightly squamulose or granular-mealy, white or smoky-white, flesh white; lamellæ rather broad, close, free, white, *slowly changing to a dingy pinkish-brown or smoky-brown color* with age or in drying; stem smooth or silky-fibrillose, equal or slightly thickened at the base, hollow, sometimes stuffed with webby filaments, white or smoky-white, annulus thick, persistent, white; spores subelliptical, uninucleate, .0003' — .0004' long, .0002' — .0003' broad.

Plant 2' — 4' high; pileus 1.5' — 3.5' broad; stem 3" — 5" thick.

Grassy grounds in pastures, fields and roadsides. Common. September—November.

This is a beautiful as well as a useful Agaric. It is very regular and symmetrical in shape and generally pure white in color. Its surface is usually very smooth and even, though occasionally a slight mealliness or granular roughness is developed on the disk and still more rarely a few minute scales appear. In a single instance I have seen the surface cracked into rather large thick scales, a result probably of unusually wet weather. The white color sometimes gives place to a dingy smoky-white or ashy hue. The lamellæ are at first white or cream-colored, but when old or dried they become smoky-brown or brownish tinged with pink. The stem is hollow, but, as in many other hollow-stemmed *Lepiotæ*, the cavity often contains webby or cottony filaments, especially when young. The plant occurs late in the season and is most often found in grassy pastures and in lawns, though sometimes it occurs in corn fields and other cultivated grounds. It is liable to be confused with white forms of the common edible mushroom, *A. campestris*, but in that species the lamellæ at first have a beautiful pink or flesh-colored hue which soon changes to a blackish-brown color. It also bears some resemblance to *A. lævis* and to *A. cretaceus*, but the former has flesh-colored and the latter brown spores. It is, however, more nearly related to its white-spored allies,

*A. naucinus*, *A. Schulzeri* and *A. holosericeus*. If we may rely upon the published descriptions of these three species, the first one may be distinguished from our plant by its globose spores and granulated cuticle; the second by its ovate spores, small annulus, umbonate pileus and nauseous taste; the third by its silky-fibrillose pileus and solid stem. Some discrepancies exist in the published descriptions and figures of *A. naucinus*, to which our plant was first referred. See Report 23, p. 72, and Report 29, p. 66. In Berkeley's *Outlines of British Fungology*, page 94, the spores are characterized as "very large," but their shape is not given. In Cooke's *Mycological Illustrations* they are represented as globose, but small; in *Epicrasis*, page 34, they are described as globose, and in *Michelia*, Vol. VII, p. 229, their dimensions indicate a length greater than their breadth. It is probable, therefore, that two or more species have been confused by authors.

As an edible species, the smooth Agaric is not at all inferior to the common mushroom. Indeed, in some respects it is superior to it. It is as large, and its flesh is as thick and white, and no less tender and savory. Its keeping qualities are better, for in the common mushroom the lamellæ soon become blackish and repulsive, while in this one they retain their white color a long time, and do not become so dark-colored when they do change. It is also less liable to be infested by the larvæ of insects, and, growing as it generally does, among short grass, it is more clean and attractive in appearance. If it can be cultivated as easily as the common mushroom, it will make a very desirable and more marketable substitute for that species.

#### GRANULOSI.

*The universal veil of the pileus and stem continuous, when ruptured forming a slight annulus.*

The species of this tribe are mostly rather small, and have the pileus and stem coated with minute warts, granules or branny particles, rather than with ordinary scales. The lamellæ, in some of the species, reach the stem and are slightly attached to it. Such species serve to connect this subgenus with the following one.

#### AGARICUS GRANULOSUS, *Batsch*.

##### Granular Agaric.

Pileus thin, convex or nearly plane, sometimes almost umbonate, rough with numerous granular or branny scales, often radiately wrinkled, rusty-yellow or reddish-yellow, often growing paler with age, flesh white or reddish tinged; lamellæ close, rounded behind and

usually *slightly adnexed*, white; stem equal or slightly thickened at the base, stuffed or hollow, white above the annulus, colored and adorned like the pileus below it, annulus slight, evanescent; spores, elliptical, .00016'—.0002' long, .00012'—.00014' broad.

Plant 1'—2.5' high; pileus 1'—2.5' broad; stem 1"—3" thick.

Woods, copses and waste places. Common. August—October.

This is a small species with a short stem and granular reddish-yellow pileus, and lamellæ slightly attached to the stem, a character by which it differs from all the preceding. The annulus is very small and fugacious, being little more than the abrupt termination to the coating of the stem. The species was formerly made to include several varieties which are now regarded as distinct.

#### AGARICUS AMIANTHINUS, Scop.

##### Amianth Agaric.

Pileus thin, convex, subcampanulate or plane, often umbonate, *coated with numerous granular and furfuraceous scales, ochraceous-yellow*, sometimes radiately wrinkled, crenate-appendiculate on the margin; lamellæ rather broad, close, *adnate*, white or yellowish; stem rather long, slender, equal or slightly thickened at the base, stuffed or hollow, white above, colored like the pileus and floccose-squamulose below the slight evanescent annulus; spores elliptical, .0002'—.00028' long, about .00016' broad.

Plant 1.5'—4' high; pileus 1'—1.5' broad; stem 1"—2" thick.

Damp, mossy ground and much decayed wood. Adirondack mountains. August and September.

This Agaric closely resembles the preceding one, of which it is sometimes regarded as a variety. It may be distinguished by its more ochraceous persistent color, appendiculate margin, elongated stem, and by its lamellæ, which are not rounded behind, but are attached to the stem by their whole breadth. The flesh is also more or less tinged with yellow. It prefers mossy, shaded ground under evergreen trees. The flocculent part of the veil is easily rubbed off and mostly disappears in drying. It is a pretty Agaric.

#### AGARICUS PUSILLOMYCES, Pk.

##### Small Agaric.

Pileus thin, subcampanulate or convex, subumbonate, *minutely granular or furfuraceous, whitish or brownish*; lamellæ broad, close, free, white; stem slender, equal, scarcely annulate, *rough with a granular mealiness*, colored like the pileus; spores elliptical, .00016'—.0002' long, .00012' broad.

Plant scarcely 1' high; pileus 2"—4" broad; stem about .5" thick.

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

This very small Agaric is related by its granular pileus to *A. granulatus*, but its small size and different color at once distinguish it. It is apparently very rare, having been found but once.

AGARICUS CRISTATELLUS, *Pk.*

Little crested Agaric.

Pileus thin, convex, subumbonate, *minutely mealy*, especially on the margin, *white*, the disk slightly tinged with pink; lamellæ close, rounded behind, free, white; stem slender, whitish, hollow; spores subelliptical, .0002' long.

Plant the same size as the last.

Mossy places in woods. Copake. October.

This is distinguished from the last species by its white mealy pileus, narrower lamellæ and smooth stem. The margin is sometimes appendiculate with the minute fragments of the veil. The annulus is obsolete. The white pileus and pinkish tinge of the disk suggest a resemblance in color to *A. cristatus*. The species has been detected but once.

CUTICLE OF THE PILEUS VISCID.

AGARICUS ILLINITUS, *Fr.*

White-smear'd Agaric.

Pileus rather thin, soft, at first ovate, then campanulate or expanded, subumbonate, *smooth, white*, very viscid or glutinous, even or striate on the margin; lamellæ close, free, white; stem equal or slightly tapering upward, stuffed or hollow, viscid, white; spores broadly elliptical, .0002' long, .00016' broad.

Plant 2'—4' high; pileus 1'—2.5' broad; stem 2"—3' thick.

Thin or open woods. Adirondack mountains. July to September.

This is a smooth white species with the stem and pileus clothed with a clear viscid or glutinous veil. The margin of the pileus is often even, but the typical form of the species has it striate. The flesh is soft and white. The species may be distinguished from the viscid white species of *Hygrophorus* by the free, not adnate nor decurrent, lamellæ.

AGARICUS OBLITUS, *Pk.*

Smeared Agaric.

Pileus fleshy, convex or expanded, subumbonate, smooth or obscurely spotted or scaly from the breaking up of the veil, viscid, *alutaceous in-*

*clining to tawny*, the umbo generally darker; lamellæ crowded, free, whitish or yellowish, some of them forked; stem equal or slightly tapering upward, smooth at the top, *floccose* and viscid elsewhere, hollow or containing a cottony pith, annulus obsolete; spores elliptical, .0002'—.00025' long, .00012'—.00016' broad.

Plant 2'—3' high; pileus 2'—3' broad; stem about 3" thick.

Frondose woods. Lowville. September.

This species is about equal in size to the preceding one, and equally viscid. It is distinguished by its colored pileus usually adorned by a few spot-like scales and by the floccose scales or filaments of the stem. It has been found but once.

In the preceding pages, a personal name added to the station of a plant indicates the collector or contributor. When no name is added to the station the plant was collected by the writer. Dates signify the time when the plant was collected, and indicate to some extent the time of its occurrence. In the monograph of the *Lepiotæ* they indicate the time when or during which the species has been observed. A single accent placed above and at the right of a figure should be read "inch" or "inches," according to circumstances; a double accent should be read "line" or "lines." A dash between two numbers is equivalent to the word "to."

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Very respectfully submitted.

CHARLES H. PECK.

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