

STATE OF NEW YORK.

THIRTY-THIRD
ANNUAL REPORT

OF THE

STATE MUSEUM OF NATURAL HISTORY.

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REPORT OF THE BOTANIST.

33 Reg Rep

S. B. WOOLWORTH, LL. D., *Secretary of the Board of Regents of the University:*

SIR— Since the date of my last report, specimens of one hundred and eighty-three species of plants have been mounted and placed in the herbarium of the State Museum of Natural History, none of which were before represented therein. A list of the specimens mounted is marked (1).

Specimens of plants have been collected in the counties of Albany, Dutchess, Oneida, Onondaga, Orange, Saratoga, Schenectady, Suffolk and Rensselaer. These represent one hundred and eighty-eight species, of which one hundred and fifty-one are new to the herbarium. Sixty-eight of these are believed to be new or hitherto undescribed species. A list of the specimens collected is marked (2).

Specimens of nineteen New York species, new to the herbarium and not represented by specimens collected by myself, have been contributed by correspondents. These, added to those collected, make the whole number of added species one hundred and seventy. There are, besides, a considerable number of extra-limital contributions. A list of the contributors and their contributions is marked (3).

Previously unreported species, including new species and their descriptions, are marked (4).

New stations of rare plants, remarks and observations are marked (5).

Among the Agarics, classified by botanists under the sub-generic name *Amanita*, are several species known to be deleterious when used as food. These are sometimes mistaken, by persons not possessing sufficient knowledge or ability to distinguish the species, for those that are harmless and truly edible, and serious accidents are the result. The published descriptions of the species are generally purely technical, and scarcely intelligible to any except botanists. It has, therefore, seemed desirable that a revision of the New York species of this group should be made, and the descriptions written in such a manner as to give special prominence to the principal distinctive characters, so that the species may be easily and readily recognized. The descriptions of all the species hitherto observed in our State have, therefore, been rewritten and supplemented by remarks upon their variations, their peculiar characteristics, and their distinguishing specific features. For the benefit of students of fungi, the synonyms have to some extent been given, and the spore characters of each species have been added. The qualities generally ascribed to the more common species are also noted. Of the others, they are not yet ascertained. The account of these Agarics is marked (6).

(1.)

PLANTS MOUNTED.

New to the Herbarium.

Glaucium luteum.....	Scop.	Russula olivascens.....	Fr.
Alliaria officinale.....	D. C.	R. flavida.....	Frost.
Hypericum adpressum.....	Bart.	Marasmius archyropus.....	Fr.
Aster memorialis.....	Ait.	Boletus punctipes.....	Pk.
Plantago Rugelii.....	Decaisne.	B. rubinellus.....	Pk.
Gentiana puberula.....	Mr.	B. sensibilis.....	Pk.
Potamogeton crispus.....	L.	B. Roxanæ.....	Frost.†
Listera australis.....	Lindl.	Polyporus parvulus.....	Kl.
Chantransia violacea.....	Ktz.	P. simillimus.....	Pk.
Zygnema insigne.....	Mass.	P. circinatus.....	Fr.
Glœtrichia Pisum.....	Thuret	P. cuticularis.....	Bull.
Micromitrium Austinii.....	Sull.	P. chrysoloma.....	Fr.
Agaricus spretus.....	Pk.	P. molluscus.....	Fr.
A. impolitoides.....	Pk.	Trametes Trogii.....	Berk.
A. subhirtus.....	Pk.	Hydnum fuscoâtrum.....	Fr.
A. alboides.....	Pk.	H. cinnabarinum.....	Schw.
A. patuloides.....	Pk.	H. alutaceum.....	Fr.
A. dealbatus.....	Sow.	Grandinia membranacea.....	Pk.
A. odorus.....	Bull	Craterellus Cantharellus.....	Schw.
A. anisarius.....	Pk.	C. clavatus.....	Pers.
A. leptolomus.....	Pk.	Corticium polyporoideum.....	B. & C.
A. cremoraceus.....	Pk.	C. subrepandum.....	B. & Cke.
A. hygrophoroides.....	Pk.	Clavaria fastigiata.....	L.
A. lentinoides.....	Pk.	C. formosa.....	Pers.
A. atratoides.....	Pk.	C. corrugata.....	Karst.
A. luteopallens.....	Pk.	C. flaccida.....	Fr.
A. epichysium.....	Pers.	Pterula divaricata.....	Pk.
A. tomentosolus.....	Pk.	Tremella subcarnosa.....	Pk.
A. umbrosus.....	Pers.	Dacrymyces conglobatus.....	Pk.
A. dystheles.....	Pk.	Melanogaster variegatus.....	Tul.
A. muricatus.....	Fr.	Rhizopogon rubescens.....	Tul.
A. trechisporus.....	Berk.	Cynophallus caninus.....	Fr.
A. nodulosporus.....	Pk.	Phallus Ravenelii.....	B. & C.
A. eutheloides.....	Pk.	Clathrus cancellatus.....	L.
A. infelix.....	Pk.	Geaster Capensis.....	Thum.
A. sapineus.....	Fr.	Enerthenema papillata.....	Pers.
A. carbonarius.....	Fr.	Cribraria vulgaris.....	Schrad.
A. aquatilis.....	Fr.	Acrospermum album.....	Pk.
A. flavidus.....	Scharff.	Sphaeropsis Peckiana.....	Thum.
A. Artemisæ.....	Pass.	S. pulchrispora.....	P. & C.
A. modestus.....	Pk.	S. typhina.....	Pk.
Cortinarius cœrulescens.....	Fr.	S. cornina.....	Pk.
C. crystallinus.....	Fr.	Depazea Juglandina.....	Fr.
C. amarus.....	Pk.	Septoria Albaniensis.....	Thum.
C. opimus.....	Fr.	S. Canadensis.....	Pk.
C. bivelus.....	Fr.	Vermicularia compacta.....	C. & E.
C. furfurellus.....	Pk.	Torula ramosa.....	Pk.
C. armeniacus.....	Fr.	Septosporium velutinum.....	C. & E.
C. iodes.....	B. & C.	Puccinia Scirpi.....	Lk.
Hygrophorus lividoalbus.....	Fr.	Synchytrium Anemones.....	D. C.
Lactarius corrugis.....	Pk.	Protomyces conglomeratus.....	Pk.
Russula nigricans.....	Bull.	Isaria fulvipes.....	Pk.
R. delica.....	Fr.	Tubercularia hirtissima.....	Pk.
R. compacta.....	Frost.	T. subdiaphana.....	Schw.

Periconia albiceps.....	<i>Plk.</i>	Peziza humosoides	<i>Plk.</i>
Helminthosporium obovatum,	<i>Berk.</i>	P. longipila.....	<i>Plk.</i>
Cladosporium compactum....	<i>B. & C.</i>	P. urticina.....	<i>Plk.</i>
Heterosporium Ornithogali...	<i>Kl.</i>	P. aurata.....	<i>Fekl.</i>
Fusicladium dendriticum.....	<i>Wallr.</i>	P. melaleuca.....	<i>Fr.</i>
Cercospora Rosæcola.....	<i>Pass.</i>	P. Typhæ.....	<i>Plk.</i>
C. Apii.....	<i>Fres.</i>	P. Sphærella .	<i>P. & C.</i>
Peronospora Ficariæ.....	<i>Tul.</i>	P. enterochroma.....	<i>Plk.</i>
P. Corydalis.....	<i>De By.</i>	Helotium lutescens... ..	<i>Fr.</i>
P. gangliiformis.....	<i>Berk.</i>	H. fraternum.....	<i>Plk.</i>
Verticillium lateritium.....	<i>Ehr.</i>	H. palustre... ..	<i>Plk.</i>
Polyactis cinerea.....	<i>Berk.</i>	H. vibrisseoides	<i>Plk.</i>
Penicillium bicolor	<i>Fr.</i>	Patellaria pusilla.....	<i>Plk.</i>
Spendylocladium tenellum...	<i>Plk.</i>	Dermatea minuta	<i>Plk.</i>
Oidium destruens.....	<i>Plk.</i>	Bulgaria bicolor.....	<i>Plk.</i>
Ramularia effusa	<i>Plk.</i>	B. deligata.....	<i>Plk.</i>
R. variabilis.....	<i>Fekl.</i>	Exoascus Pruni	<i>Fekl.</i>
R. albomaculata.....	<i>Plk.</i>	Taphrina aurea.....	<i>Tul.</i>
R. angustata.....	<i>Plk.</i>	Hypomyces luteovirens....	<i>Fr.</i>
R. Norvegicæ.....	<i>Plk.</i>	Dothidea reticulata.....	<i>Fr.</i>
R. Fragariæ.....	<i>Plk.</i>	Hypoxyton udum.....	<i>Fr.</i>
R. lineola	<i>Plk.</i>	Diatrype verrucoides	<i>Plk.</i>
R. Plantaginis.....	<i>Plk.</i>	Valsa pulviniceps.....	<i>Plk.</i>
Glomerularia Corni.....	<i>Plk.</i>	V. Sorbi.....	<i>Fr.</i>
Sporotrichum sulfureum....	<i>Grev.</i>	Lophiostoma bicuspidata ...	<i>Cke.</i>
S. virescens.....	<i>Lk.</i>	Sphæria squamulata.....	<i>Schw.</i>
S. alutaceum.....	<i>Schw.</i>	S. subiculata.....	<i>Schw.</i>
S. larvatum.....	<i>Plk.</i>	S. intricata	<i>Plk.</i>
Acremonium flexuosum.....	<i>Plk.</i>	S. scopula.....	<i>C. & P.</i>
Sepedonium cervinum.....	<i>Dittm.</i>	S. albidostoma.....	<i>Plk.</i>
S. brunneum.....	<i>Plk.</i>	S. clavariina.....	<i>Plk.</i>
Morchella angusticeps.....	<i>Plk.</i>	S. subdenudata.....	<i>Plk.</i>
Gyromitra curtipes	<i>Fr.</i>	S. livida	<i>Fr.</i>
Geoglossum irregulare.....	<i>Plk.</i>	S. humilina	<i>Plk.</i>
Peziza euplecta	<i>Cke.</i>	S. infectoria.....	<i>Fekl.</i>
P. melastoma.....	<i>Sow.</i>	Sphærella Peckii	<i>Spegaz.</i>
P. apiculata	<i>Cke.</i>	S. septorioides.....	<i>Plk.</i>
P. tetraonalis.....	<i>Plk.</i>		

(2.)

PLANTS COLLECTED.

Not new to the Herbarium.

Thalictrum dioicum.....	<i>L.</i>	Gerardia tenuifolia.....	<i>Vahl.</i>
Actæa alba	<i>Bigel.</i>	Lycopus Europæus.....	<i>L.</i>
Viola Selkirkii.....	<i>Pursh.</i>	Monarda fistulosa.....	<i>L.</i>
Hypericum mutilum.....	<i>L.</i>	Lophanthus nepetoides.....	<i>Benth.</i>
Linum striatum.....	<i>Walt.</i>	Polygonum Hartwrightii.....	<i>Gr.</i>
Lespedeza reticulata.....	<i>Pers.</i>	Potamogeton natans.....	<i>L.</i>
Ribes hirtellum.....	<i>Mx.</i>	P. hybridus.....	<i>Mx.</i>
Proserpinaca palustris	<i>L.</i>	P. gramineus.....	<i>L.</i>
Dipsacus sylvestris	<i>Mill.</i>	Triglochin palustre.....	<i>L.</i>
Aster ericoides.....	<i>L.</i>	Cyperus dentatus.....	<i>Torr.</i>
A. dumosus.....	<i>L.</i>	Eleocharis olivacea.....	<i>Torr.</i>
A. Tradescanti.....	<i>L.</i>	Carex tentaculata.....	<i>Muhl.</i>
Solidago altissima.....	<i>L.</i>	C. intumescens.....	<i>Rudge.</i>
S. gigantea.....	<i>Ait.</i>	C. polytrichoides.....	<i>Muhl.</i>
Polymnia Canadensis	<i>L.</i>	C. tenera.....	<i>Dew.</i>
Hieracium venosum.....	<i>L.</i>	Spartina alterniflora.....	<i>Loisel.</i>
		Eragrostis capillaris	<i>Nees.</i>
		Panicum proliferum.....	<i>Lam.</i>

Hordeum vulgare.	<i>L.</i>	Sphaeropsis abundans.	<i>Pk.</i>
Equisetum arvense.	<i>L.</i>	S. similacina.	<i>Pk.</i>
Woodsia obtusa.	<i>Torr.</i>	Septoria pastinacina.	<i>Pk.</i>
<i>New to the Herbarium.</i>			
Lechea racemulosa.	<i>Mx.</i>	S. hedeomina.	<i>Pk.</i>
L. tenuifolia.	<i>Mx.</i>	S. Gei.	<i>Desm.</i>
Rudbeckia triloba.	<i>L.</i>	S. Ostryæ.	<i>Pk.</i>
Mentha rotundifolia.	<i>L.</i>	S. lythrina.	<i>Pk.</i>
Salvia Sclarea.	<i>L.</i>	S. increscens.	<i>Pk.</i>
Potamogeton Robbinsii.	<i>Oakes.</i>	S. Ludwigia.	<i>Cke.</i>
Spiranthes simplex.	<i>Gr.</i>	S. Mori.	<i>Lev.</i>
Glyceria obtusa.	<i>Trin.</i>	S. Urticæ.	<i>Desm.</i>
Muhlenbergia sobolifera.	<i>Trin.</i>	S. Cornicola.	<i>Desm.</i>
Cladonia Boryi.	<i>Tuckerm.</i>	S. atropurpurea.	<i>Pk.</i>
Vaucheria velutina.	<i>Ag.</i>	S. Aceris.	<i>B. & Br.</i>
Agaricus solitarius.	<i>Bull.</i>	Cytispora minuta.	<i>Thum.</i>
A. strobiliformis.	<i>Vitt.</i>	Glœosporium Trifolii.	<i>Pk.</i>
A. rhagadiosus.	<i>Fr.</i>	G. Laportea.	<i>Pk.</i>
A. Frostianus.	<i>Pk.</i>	G. Hepaticæ.	<i>Pk.</i>
A. candicans.	<i>Pers.</i>	G. salicinum.	<i>Pk.</i>
A. compressipes.	<i>Pk.</i>	Coryneum pustulatum.	<i>Pk.</i>
A. vilescens.	<i>Pk.</i>	Asterosporium betulinum.	<i>Pk.</i>
A. trullisatus.	<i>Ellis.</i>	Melanconium cerasinum.	<i>Pk.</i>
A. confluentis.	<i>Pers.</i>	Torula uniformis.	<i>Pk.</i>
A. Iris.	<i>Berk.</i>	Synphragmidium effusum.	<i>Pk.</i>
A. bombycinus.	<i>Schæff.</i>	Gymnosporium variabile.	<i>Pk.</i>
A. scabrinellus.	<i>Pk.</i>	Puccinia Ellisiana.	<i>Thum.</i>
A. curvipes.	<i>Fr.</i>	Protomyces fuscus.	<i>Pk.</i>
Cortinarius multiformis.	<i>Fr.</i>	Melampsora Hartigii.	<i>Thum.</i>
C. tophaceus.	<i>Fr.</i>	Rœstelia Ellisii.	<i>Pk.</i>
C. pulchrifolius.	<i>Pk.</i>	Cronartium asclepiadeum.	<i>Fr.</i>
C. rubrocinnereus.	<i>Pk.</i>	Stilbum pruinosipes.	<i>Pk.</i>
C. uliginosus.	<i>Berk.</i>	Periconia parasitica.	<i>Pk.</i>
C. sericipes.	<i>Pk.</i>	Tubercularia Celastri.	<i>Schw.</i>
C. croceoconus.	<i>Fr.</i>	Helminthosporium Pruni.	<i>B. & C.</i>
C. basalis.	<i>Pk.</i>	Macrosporium Meliloti.	<i>Pk.</i>
Russula fragilis.	<i>Fr.</i>	Alternaria Chartarum.	<i>Preuss.</i>
Cantharellus brevipes.	<i>Pk.</i>	Helicosporium cinereum.	<i>Pk.</i>
Panus lævis.	<i>B. & C.</i>	Polyactis Streptothrix.	<i>C. & E.</i>
P. dealbatus.	<i>Berk.</i>	Pyricularia grisea.	<i>Sacc.</i>
Boletus Frostii.	<i>Russell.</i>	Peronospora obducens.	<i>Schrot.</i>
Polyporus hispidioides.	<i>Pk.</i>	Oidium irregulare.	<i>Pk.</i>
P. benzoinus.	<i>Wallr.</i>	Cercospora Nymphæacea.	<i>C. & E.</i>
P. chioneus.	<i>Fr.</i>	C. Smilacis.	<i>Thum.</i>
P. floccosus.	<i>Fr.</i>	C. elongata.	<i>Pk.</i>
Stereum neglectum.	<i>Pk.</i>	C. squalidula.	<i>Pk.</i>
Cyphella caricina.	<i>Pk.</i>	C. Caulophylli.	<i>Pk.</i>
Hymenula hysterioides.	<i>Pk.</i>	C. griseëlla.	<i>Pk.</i>
Clavaria pyxidata.	<i>Pers.</i>	C. zebrina.	<i>Pass.</i>
C. miniata.	<i>Berk.</i>	C. altheina.	<i>Sacc.</i>
Physarum mirabile.	<i>Pk.</i>	C. Sanguinariæ.	<i>Pk.</i>
Cribraria argillacea.	<i>Pers.</i>	Ramularia Armoraciæ.	<i>Fekl.</i>
Phoma Herbarum.	<i>West.</i>	R. Dulcamaræ.	<i>Pk.</i>
P. Phytolacæ.	<i>B. & C.</i>	R. Mitellæ.	<i>Pk.</i>
P. lineolatum.	<i>Desm.</i>	R. Celastri.	<i>Pk.</i>
P. longipes.	<i>B. & C.</i>	Microstromia leucosporum.	<i>Nicssl.</i>
Leptothrium punctiforme.	<i>B. & C.</i>	Fusisporium Solani.	<i>Mart.</i>
L. dryinum.	<i>Sacc.</i>	Helvella palustris.	<i>Pk.</i>
Hendersonia abnormalis.	<i>Pk.</i>	Peziza subvernalis.	<i>Pk.</i>
Sphaeropsis celastrina.	<i>Pk.</i>	P. luteodisca.	<i>Pk.</i>
S. seriatus.	<i>Pk.</i>	P. multipuncta.	<i>Pk.</i>
S. cerasina.	<i>Pk.</i>	P. floriformis.	<i>Pk.</i>
S. phomatella.	<i>Pk.</i>	P. mycogena.	<i>Ellis.</i>
		P. regalis.	<i>C. & E.</i>
		P. sanguinea.	<i>Pers.</i>

Helotium vitigenum.....	<i>De Not.</i>	Diatrype nigrospora.....	<i>Pk.</i>
H. pallescens.....	<i>Fr.</i>	Valsa Carpinii.....	<i>Pers.</i>
H. affinisimum.....	<i>Pk.</i>	Valsa aurea.....	<i>Fekl.</i>
Patellaria Hamamelidis...	<i>Pk.</i>	V. paucispora.....	<i>Pk.</i>
Cenangium Viburni.....	<i>Schw.</i>	V. compta.....	<i>Tul.</i>
Caliciopsis pinea.....	<i>Pk.</i>	V. Prunicola.....	<i>Pk.</i>
Hysterium gramineum.	<i>M. & N.</i>	V. tessera.....	<i>Fr.</i>
Taphrina alnitorqua	<i>Tul.</i>	V. Abietis.....	<i>Fr.</i>
Nectria dematiosa.....	<i>Schw.</i>	V. acrocystis.....	<i>Pk.</i>
Xylaria bulboso.....	<i>B. & Br.</i>	Cucurbitaria longitudinalis.	<i>Pk.</i>
Hypoxyton Blakei.....	<i>B. & C.</i>	Sphærella recutita.....	<i>Fr.</i>
Eutypa subsecta.....	<i>Fr.</i>	S. depressa.....	<i>Pk.</i>
Diatrype quadrata.....	<i>Schw.</i>	S. conigena.....	<i>Pk.</i>
D. strumella.....	<i>Fr.</i>		

(3.)

CONTRIBUTORS AND THEIR CONTRIBUTIONS.

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

Epipactis helleborine v. viridans, *Arm.*

Mrs. M. J. Myers, Syracuse, N. Y.

Scolopendrium vulgare, *Sm.*

Mrs. H. S. Gifford, Syracuse, N. Y.

Botrychium Lunaria, *Sw.*

Miss L. G. Barnett, Cannonsburg, Pa.

Secotium Warnei..... *Pk.* | Geaster limbatus..... *Fr.*

Mrs. L. A. Millington, South Haven, Mich.

Ascomyces deformans, *Berk.*

Prof. D. C. Eaton, New Haven, Ct.

Asplenium Bradleyi, *Eaton.*

Prof. S. A. Forbes, Normal, Ill.

Septoria podophyllina..... *Pk.* | Septoria Lactuceæ..... *Pass.*
S. Trillii..... *Pk.* | Cellulospodium sphaerosporum, *Pk.*

C. Atwood, Moravia, N. Y.

Danthonia compressa, *Aust.*

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

Enonymus Americanus v. obovatus, *T. & G.*

E. H. Crocker, Troy, N. Y.

Trifolium repens, *L.*

F. B. Hine, Silver Cliff, Col.

Bovista subterranea, *Pk.*

C. W. Irish, Iowa City, Iowa.

Mycenastrum spinulosum.... *Pk.* | Bovista subterranea..... *Pk.*

E. Michener, M. D., Toughkenamon, Pa.

Polyporus elongatus..... *Berk.* | Tuber excavatum..... *Vitt.*

Hon. T. M. Peters, Moulton, Ala.

Phallus rubicundus..... *Bosc.* | Hypoxyton Petersii..... *B. & C.*
Cenangium platascum..... *Pk.* | Collema callibotrys..... *Tuckerm.*

E. W. Holway, Decorah, Iowa.

Æcidium Polemonii..... *Pk.* | *Æcidium albescens*..... *Grev.*

W. Barbeck, Philadelphia, Pa.

Enerthenema papillata..... *Pers.* | *Chondrioderma floriforme*... *Bull.*

Prof. W. G. Farlow, Cambridge, Mass.

<i>Uromyces Peckiana</i> <i>Far.</i>		<i>Ascomyces flavus</i> <i>Far.</i>
U. Junci v. <i>Spartinae</i> , <i>Far.</i>		A. deformans v. <i>Po-</i>
<i>Puccinia Epil. v. Proserpin-</i>		tentillæ..... <i>Far.</i>
aceæ..... <i>Far.</i>		

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

<i>Ranunculus Ficaria</i> <i>L.</i>		<i>Pogonia verticillata</i> <i>Nutt.</i>
<i>Rumex maritimus</i> <i>L.</i>		<i>Marsilia quadrifolia</i> <i>L.</i>
<i>Alnus glutinosa</i> <i>Gert.</i>		<i>Cystoclonium purpurascens</i> , <i>Ktz.</i>

W. R. Gerard, New York, N. Y.

<i>Stereum scriblitum</i> <i>B. & Cke.</i>		<i>Tuber dryophilum</i> <i>Tul.</i>
<i>Simblum rubescens</i> <i>Ger.</i>		<i>Sphærella spleniata</i> <i>C. & P.</i>

E. A. Rau, Bethlehem, Pa.

<i>Gymnosporangium specio-</i>		<i>Trichobasis Oxytropi</i> <i>Pk.</i>
sum..... <i>Pk.</i>		<i>Æcidium monoicum</i> <i>Pk.</i>
<i>Puccinia atropuncta</i> <i>P. & C.</i>		<i>Æ. Jamesianum</i> <i>Pk.</i>
<i>Lecythea macrosora</i> <i>Pk.</i>		

Prof. J. Macoun, Belleville, Ont.

<i>Paxillus hirsutus</i> <i>Pk.</i>		<i>Polyporus Macouni</i> <i>Pk.</i>
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C. C. Frost, Brattleborough, Vt.

Lycoperdon Frostii, *Pk.*

A. P. Morgan, Dayton, Ohio.

<i>Polyporus frondosus</i> <i>Fr.</i>		<i>Polyporus graveolens</i> <i>Schw.</i>
P. Morgani... .. <i>Frost.</i>		<i>Stemonitis Morgani</i> <i>Pk.</i>

J. J. Brown, M. D., Sheboygan, Wis.

<i>Agaricus amabilipes</i> <i>Pk.</i>		<i>Lycoperdon caelatum</i> <i>Bull.</i>
<i>Mycenastrum spinulosum</i> .. <i>Pk.</i>		L. cyathiforme... <i>Bosc.</i>

M. E. Jones, Grinnell, Iowa.

<i>Sorosporium atrum</i> <i>Pk.</i>		<i>Tricholasis gaurina</i> <i>Pk.</i>
S. Astragali..... <i>Pk.</i>		<i>Æcidium gaurinum</i> <i>Pk.</i>
<i>Puccinia aberrans</i> <i>Pk.</i>		<i>Æ. Gilie</i> <i>Pk.</i>
P. intermixta... .. <i>Pk.</i>		<i>Æ. intermixtum</i> <i>Pk.</i>
P. Physalidis..... <i>Pk.</i>		<i>Sphærella megastoma</i> <i>Pk.</i>
<i>Uromyces hyalinus</i> <i>Pk.</i>		

Prof. D. S. Martin, New York, N. Y.

Roestelia lacerata, *Tul.*

N. L. Britton, New Dorp, N. Y.

<i>Desmodium viridiflorum</i> ... <i>Beck.</i>		<i>Quercus Phellos</i> <i>L.</i>
<i>Ribes Grossularia</i> <i>L.</i>		<i>Spiranthes simplex</i> <i>Gr.</i>
<i>Disidia teres</i> <i>Wall.</i>		<i>Juncus maritimus</i> <i>Lam.</i>
<i>Artemisa cadavata</i> <i>Mr.</i>		<i>Cyperus cylindricus</i> <i>Britton.</i>
<i>Veronica Buxbaumii</i> <i>Ten.</i>		<i>Scirpus sylvaticus</i> <i>L.</i>
<i>Mentha rotundifolia</i> <i>L.</i>		<i>Carex extensa</i> <i>Good.</i>
<i>Heliotropium Europæum</i> ... <i>L.</i>		<i>Muhlenbergia capillaris</i> ... <i>Kunth.</i>

Hon. G. W. Clinton, Buffalo, N. Y.

Agaricus bombycinus	Schaff.	Melogramma gyrosum	Schw.
Clavaria pyxidata	Pers.	Cystopus cubicus	Lev.
Pestalozzia Guepini	Desm.	Peziza sanguinea	Pers.
Puccinia Ellisiana	Thum.	Cenangium Viburni	Schw.
P. atropuncta	P. & C.	Rhytisma sparsum	P. & C.
Stilbum erythrocephalum	Dittm.	Diatrype quadrata	Schw.

Arthur Hollick, Port Richmond, N. Y.

Ranunculus Ficaria	L.	Eclipta procumbens	Mx.
Portulaca grandiflora	Hook.	Tecoma radicans	Juss.
Fragaria Indica	Ait.	Morus alba	L.
Ribes Grossularia	L.	Tripsacus dactyloides	L.
Diodia teres	Walt.		

J. B. Ellis, Newfield, N. J.

Stereum zonatum	Ell.	Ombrophila aurea	Ell.
Pestalozzia monochaeta	Desm.	O. subaurea	Cke.
Cladosporium fasciculatum	C. & E.	O. violacea	Fr.
Macrosporium atrichum	C. & E.	Stictis pinophila	Ell.
M. inquinans	C. & E.	S. linearis	C. & E.
Trichothecium griseum	Cke.	Dothidea petiginosa	Ell.
Colletotrichum caudatum	Pk.	Diatrype rhuiua	C. & E.
Fusisporium cyathicolum	Ell.	Entypa subtecta	Fr.
Peziza acerina	C. & E.	Valsa delicatula	C. & E.
P. mauribarba	Ell.	V. myinda	C. & E.
P. tenella	C. & E.	V. chlorodisca	C. & E.
P. lethalis	Ell.	Sphaeria anguillida	C. & E.
Patellaria clavata	Ell.	S. subexserta	C. & E.
Phacidium sphæroideum	C. & E.	Venturia ciliata	Ell.

(4.)

PLANTS NOT BEFORE REPORTED.

Ranunculus ficaria, *L.* Flushing, Long Island, *J. Schrenk.* Contributed by *E. S. Miller.* Staten Island, *Arthur Hollick.* Introduced.

Lechea racemulosa, *Mx.* Highland Mills, Orange County. July.

Lechea tenuifolia, *Mx.* Wading River, Long Island. Sept.

Portulaca grandiflora, *Hook.* New Brighton, Staten Island. *Hollick.* July. Escaped from cultivation.

Lespedeza reticulata, *Pers.* Long Island. This and its variety, *angustifolia,* were formerly regarded as varieties of *L. violacea,* and were reported as such, but they are now regarded as a distinct species.

Fragaria Indica, *Ait.* West Brighton, Staten Island. *Hollick.* June-Sept.

Ribes Grossularia, *L.* Princes Bay and New Dorp, Staten Island. *N. L. Britton* and *A. Hollick.* May. Escaped from cultivation.

Diodia teres, *Walt.* Rossville and Tottenville, Staten Island. *Britton* and *Hollick.* Aug.

Eclipta procumbens, *Mx.* Streets of New Brighton. *Hollick.* July.

Rudbeckia triloba, *L.* Fishkill, Dutchess county. Sept.

Tecoma radicans, *Juss.* Princes Bay. *Hollick.* June.

Veronica Buxbaumii, *Ten.* New Dorp. *Britton.* June. Introduced.

Mentha rotundifolia, *L.* Richmond, Staten Island. *Britton*. Jamesville, Onondaga county. Aug. and Sept. Introduced.

Salvia sclarea, *L.* Jamesville. Aug. Introduced.

Heliotropium Europæum, *L.* New York city, along Eighth avenue and Harlem railroad. *Britton*. Oct. Introduced.

Rumex maritimus, *L.* Montauk Point. *Miller*.

Alnus glutinosa, *Gert.* College Point, Long Island. *Schrenk*. Contributed by *E. S. Miller*. Introduced.

Epipactis helleborine var. *viridans*, *Irm.* Woods, near Syracuse. *Mrs. S. M. Rust*. July. This is a very interesting and important addition to our flora. It is at present the only known representative of the genus in the eastern part of the country as *E. gigantea* is in the western part. It is remarkable that it should be limited to a single locality, but that locality had already been rendered famous by its possession of two ferns, *Botrychium Lunaria* and *Scolopendrium vulgare*, that, so far as our State is concerned, scarcely pass beyond its limits. *Mrs. M. P. Church*, a member of the Syracuse Botanical Club, has the credit of making this discovery, which has been favorably noticed by Prof. Gray and Prof. Hooker, and has already been published in the botanical journals.

Spiranthes simplex, *Gray*. Wading river, where it had previously been detected by *Mr. Miller*. Also Tottenville. *Britton*. Aug. and Sept. It is not probable that this species occurs much to the north of New York city.

Glyceria obtusa, *Trin.* Riverhead, Long Island. Sept.

Tripsacum dactyloides, *L.* Long Bridge, Staten Island. *Hollick*. Aug.

Asplenium Bradleyi, *Eaton*. Near Newburgh. *D. C. Eaton*. Sept. This fern was discovered and the specimens collected, in the locality mentioned, by *Prof. Eaton*, in the year 1864. In September last I visited the locality and searched carefully for the plant, but without success. The top of the rocky hill on which the fern had occurred had recently been cleared and it is possible that its station has already been destroyed.

Cladonia Boreri, *Tuckerm.* (*Cladonia lucunoso* Delise.) Wading River. Sept.

Vaucheria velutina, *Ag.* Wet springy places. Albany. June. The specimens are not fertile and are, therefore, to some extent, doubtful.

Agaricus solitarius, *Bull.* Thin woods and open places, Wading River. Sept. A form with the bulb and lower part of the stem merely floccose-squamulose, or clothed with white mealy particles.

Agaricus strobiliformis, *Vitt.* Open bushy places, Catskill mountains. Oct.

Agaricus Frostianus, *Pl.* Woods and bushy places, Sandlake and Adirondack mountains.

Agaricus rhagadiosus, *Fr.* Woods. Wading River. Sept.

Agaricus candicans, *Pers.* Among fallen leaves in woods. Center. Oct.

Agaricus (*Clitocybe*) *compressipes*, *n. sp.* Pileus thin, convex or expanded, umbilicate, glabrous, hygrophanous, brownish when moist, whitish or pale-alutaceous when dry, margin thin; lamellæ close,

subarcuate or horizontal, adnate or subdecurrent, whitish; stem firm, hollow, generally compressed, slightly pruinose; spores elliptical, .0002 in. to .00025 in. long, .00016 in. to .00018 in. broad; flesh white when dry, odor slight, farinaceous. Plant gregarious, 1 in. to 1.5 in. high, pileus 6 lines to 16 lines broad, stem 1 line to 2 lines thick. Grassy places. Albany. July. The moist pileus is sometimes obscurely zonate. The odor is not always perceptible unless the pileus is moist or broken. The stem is sometimes compressed at the top only, sometimes at the base only, and rarely it is wholly terete. The species belongs to the section Orbiformes.

Agaricus (Clitocybe) vilescens, n. sp. Pileus convex, then plane or depressed, often irregular, glabrous, slightly pruinose on the involute margin, brown or grayish-brown, becoming paler with age, often concentrically rivulose; lamellæ close, adnate or decurrent, cinereous, sometimes tinged with dingy yellow; stem short, solid, sometimes compressed, grayish-brown, with a whitish tomentum at the base; spores subglobose or broadly elliptical, .0002 in. to .00025 in. long; flesh whitish-gray, odor slight. Plant gregarious, 1 in. to 2 in. high, pileus 1 in. to 1.5 in. broad, stem 1 line to 2 lines thick. Grassy pastures. Jamesville. Aug.

Agaricus trullisatus, Ellis. Sandy soil. Long Island. Sept. This resembles the larger forms of *A. laccatus*, but it has a stouter habit, the pileus is more squamulose, the stem is bulbous or thickened at the base, the mycelium is violet-colored and the spores are oblong.

Agaricus confluens, Pers. Woods. Verona and Jamesville. Aug.

Agaricus iris, Berk. Decaying trunks of trees. Jamesville. Aug. Our specimens have the edge of the lamellæ minutely floccose and the base of the stem covered with a blue mycelium. The species seems too near *A. marginellus*.

Agaricus bombycinus, Schæff. Trunks of maple trees. Buffalo. Clinton. Kasoag and Catskill mountains. July and Aug.

Agaricus (Entoloma) scabrinellus, n. sp. Pileus thin, convex or nearly plane, papillate, minutely scabrous, dark-brown, the thin margin extending slightly beyond the lamellæ; lamellæ broad, ventricose, rounded behind and slightly attached, floccose on the edge, dingy-white, then flesh-colored; stem equal, fibrillose, slightly pruinose at the apex, paler than the pileus; spores irregular, uninucleate, .0003 in. to .0004 in. long, .0002 in. to .0003 in. broad. Plant about 1 in. high, pileus 6 lines to 10 lines broad, stem 1 line thick. Shaded, gravelly soil by roadsides. Wading River. Sept. The plants are very regular in shape, the pileus usually has a small, papilla-like umbo and is somewhat shining. Its roughness is scarcely visible to the naked eye.

Agaricus curvipes, Fr. Dead trunks of young trees. Verona. Aug. Our specimens have the lamellæ floccose-crenate on the edge.

Cortinarius multiformis, Fr. Woods. Jamesville. Aug. The specimens were collected in dry weather and the pileus was not perceptibly viscid except in very young plants. The bulbous base of the stem is not always distinctly marginate.

Cortinarius tophaceus, Fr. Woods. Jamesville. Aug. The spores in this species are subglobose, rough, uninucleate, .00025 in. to .0003 in. long, .00025 in. broad.

Cortinarius (Inoloma) pulchrifolius, n. sp. Pileus convex or expanded, obtuse, silky-fibrillose, whitish or reddish-gray, the margin often whitened by the veil; lamellæ broad, subdistant, emarginate, bright purple or violet-purple; stem cylindrical, solid, bulbous, silky-fibrillose, white, often tinged with violet, violaceous within; spores subelliptical, rough, .0004 in. to .0005 in. long, about .0003 in. broad. Plant 2 in. to 4 in. high, pileus 2 in. to 4 in. broad, stem 3 lines to 5 lines thick. Oak woods. Wading River. Sept. This species is easily known by its pale pileus and bright-colored lamellæ. From the hue of these the plant might, at first sight, be taken for *Agaricus ochropurpureus*, but when mature the lamellæ assume the characteristic cinnamon color of species of *Cortinarius*, though it is somewhat darker than usual.

Cortinarius (Inoloma) rubrocinerus, n. sp. Pileus convex, then expanded, silky-fibrillose, reddish-cinereus; lamellæ subdistant, rounded behind, emarginate, dingy-violaceous, soon becoming pale-cinnamon; stem short, solid, bulbous, silky-fibrillose, whitish tinged with violet; spores subelliptical, .0004 in. to .0005 in. long, about .0003 in. broad; veil whitish-cinereus, flesh when young violaceous. Plant gregarious, about 2 in. high, pileus 2 in. to 3 in. broad, stem 4 lines to 6 lines thick. Sandy soil in open places. Riverhead. Sept. This species is closely related to the preceding, from which it is separated by its darker colored pileus and differently colored lamellæ.

Cortinarius uliginosus, Berk. In sphagnons bogs. Center. Sept. The fingers become stained in handling fresh specimens of this plant. Paper in which they are wrapped is also stained by them. The spores are elliptical-cymbiform, .0004 in. long, .00025 in. broad. The pileus is sometimes obtusely, sometimes acutely, umbonate, and sometimes without any umbo.

Cortinarius croceoconus, Fr. Woods. Gansevoort. Aug.

Cortinarius (Dermocybe) sericipes, n. sp. Pileus thin, conical or subcampanulate, sometimes expanded and umbonate, glabrous, chestnut-color, the umbo often darker; lamellæ broad, close, ascending or ventricose, narrowed behind, whitish, then tawny or tawny-cinnamon, white on the edge; stem equal, hollow, silky-fibrillose, shining, white, slightly mealy at the top; spores large, unequally elliptical, pointed at each end, granular within, .00065 in. long, .00045 in. broad. Plant gregarious or subæspitose, 1 in. to 3 in. high, pileus 6 lines to 12 lines broad, stem 1 line to 2 lines thick. Damp ground in thin woods. Center. Oct.

Cortinarius (Dermocybe) basalis, n. sp. Pileus thin, convex or expanded, hairy, tawny; lamellæ loose, subventricose, pale tawny when young, cinnamon color when old; stem short, equal, hollow, fibrillose, pallid or pale-tawny, usually with a webby annulus near the base; spores subelliptical, .0003 in. long, .00018 in. broad; flesh pallid, odor none. Plant subæspitose, about 1 in. high, pileus 5 lines to 10 lines broad, stem 1 line thick. Naked soil in wood. Wading River. Sept. The noticeable feature in this species is the slight annulus which is placed below the middle of the stem. The hairy pileus and the lamellæ are nearly alike in color.

Russula fragilis, Fr. Woods. Center. Oct.

Cantharellus brevipes, *n. sp.* (Plate 1. figs. 18-20.) Pileus fleshy, obconic, glabrous, alutaceous or dingy cream-color, the thin margin erect, often irregular and lobed, tinged with lilac in the young plant; folds numerous, nearly straight on the margin, abundantly anastomosing below, pale umber tinged with lilac; stem short, tomentose-pubescent, cinereus, solid, often tapering downward; spores yellowish, oblong-elliptical, uninucleate, .0004 in. to .0005 in. long, .0002 in. broad. Plant 3 in. to 4 in. high, pileus 2 in. to 3 in. broad, stem 4 lines to 6 lines thick. Woods. Ballston, Saratoga county. July. This interesting species is related to the *C. floccosus*, both by its short stem and its abundantly anastomosing folds. The two species should be separated from the others and constitute a distinct section. The flesh in *C. brevipes* is soft and whitish and the folds are generally thinner than in *C. floccosus*.

Panus lævis, *B. & C.* Oak stumps. Wading River. Sept. The margin of the pileus is sometimes marked by small, oblique elevations or ridges which unite inwardly and thus form, with the edge of the pileus, small triangular spaces. Sometimes the two elevated lines which form the sides of a triangle divide near the margin and thus form two very small additional triangles. The pure white color and regular, even pileus make this a very pretty species. The color, however, becomes slightly tinged with yellow in drying.

Panus dealbatus, *Berk.* Decaying wood of deciduous trees. Verona Aug.

Boletus Frostii, *Russell.* Thin woods. Wading River and Riverhead. Sept. The spores in our specimens are longer than required by the description, but in other respects the specimens agree with the published characters of the species.

Polyporus (Anodermei) hispidoides, *n. sp.* Pileus 4 in. to 8 in. broad, about half an inch thick, sessile, rarely narrowed behind or below into a short, stem-like base, soft, spongy, fleshy-fibrous, tomentose, not at all or very obscurely zonate, ferruginous-brown, becoming darker with age, yellow on the margin when young; pores small, irregular, subrotund, angular or flexuous, greenish-yellow, becoming brown when bruised or old. the thin dissepiments externally villous; spores subglobose or broadly elliptical, about .0002 in. long. Base of spruce or pine trees. Albany, Burnt hills and Adirondack mountains. July and Aug. This fungus is closely related to *P. hispidus*, and may yet prove to be a mere variety of it. That species is described as compact, and having minute rotund pores. It is also said to grow on the trunks of frondose trees, and to have a thick pileus, none of which characters are applicable to our plant. It occurs only, so far as I have seen, on trunks of spruce and pine, its pileus is rarely more than half an inch thick, its substance is soft, even when dry, and the pores are angular. The thin dissepiments become more or less lacerated when old, and often retain a yellowish color when dried. The pileus is very similar in color to *Lensites sepiaria*.

Polyporus benzoinus, *Wallr.* Decaying stumps and trunks of hemlock trees. Brewerton and Helderberg mountains. Sept. This closely resembles *P. resinus* which occurs on trunks of frondose trees.

Polyporus chioneus, *Fr.* Decaying wood of frondose trees. Verona. Aug.

Polyporus floccosus, *Fr.* Decaying wood. Verona. Aug.

Stereum neglectum, *n. sp.* Pileus effuso-reflexed, thin, coriaceous, often laterally confluent, strigose-hairy, concentrically sulcate, grayish or yellowish-gray; hymenium pallid, becoming purplish, minutely setulose. the setæ short, colorless, rough, stout, .002 in. to .003 in. long; spores subelliptical, .0005 in. long, .0003 in. broad. Dead trunks and branches of elm trees. Verona. Aug. This fungus has the general appearance of such species as *S. purpureum*, *S. vorticosum* and *S. hirsutum*. from all of which it may be distinguished by its peculiar hymenium which, to the naked eye, has a pruinose appearance by reason of the presence of the minute colorless setæ. A genus *Peniophora* has been proposed for such species, and if accepted our plant will belong to it. The hymenium is sometimes rendered uneven by the confluence of several individuals.

Cyphella caricina, *n. sp.* Cups .5 line to .1 line broad, membranaceous, sessile, white, externally minutely webby-hairy; hymenium smooth, in large specimens uneven; spores lanceolate or subclavate, colorless, .0004 in. to .0005 in. long, about .00016 in. broad. Culms and leaves of carices. Verona. Aug.

Clavaria miniata, *Berk.* Damp ground. Burnt hills, Saratoga county. July.

Clavaria pyxidata, *Pers.* Oneida. *H. A. Warne.* Buffalo. *Clinton.* Savannah. Aug.

Hymenula hysterioides, *n. sp.* Minute, oblong or elliptical, plane or slightly convex, amber color, when dry contracted, hysteriiform, blackish; spores numerous, oblong, hyaline, .0003 in. to .00035 in. long. Wood of red osier, *Cornus stolonifera*. Center. May. When dry it looks like some minute *Hysterium*, but when moist it expands and reveals the pallid or amber-colored hymenium.

Simblum rubescens. *Ger. in litt.* Astoria, Long Island. Sept. *W. R. Gerard.* This is the only representative of the genus yet found in this country. It differs from all the other species in its pinkish-red color. One specimen was found in which the pileus was supported by two distinct stems arising from one volva.

Physarum mirabile, *n. sp.* Sporangium hemispherical or depressed, nearly plane above, pervious, minutely rough or squamulose, yellow or tawny, rupturing irregularly, the basal part adherent to the top of the stem; capillitium composed of slender pale or yellowish filaments and yellow, knot-like thickenings of two kinds, one minute and subglobose, the other elongated, pointed or spine-like, conspicuous and persistently attached to the inner wall of the sporangium; stem equal or slightly tapering upward, reddish-brown, penetrating quite through the sporangium and forming a hollow, persistent, yellow columella open at the top; spores globose, smooth, blackish-brown, .0003 in. in diameter.

Decaying wood and bark. Verona. Aug. This species is remarkable for the peculiar spine-like thickenings of the capillitium and for the singular elongated hollow columella. In a vertical section of the unruptured sporangium the former may be seen extending from the walls of the sporangium to the columella. The latter is yellow or

subochraceous, about as thick as the stem and often a little widened at the top. Being hollow it causes the unruptured sporangium to appear deeply umbilicate or pervious. The filaments of the capillitium often adhere for a time to the base of the columella as a pale-yellowish flocculent mass. The exterior surface of the sporangium is scaly, but the number and size of the scales vary considerably in different specimens. This singular species may hereafter be deemed worthy of generic distinction, but for the present it is thought best to refer it to the genus *Physarum*.

Cribraria argillacea, *Pers.* Much decayed wood. Helderberg mountains. July.

Phoma herbarum, *West.* Dead stems of white daisy, *Leucanthemum vulgare*. Jamesville.

Phoma Phytolacca, *B. & C.* Dead stems of poke weed, *Phytolacca decandra*. Verona. Aug. The perithecia are sometimes covered by the whitened epidermis, sometimes exposed. They occur on both the exterior and the interior surface of the hollow stems. They are depressed, orbicular, elliptical or oblong, and are furnished with an ostiolum which pierces the covering epidermis. Sometimes two or more are confluent in a linear manner. The spores are about .0005 in. long and contain from four to six nuclei.

Phoma lineolatum, *Desm.* Cones of Norway spruce. Albany. May.

Phoma longipes, *B. & C.* † Dead grape vines. North Greenbush. May.

Phoma hysteriellum, *P. & C.*, *n. sp.* Perithecia immersed, slightly prominent, mostly hysteriiform, covered by the epidermis, black, with a minute papilliform ostiolum; spores elliptical or subfusiform, colorless, binucleate, .0003 in. long. Dead stems of herbs. Buffalo. Nov. *G. W. Clinton.*

Leptothyrium punctiforme, *B. & C.* Perithecia minute, .0025 in. to .0042 in. broad, subhemispherical, black, shining, opening by a sub-circular or irregular aperture, pale within; spores subfusiform, curved, colorless, .0005 in. to .0008 in. long.

Living leaves of daisy fleabane *Erigeron annuum*. Quaker Street. June. The perithecia are so minute that they are but just visible to the naked eye. The fungus attacks the lower or basal leaves, which soon become yellowish in color and wither.

Leptothyrium dryinum, *Sacc.* Living leaves of white oak. Wading River. Sept.

Hendersonia abnormalis, *n. sp.* Perithecia numerous, small, subconical, surrounding the stem on all sides, seated on smoky-brown spots, raising small pustules in the bark, at length rupturing the epidermis and opening by a small round aperture; spores elliptical or oblong, colored, .0006 in. to .0011 in. long, about .0004 in. broad, three to six-septate, the cells divided by longitudinal septa.

Dead stems of bitter-sweet, *Celastrus scandens*. Charlton. July. This fungus occurred in company with *Sphaeropsis Celastris*, from which it is easily distinguished by the brown discolored spots it occupies. Colored filaments sometimes surround the perithecia. The ostiola are usually whitened.

Hendersonia Coluteæ, *P. & C.*, *n. sp.* Perithecia prominent, erumpent, hemispherical or subconical, firm, cellular, ostiola black, papilli-

form: spores oblong, obtuse, colored, three to five-septate, sometimes with one or two longitudinal septa, .0008 in. to .001 in. long.

Dead twigs of *Colutea arborescens*. Buffalo. Clinton.

Sphæroopsis brunneola, P. & C. Dead stems of *Smilax hispida*. Buffalo. Clinton. The specimens do not fully accord with the description of the species, but probably belong to it.

Sphæroopsis phomatella, n. sp. Perithecia numerous, minute, seated on indefinite whitish or pallid spots, covered by the epidermis which is at length ruptured, black; spores oblong, at first hyaline, then colored, .0008 in. to .0012 in. long; sporophores short.

Dead shoots of ash, *Fraxinus Americana*. West Troy. May. The perithecia are very small and at first sight suggest the idea of a *Phoma*.

Sphæroopsis abundans, n. sp. Perithecia numerous, erumpent, closely surrounded by the ruptured epidermis, black; spores very unequal, elliptical or oblong, at first hyaline and pedicellate, then colored, obtuse, .00065 in. to .0009 in. long, about .0005 in. broad. Dead twigs and branches of rock chestnut oak. Albany and North Greenbush. May. The twigs are roughened by the numerous perithecia and they sometimes have a darker appearance where they are affected by the *Sphæroopsis*. The epidermis is ruptured very irregularly. *Sphæroopsis dryina* differs in its smaller colorless spores, and *S. linearis*, in its linear arrangement. This last species occurs also on young dead shoots of hickory, *Carya alba*.

Sphæroopsis cerasina, n. sp. Perithecia numerous, small, seated on the inner bark, covered by the slightly elevated epidermis which is at length pierced or slightly ruptured, black, often cinereous above; spores at first hyaline, then colored, elliptical-ovate or oblong, .0008 in. to .001 in. long; sporophores short. Dead branches of choke cherry, *Prunus Virginiana*. West Albany. May.

Sphæroopsis seriatus, n. sp. Perithecia hard, crowded or subcæspitose, arranged in long lines in the chinks of the rough bark, black; spores at first pale, then colored, elliptical-ovate or oblong, .0008 in. to .001 in. long. Dead bark of sassafras, *Sassafras officinale*. Center. May. The hard sclerotoid perithecia and the linear arrangement of the clusters make this a very distinct species.

Sphæroopsis celastrina, n. sp. Perithecia numerous, small, seated on the inner bark, covered by the epidermis which is slightly elevated and at length pierced or slightly ruptured; spores oblong or oblong-ovate, colored, .0008 in. to .001 in. long. Dead stems of bitter-sweet, *Celastrus scandens*. Charlton. July. This is quite unlike *S. propullans* in which the perithecia are much larger and cæspitose. The epidermis is usually whitish or cinereous over each perithecium and it ruptures slightly, forming a small aperture.

Sphæroopsis milacina, n. sp. Spots orbicular, 2 lines to 3 lines broad, arid, whitish with a dark border; perithecia epiphyllous, subhemispherical or depressed, black, often disposed in a circle near the margin of the spot; spores oblong or subfusiform, colorless, .0008 in. to .0012 in. long, about .0003 in. broad. Living leaves of greenbrier, *Smilax rotundifolia*. Wading River. Sept.

Septoria pastinacina, n. sp. Spots extended, indefinite, brown; perithecia minute, .005 in. to .006 in. broad, numerous, surrounding the stem on all sides, covered by the epidermis which is pierced by the

ostiolum, black; spores filiform, curved or flexuous, .0008 in. to .0012 in. long. Dead stems of parsnip, *Pastinaca sativa*. Albany. May. It is related to such species as *S. Brunandiana*, *S. nebula*, etc.

Septoria hedeomina, *n. sp.* Spots none; perithecia scattered, minute, .003 in. to .004 in. broad, inconspicuous, black; spores filiform, strongly curved, hyaline, .0012 in. to .0015 in. long. Dead stems and calyces of pennyroyal, *Hedeoma pulegioides*. Sandlake. May.

Septoria Gei, *R. & D.* Living leaves of *Geum Virginianum*. Guilderland. July.

Septoria Ostryæ, *n. sp.* Spots small, suborbicular, reddish-brown; perithecia few, generally clustered in the center of the spot, brown or blackish-brown; spores linear, strongly curved, obscurely three or four-septate, colorless, .0016 in. to .0024 in. long. Living leaves of hop hornbeam, *Ostrya Virginica*. Helderberg mountains. July.

Septoria lythrina, *n. sp.* Spots suborbicular or irregular, grayish-brown, often surrounded by a narrow blackish border; perithecia minute, epiphyllous, rarely amphigenous, blackish; spores filiform, slightly curved, .0008 in. to .0016 in. long. Living leaves of spiked loosestrife, *Lythrum Salicaria*. Newburgh. July.

Septoria increscens, *n. sp.* Spots at first small, then larger, brown with an arid center; perithecia minute, black; spores filiform, curved or flexuous, .0012 in. to .0016 in. long. Living leaves of star flower, *Trientalis Americana*. Charlton. July. After the leaves are attacked by this fungus they turn yellow in patches and then brown. These discolored places increase in size till the whole leaf is dead.

Septoria atropurpurea, *n. sp.* Spots suborbicular, sometimes confluent, purplish-brown above, often centrally mottled by small whitish arid spots, paler below, purplish, with a brown or an ochraceous-brown center; perithecia few, tendrils white; spores filiform, straight or flexuous, .002 in. to .003 in. long. Living leaves of the large-leaved aster, *Aster macrophyllus*. Jamesville. Aug. The perithecia occur both on the arid central dots and on the colored parts of the spots. The peculiar character of the spots and the very long spores make this a very distinct species.

Septoria Aceris, *B. & Br.* Living leaves of sugar maple, *Acer saccharinum*. Sandlake. Aug. In our specimens the spots are very small, almost dot-like, arid, with a reddish-brown border and one to four perithecia. The spores are three-septate and strongly curved, but this difference is probably only varietal.

Septoria Ludwigæ, *Cke.* Living leaves of water purslane, *Ludwigia palustris*. Charlton. July. In our specimens the spots have a purplish border and the spores are without nucleoli. Dr. Curtis long ago distributed specimens of this species under the name *Septoria Ludwigæ* B. & C., but so far as I know the characters of the species were never published.

Septoria Mori, *Lev.* Living leaves of white mulberry, *Morus alba*. Charlton. July.

Septoria Urticæ, *Desm.* Living leaves of wood nettle, *Laportea Canadensis*. Charlton. July.

Septoria Cornicola, *Desm.* Living leaves of red osier and alternate-leaved dogwood, *Cornus stolonifera* and *C. alternifolia*. Jamesville and Center. Aug. and Oct.

Cytispora minuta, *Thum.* Dead branches of ash, *Fraxinus Americana*. West Troy. May.

Glœosporium Trifolii, *n. sp.* Spots suborbicular often concentrically zoned, brown; spores oblong or cylindrical, obtuse, simple, colorless, .0006 in. to .0009 in. long, .00016 in. to .00025 in. broad. Living leaves of red clover, *Trifolium pratense*. Albany. July.

Glœosporium sulcinum, *n. sp.* Spots large, irregular, indefinite, arid, pale; spores elongated, subfusiform, curved or flexuous, obscurely triseptate, each cell usually containing two nuclei, colorless, .0016 in. to .002 in. long. Living leaves of willow, *Salix sericea*. Sandlake. Aug. Usually one end of the spore is more acute than the other.

Glœosporium Hepaticæ, *n. sp.* Spots large, irregular, often discoloring the whole leaf, blackish-brown; pustules minute, scattered, epiphyllous, the thick tendrils pinkish when dry; spores oblong or cylindrical, colorless, obtuse at each end, straight or slightly curved, .0006 in. to .001 in. long, .00025 in. to .0003 in. broad, usually with two to four nuclei. Living leaves of liverwort, *Hepatica acutiloba*. Helderberg mountains. July. This species appears to be very destructive to the leaves it attacks. The discoloration apparently spreads rapidly and finally involves the whole leaf.

Glœosporium Laportæ, *n. sp.* Spots orbicular, yellowish-green with a dark-margined arid center; spores simple, globose or elliptical, colorless, .00016 in. to .00025 in. long, uninucleate or binucleate, forming a pallid globule on the upper surface of the spot. Living leaves of wood nettle, *Laportea Canadensis*. Charlton. July.

Coryneum pustulatum, *n. sp.* (Plate 1, figs. 1-3.) Pustuliform, seated on the inner bark, covered by the elevated epidermis which is at length pierced or slightly ruptured; spores long, subclavate or subfusiform, colored, five to seven septate, often strongly curved, .0025 in. to .003 in. long, about .0005 in. broad; sporophores short. Dead branches of oak or chestnut. Sandlake. May. The spores sometimes ooze out and stain the matrix black. This and its pustulate form give the fungus the appearance of a *Stilbospora*, though the structure indicates that it is a *Coryneum*.

Pestalozzia Guepini *Desm.* Living leaves of Camellia in conservatories. Buffalo. *Clinton*.

Asterosporium betulinum, *n. sp.* (Plate 1, figs. 4-5.) Pustulate, erumpent, with a black orbicular disk, the stroma filamentous; spores three or four-radiate, slightly colored, the rays oblong-ovate or elongate-conical, subacuminate, three to five-septate, .0008 in. to .0015 in. long, .00035 in. to .00048 in. broad in the widest parts, slightly narrowed at the base, the cells often uninucleate, the terminal one paler. Dead branches of birch, *Betula lutea*. Quaker Street. June. Externally this closely resembles *A. Hoffmanni*, but in European specimens of that species the rays are triangular-ovate and widest at the base where they are .00065 in. broad. In our plant they are paler, narrower, more elongated and abruptly narrowed at the base. I have been unable to detect a perithecium else I should refer our plant to *Prosthemium betulinum* *Kze.*

Melanconium cerasinum, *n. sp.* Stroma distinct, thin, white; spores very unequal, globose, ovate, elliptical or oblong, .00065 in. to .001

in. long, generally containing a single large nucleus. Dead bark of choke cherry, *Prunus Virginiana*. Center. June. This species is closely related to *M. intermedium*, from which it is distinguished by its paler, smaller spores and especially by its distinct white stroma. In *M. intermedium* the stroma is obsolete or merely cortical. It also approaches *M. effusum* Cd.

Torula uniformis, *n. sp.* (Plate 1, figs. 11-13.) Flocci cæspitose, erect, parallel or slightly diverging, nearly straight and uniform in diameter, .0012 in. to .003 in. long, black or blackish-brown, the articulations subquadrate, uninucleate, not easily separating, about .00016 in. broad and long. Dead bark of maple. Quaker Street. June. The flocci are slightly united at their bases, and when pressed under the cover of the microscope slide they separate into groups of two to six or more, and look then very much like a species of *Speira* or *Synphragmidium*. The species differs from *T. splendens* in its more slender flocci, which also are not narrowed above.

Synphragmidium effusum, *n. sp.* (Plate 1, figs. 6-10.) Effused, forming a dense velvety black stratum; strings of spores moniliform, colored, sometimes paler at the tips, united at their bases into groups of three or more, either with or without a short common pedicel, at first laterally adherent throughout their length, .0016 in. to .003 in. long, .0002 in. to .0003 in. broad, the groups .0005 in. to .0011 in. broad, the cells about as long as broad. Decaying maple wood. Verona. Aug.

I have not been able to detect any membrane investing the groups of spore threads, but its absence may be due to the age of the specimens. In every other respect the characters of the genus are present. The species is readily distinguished from *S. Kummeri* by its effused character. The preceding species, *Torula uniformis*, strongly resembles this in its spore threads, which are united at the base, but I find no common pedicel to the groups. It forms a beautiful connecting link between *Torula* and *Synphragmidium*.

Gymnosporium variabile, *n. sp.* Flocci sparse, branched, paler than the spores; spores abundant, variable, globose, elliptical, oblong or fusiform, purplish-brown, .0005 in. to .0012 in. long, .0005 in. to .00055 in. broad, forming effused pulverulent patches. Under surface of decaying wood lying on the ground. Albany. May. The species is related to *G. fulvum* from which it differs in its darker, purplish-brown color and in its smoother and more variable spores.

Puccinia Ellisiana Thum. Living and languishing leaves of *Andropogon scoparius* and *A. furcatus*. Buffalo. Clinton. Center. Sept. and Oct. This is apparently *Puccinia Andropogi* Schw., but that name is badly formed, nor can it be corrected without interfering with *Puccinia Andropogonis* Fekl. I have therefore adopted the later name.

Protomyces fuscus, *n. sp.* Spots irregular, determinate, blackish-brown or grayish-brown, often marginal; spores immersed in the tissues of the leaf, globose, colored, .0016 in. to .0024 in. in diameter, with a thick epispore. Living leaves of liverwort, *Hepatica acutiloba* Helderberg mountains. July. This species differs from *P. macrosporus* in the darker color of the spores and in its darker definite spots.

A species of *Vermicularia* often occurs on the spots formed by the *Protomyces*.

Melampsora Hartigii, Thum. Living leaves of willows, *Salix cordata* and *S. nigra*. Albany and Helderberg mountains. July to Oct.

Æcidium cimicifugatum Schw. Living leaves of black snakeroot, *Cimicifuga racemosa*. Buffalo. Clinton. July.

Røestelia Ellisii Pk. Living leaves of shad bush, *Amelanchier Canadensis*. Riverhead. Sept.

Cronartium asclepiadeum Fr. Living leaves of sweet fern, *Comptonia asplenifolia*. Long Island. Sept.

Stilbum pruinosisipes, n. sp. Stem slender, equal or slightly tapering upward, scarcely one line high, blackish, pruinose; head small, subglobose, chestnut colored or blackish; spores very minute, elliptical. Dead stems of raspberry, *Rubus strigosus*. Center. Oct.

Stilbum erythrocephalum Dittm. Cow-dung. Buffalo. Clinton.

Periconia parasitica, n. sp. Stem slender, smooth, equal, subpellucid, white; head subglobose or lenticular, white; spores obovate elliptical or oblong, .0003 in. to .0005 in. long, about .0002 in. broad. Dead branches of water beech, *Carpinus Americana*, and parasitic on *Cheirospora botryospora*. Charlton. July.

This resembles *Stilbum candidum*, but the spores are not diffuent and the heads are more depressed and whiter.

Tubercularia Celastris Schw. Dead stems of bitter sweet, *Celastrus scandens*. Charlton. July.

Helminthosporium Pruni B. & C. Dead branches of choke cherry, *Prunus Virginiana*. Center. June. The spores in this species are very variable both in length and in the number of septa.

Macrosporium Meliloti, n. sp. Spots irregular, terminal or marginal, blackish-brown; flocci short, colored, septate, generally flexuous; spores subelliptical, or clavate, generally tapering below into a short pedicel, three to five-septate with a few longitudinal septa, colored, .001 in. to .002 in. long. Living leaves of melilot. Newburgh. July.

Alternaria Chartarum Preuss. Damp paper. Albany. Nov.

Helicosporium cinereum, n. sp. (Plate 2, figs. 4-6.) Patches effused, thin, cinereous; flocci slender, sparingly branched, septate, blackish-brown, the articulations longer than broad; spores nearly colorless, grayish or cinereous in the mass, coiled in three or four volutions, diameter of the coil .0008 in. to .001 in. Decaying wood. North Greenbush. June. The species is easily distinguished from *H. olivaceum* by its cinereous color and from *H. obscurum* by the more numerous volutions of the spores.

Polyactis Streptothrix, C. & E. Living or languishing leaves of cohosh, *Caulophyllum thalictroides*. Jamesville. Aug. The spores in our specimens, as well as in authentic specimens received from Mr. Ellis, are .011 to .012 mm. in diameter, not .018 mm. as required by the description.

Pyricularia grisea, Sacc (*Trichothecium griseum*, Cke). Living leaves of crab grass, *Panicum sanguinale*. Sandlake. Aug. I do not find any published description of this fungus, but specimens have been distributed under the latter name by Mr. Ellis.

Peronospora obducens, Schrot. Cotyledonous leaves of touch-me-not. Sandlake. May.

Oidium irregulare, *Pk.* Living leaves of bladder nut, *Staphylea trifolia*. Monroe, Orange county. July.

Cercospora Nymphæacea, *C. & E.* Living leaves of water lily, *Nymphaea odorata*. Riverhead. Sept.

Cercospora zebrina, *Pass.* Living leaves of yellow clover, *Trifolium agrarium*. Sandlake. Aug.

Cercospora althæina, *Sacc.* Living leaves of hollyhock, *Althæa rosea*. Sandlake. Aug.

Cercospora Smilacis, *Thum.* (Plate 2, figs. 1-3.) Spots numerous, small, orbicular, reddish-brown, surrounded by a darker margin on the upper surface of the leaf; flocci hypophyllous, tufted, slender, septate, nodulose above, colored; spores narrowly clavate, .0012 in. to .0024 in. long, colorless, with two to four septa. Living leaves of *Smilax glauca*. Wading River. Sept. This fungus was very abundant in the locality mentioned. The number of flocci in a tuft is usually small, generally four to eight, and the spores are so strongly narrowed toward one end that they are obclavate in form.

Cercospora elongata, *n. sp.* (Plate 1, figs. 21-23.) Spots irregular, angular, limited by the veinlets, often confluent, sometimes arid, brown grayish-brown or cinereous; flocci amphigenous, tufted, colored, subflexuous, sometimes nodulose; spores elongated, obscurely three to many-septate, gradually narrowed toward one end, colorless, .002 in. to .006 in. long, .00015 in. to .0002 in. broad, generally longer than the flocci. Living leaves of wild teasel, *Dipsacus sylvestris*. Jamesville. Aug.

Cercospora squalidula, *n. sp.* Spots angular or subrotund, unequal, brown or grayish-brown with a dark border; flocci amphigenous, tufted, slightly nodulose above, colored; spores cylindrical or subclavate, unequal in length, .0012 in. to .0045 in. long, nearly colorless, simple or with one to three obscure septa. Living leaves of virgin's bower, *Clematis Virginiana*. Jamesville. Aug. The spots are sometimes of a uniform dark-brown color, sometimes grayish with a darker border. The species is distinct from *C. olivascens* which is said to grow on leaves of clematis.

Cercospora Sanguinariæ, *n. sp.* Spots large, indeterminate, smoky-brown, sometimes obscurely mottled or subreticulate with darker lines on the upper surface; flocci hypophyllous, few, scattered or subcæspitose, rather long, colored, often nodulose above; spores subcylindrical, obtuse, four to eight-septate, colorless, .0015 in. to .0025 in. long. Living or languishing leaves of blood root, *Sanguinaria Canadensis*. Jamesville. Aug. Mycelioid filaments appear to permeate the tissues of the leaf and send up, here and there, spore-bearing flocci which are generally nodulose at or near the tips. Owing to the scattered mode of growth of the flocci the fungus is scarcely visible, but the large smoky-brown spots are very conspicuous.

Cercospora Eupatorii, *n. sp.* Spots at first small and pale-green, then larger, suborbicular, determinate, reddish-gray or reddish-brown, with an elevated margin and darker border; flocci tufted, short, simple, colored; spores elongated, slender, generally slightly thickened toward one end, obtuse, colorless, triseptate, .002 in. to .003 in. long. Living leaves of *Eupatorium album*. Long Island. *Miller.*

Cercospora griseëlla, *n. sp.* Spots suborbicular, indeterminate, yellow

lowish; flocci short, minutely tufted, septate; spores slightly thickened toward one end or subfusiform, colorless, triseptate, .0016 in. to .002 in. long. Living leaves of fleabane, *Erigeron annuum*. Charlton. July. The tufts are so numerous and so minute as to give the spots on the under surface of the leaf the appearance of being suffused by a minute pruinosity.

Cercospora Caulophylli, *n. sp.* Spots irregular or suborbicular, dark-brown or grayish with a dark-brown margin; flocci hypophyllous, tufted, flexuous, nodulose above, colored, rarely branched; spores oblong or cylindrical, with one to three septa, colorless, .0008 in. to .0012 in. long, .00025 in. to .0003 in. broad. Living or languishing leaves of cohosh, *Caulophyllum thalictroides*. Helderberg mountains. July.

Ramularia Armoraciæ *Fckl.* Living leaves of horse radish, *Nasturtium Armoracia*. Charlton. July.

Ramularia Celastri, *n. sp.* Spots small, suborbicular, scattered, brown or blackish-brown, generally with a pure-white center on the upper surface; flocci hypophyllous, slender, septate, tufted; spores cylindrical, nearly straight, colorless, .0006 in. to .001 in. long, about .00015 in. broad. Living leaves of bitter sweet, *Celastrus scandens*. Highland Mills, July.

Ramularia Mitellæ, *n. sp.* Spots suborbicular, brown; flocci hypophyllous, minutely tufted, short, nearly straight, slightly colored; spores straight, oblong or cylindrical, colorless, unequal in length, .0003 in. to .0008 in. long, .00012 in. broad. Living leaves of mitrewort, *Mitella diphylla*. Newburgh and Jamesville. Aug. and Sept.

Ramularia Dulcamaræ, *n. sp.* Spots indeterminate, yellowish-green; flocci hypophyllous, branched, forming with the spores a soft felty stratum of a violet-gray color; spores oblong or subcylindrical, simple or containing several nucleoli, colorless, .0008 in. to .0018 in. long, .0002 in. to .00025 in. broad. Living leaves of nightshade, *Solanum Dulcamara*. Verona. Aug. The spots are very unequal in size and often confluent. When the leaf fades the spots retain for a longer time their greenish hue. The species in some respects approaches the genus *Peronospora*.

Microstroma leucosporum *Niessl.* (Plate 1, figs. 14-17.) Living leaves of butternut, *Juglans cinerea*. Charlton. July. It is with some hesitation that I refer our plant to this species. According to the figure of the European fungus, which occurs on leaves of *Juglans regia*, the spores are more than twice as long as broad and binucleate, while in our fungus they are scarcely twice as long as broad and uninucleate. Perhaps farther investigation will require its separation as a distinct species. It occurs on leaves of young trees.

Fusisporium Solani, *Mart.* Potatoes. Albany. March. In England, this fungus is regarded as a great pest. Mr. W. G. Smith writes of it and the potato-rot fungus as follows: "For more than thirty years our potato crops have been systematically destroyed by two virulent fungi, viz., *Peronospora infestans* and *Fusisporium Solani*, these two parasites almost invariably work in company with each other, they suddenly appear for a few weeks, destroy our crops, and vanish for ten or twelve months, then reappear and repeat the work of destruction. * * * As I have kept the resting-spores of both parasites alive artificially in decayed potato leaves in water, in moist

air and in expressed diluted juice of horse-dung, it conclusively proves to me that the resting-spores hibernate naturally in the same manner."

Helvella palustris, *n. sp.* (Plate 2, figs. 16-18.) Pileus irregular, at first blackish and slightly adnate, then grayish-brown or mouse-colored and free, rugose beneath; stem equal, slender, sulcate-costate, colored like the pileus, the costæ thin, subacute; asci cylindrical; spores broadly elliptical, .00065 in. to .0008 in. long, .0005 in. broad containing a single large nucleus; paraphyses thickened above, brown. Plant 1 in. to 2 in. high, pileus 6 lines to 12 lines broad, stem about 2 lines thick. Among mosses and liverworts in swamps. Manlius. Ang. This species is related to *H. sulcata*, from which it differs in its more slender and darker-colored stem, its less firm and more free pileus and its darker-colored paraphyses. In the dried specimens the upper surface of the pileus has assumed a blackish color, but the lower surface has retained very nearly its normal hue. The dark-colored slender stem readily separates this species from all others with costate or lacunose-costate stems.

Peziza (Cupulares) subvernalis, *n. sp.* Cups fleshy, 3 lines to 6 lines broad, sessile or with a short thick stem-like base which is sometimes whitened with mycelium, chestnut-colored when moist, darker when dry, externally slightly furfuraceous, the hymenium plane or slightly concave, subpruinose; asci cylindrical; spores smooth, elliptical, .0008 in. to .0009 in. long, .0005 in. broad; paraphyses numerous, slightly thickened above, colored. Decaying wood and bark of ash trees, *Fraxinus sambucifolia*. Sandlake. May. The color is a little paler than in *P. badia*. The thick fleshy base gradually expands into the broad, shallow or nearly plane cup, which is narrowly margined. The plants shrivel much in drying.

Peziza (Dasyscyphæ) luteodisca, *n. sp.* Cups minute, .014 in. to .028 in. broad, expanded, plane or slightly concave, margined, externally mealy-pubescent, white, the hymenium yellow, inclining to orange when dry; stem short or obsolete; asci subcylindrical; spores crowded or biseriate, fusiform, .0004 in. to .0005 in. long. Dead stems of rushes, *Scirpus validus*. Manlius. Aug. The stems are so short that at first sight the cups appear to be sessile.

Peziza (Mollisia) floriformis, *n. sp.* Cups small, one-half to one line broad, thin, smooth, at first subcylindrical and regular, then floriform with the margin wavy inflexed, dull cream-colored; asci short, cylindrical, .00065 in. to .0008 in. long; spores spermatoid. Decaying wood of maple. Verona. Aug. The margin of the larger cups is strongly inflexed in three or four places, giving the plants a resemblance to a small three or four-petalous flower.

Peziza multipuncta, *Pk.* Dead culms of carices. Albany. May.

Peziza regalis, *C. & E.* Dead branches. North Greenbush. Nov.

Peziza mycogena, *Ellis.* On some effete fungus. Griffins. Sept.

Peziza sanguinea, *Pers.* Decaying wood. Buffalo. Clinton. Sandlake. This species is referred by some mycologists to the genus *Patellaria*.

Helotium vitigenum, *De Not.* Dead grape vines. Albany and North Greenbush. July and Oct.

Helotium pallescens, *Fr.* Chips and decaying wood. North Greenbush. Oct.

Helotium (*Pelastea*) *affinissimum*, *n. sp.* Cups subcæspitose, stipitate, plane or convex, 1 line to 2 lines broad, yellow, the external surface and margin slightly pruinose; stem subcylindrical, yellowish, 2 lines to 4 lines long; asci cylindrical; spores oblong, obtuse, .0008 in. to .0004 in. long. Decaying sticks buried in the ground. Albany. June. This species resembles *H. lutescens* very closely, but it is more cæspitose in its mode of growth, becomes more discolored in drying and has smaller spores.

Patellaria Hamamelidis, *n. sp.* (Plate 2, figs. 7-10.) Small, .014 in to .02 in. broad, sessile, black or externally slightly tinged with reddish-brown, the disk nearly plane, margin at length obliterated; asci oblong-clavate, spores crowded or biseriate, oblong-fusiform, sometimes slightly curved, at first colorless, then slightly colored, trisepitate, .00065 in. to .0008 in. long, .00025 in. to .0003 in. broad. Dead bark of witch hazel, *Hamamelis Virginica*. North Greenbush. May.

Cenangium Viburni, *Schw.* Dead stems and branches of hobble bush. *Viburnum Lantunoides*. Buffalo. Clinton. Catskill mountains. July.

Caliciopsis. *Pk.* Receptacle oblong urceolate or subcylindrical, at first closed, then open and pulverulent at the apex, stipitate. This genus is instituted to receive a small *Calicium*-like fungus that does not well accord with the characters of any genus known to me. It partakes to some extent of the characters of some of the small stipitate species of *Cenangium*, but its more slender habit and urceolate or subcylindrical receptacle which soon becomes pulverulent above separate it from that genus. These same characters and its less tough substance forbid its reference to the genus *Tympanis*. The name is formed from *Calicium* and *opsis*.

Caliciopsis pinea, *Pk.* (Plate 2, figs. 11-15.) Scattered or subcæspitose, about 1 line high, glabrous, shining, black; stem slender, straight or curved, slightly thickened at the base, often growing from a cluster of black spheriform perithecia which contain spermatoid spores; receptacle narrowly urceolate, generally a little curved or inclined to one side, slightly exceeding the stem in diameter, the apex soon brownish pulverulent; asci ovate-lanceolate; long pedicellate, spores simple, elliptical, colored, .0002 in. to .00025 in. long.

Bark of pine trees, *Pinus Strobus*. Guilderland and Charlton. The peculiar form of the receptacle is suggestive of the dry capsules of many mosses, particularly of species of *Hypnum*. The spheriform bodies and their spermatoid contents are probably only another condition of this fungus. The young stems are at first pointed, but as they increase in length they become more obtuse and finally the receptacle is developed at the top. Although this plant strongly resembles species of *Calicium* externally, it is wholly destitute of any thalline crust and gonidial cells and must be deemed a fungus.

Tuber dryophilum, *Tul.* Staten Island. *Gerard.*

Hysterium gramineum, *M. & N.* Dead leaves of sand reed, *Calamagrostis arenaria*. Wading River. Sept. This is the *Hysterium Robergii* Desm. of Dr. Curtis' specimens. *H. cubnigenum* var. *gramineum* Fr. and *Lophodermium arundinaceum* var. *gramineum*, *Duby.*

Taphrina alnitorqua, *Tul.* Fertile aments of alders. Newburgh. July.

Nectria dematiosa, Schw. Dead branches of mulberry. *Morus aba*. Charlton. July.

Xylaria bulbosa, B. & Br. Ground under tamarack and arbovitæ trees. Manlius. Aug.

Hypoxylon Blakei, B. & C. Dead trunks of willows. Buffalo. Clinton. Center. June. This scarcely differs from *H. Morsei* except in its spores which are a little smaller than in that species.

Eutypa subsecta, Fr. Dead trunks and branches of poplar, *Populus tremuloides*. Center. Sept.

Diatrype quadrata, Schw. Bark of oak, beech, etc. Buffalo. Clinton. Sandlake and North Greenbush. This is *Diatrype obesa* B. & C. in Ravenel's Exsicc. Fung. Fasc. IV, No. 47. It bursts forth from the bark of various deciduous trees and assumes a great variety of aspects, being crowded, scattered or seriatly arranged and forming either large or small pustules. Schweinitz's description of it is so defective that it is not surprising that several synonyms have been made.

Diatrype strumella, Fr. Dead stems of flowering currant, *Ribes florida*. Albany. May.

Diatrype nigrospora, n. sp. Stroma small, thin, orbicular, pustulate, blackish or black, elevating the epidermis and stellately or transversely rupturing it; perithecia few, generally 6-12, sunk to the wood and covered above by the stroma; ostiola slightly prominent, piercing the subcinereous or blackish disk; asci subcylindrical, 8-spored; spores crowded or biseriate, oblong elliptical, obtuse; generally slightly curved, at first pale, then colored, uniseptate, .00065 in. long, .00032 in. broad, each cell containing a large nucleus. Dead branches of birch, *Betula lutea*. Quaker Street. June. This is related to such species as *D. moroides*, *D. cincta* and *D. æthiops*.

Melogramma gyrosum Schw. Dead bark. Silver Creek, Chautauqua county. Clinton.

Valsa Carpini, Pers. Dead bark of water beech, *Carpinus Americana*. North Greenbush. May.

Valsa aurea Fekl. Dead branches of water beech. North Greenbush. May. This species is well marked by the small reddish or yellowish disk and the simple ovate-elliptical spores which are about .0008 in. long and .00035 in. broad.

Valsa paucispora, n. sp. Pustules covered by the slightly elevated epidermis which is at length ruptured; perithecia, 2-5, seated on the inner bark; ostiola short, black, piercing the minute pallid disk, even or rarely slightly radiate-sulcate; asci short, .0025 in. to .0028 in. long, subcylindrical, tetrasporous; spores simple, uniseriate, nearly colorless, ovate-elliptical, .0006 in. long to .0008 in. long, .0004 in. to .00045 in. broad. Dead alder twigs. North Greenbush. May. This is closely related to the preceding species from which it may be separated by its paler disk, shorter four-spored asci and uniseriate spores.

Valsa compta, Tul. Dead branches of beech, *Fagus ferruginea*. Quaker Street. June. In our specimens the spores are ovate or oblong-elliptical, colorless, .0007 in. to .0009 in. in length.

Valsa prunicola, n. sp. Pustules scattered, slightly prominent, piercing the epidermis or rupturing it transversely; perithecia 10-12,

sunk to the wood or nestling in the inner bark; ostiola entire, crowded, slightly exserted; asci fusiform or subcylindrical; spores crowded, cylindrical, straight or slightly curved, quadrinucleate, colorless, .0005 in. to .0006 in. long, .00016 in. broad. Dead branches of wild bird cherry, *Prunus Pennsylvanica*. Sandlake. May.

Valsa tessera, Fr. Dead stems of hazel nut, *Corylus Americana*. Center. May.

Valsa Abietis, Fr. Bark of hemlock and spruce trees. West Troy, Sandlake and North Greenbush. May and Oct. In some instances the asci are wanting, the perithecia being filled with a multitude of the minute spores.

Valsa acrocystis, n. sp. (Plate 2, figs. 19-22.) Pustules small, covered by the epidermis, which is slightly elevated and ruptured in a narrow transverse chink; perithecia generally 4 to 12, circinating, seated on the inner bark, covered by a grayish-brown tomentum, ostiola short, blunt, black, seriatly placed; asci oblong; spores large, crowded or biseriata, oblong, colored, uniseptate, .0016 in. to .0025 in. long, .0005 in. to .0008 in. broad, with a small hyaline hemispherical or subglobose appendage at each end. Dead branches of birch, *Betula lenta*. North Greenbush. May. The linear arrangement of the ostiola and the peculiar character of the appendages of the spores are marked features in this species. The tomentum of the pustules and the large colored appendiculate spores indicate a relationship between this species and *Valsa haplocystis*, and yet our plant belongs to the Section Euvalsa. The specific name has reference to the appendages of the spores.

Sphæria capillifera, Curr. Decaying wood. Portage. July. Clinton.

Cucurbitaria longitudinalis, n. sp. (Plate 2, figs. 23-26.) Perithecia .02 in. to .03 in. broad, subglobose, arranged in short lines in longitudinal chinks in the bark, black, pierced at the apex; asci cylindrical; spores uniseriate, four or five-septate, often with one or two longitudinal septa, colored, .0011 in. to .0013 in. long, .0004 in. to .0005 in. broad. Dead stems of the privet Andromeda, *Andromeda ligustrina*. Center. May.

Sphærella recutita, Fr. Dead leaves of carices, *Carex varia*. West Troy. May.

Sphærella depressa, n. sp. Perithecia numerous, minute, depressed or even concave when dry, black; asci oblong-clavate; spores simple, oblong-elliptical or subfusiform, colorless, .0005 in. to .0006 in. long. Dead stems of Mulgedium. Center. May. The perithecia are so much depressed that they resemble a minute *Peziza* in form. They are slightly papillate.

Sphærella conigena, n. sp. Perithecia minute, crumpled, black; asci broad, obovate or subclavate, somewhat pointed at the apex; spores oblong or subcylindrical, when mature uniseptate, .001 in. to .0016 in. long. Old cones of arbor-vitæ. Helderberg mountains July.

(5.)

REMARKS AND OBSERVATIONS.

Viola Selkirkii, *Pursh*. Plentiful in a pine grove near West Albany. The large pale blunt spur is a conspicuous feature in the flowers of this species.

Hypericum mutilum, *L.* A tall form, 12 to 15 in. high, with straight branches, occurs near Riverhead. Its cyme is leafy, and thus connects the variety *gymnanthum* with the typical form.

Linum striatum, *Walt.* Wet banks near Newburgh. July.

Hieracium venosum var. *subcaulescens*, *Gr.* A form of this plant with the veins of the leaves uncolored was found near Wading River. It was in full flower in September.

Lycopus Europæus var. *sessilifolius*, *Gr.* Near Riverhead.

Convolvulus arvensis, *L.* Fields near Newburgh.

Polygonum Hartwrightii, *Gr.* Flowering specimens were found on the shore of the "Green Lake" west of Jamesville. In all the specimens seen the peduncle was axillary, not terminal as in *P. amphibium*.

Quercus Phellos, *L.* Tottenville. *Britton*.

Potamogeton amplifolius, *Tuckerm.* Thompson's Lake, Helderberg mountains, and near Warwick, Orange county.

Potamogeton gramineus var. *heterophyllus*, *Fr.* Thompson's Lake, also "Green Lake" near Jamesville. In low muddy places east of the latter lake it forms a dense carpet over the surface of the ground.

Potamogeton, *Robbinsii*, *Oakes.* Ballston Lake. July. Though the plants were abundant and the flowering spikes numerous, the stems being sometimes excessively branched above, no good fruit could be found. The plants grow at the head of the lake in company with *Potamogeton lonchites*, *P. perfoliatus*, *P. compressus*, *P. hybridus*, *P. Claytonii*, *P. pectinatus* and *Bidens Beckii*.

Triglochin palustre, *L.* Abundant in marshy ground near Manlius Center.

Hemerocallis fulva, *L.* Banks of streams in fields. Guilderland. Escaped from gardens, but thriving without cultivation.

Juncus maritimus *Lam.* This rush was found some years ago on Coney Island. Specimens were collected there again the past season by *Mr. N. L. Britton*, thus showing that it is still maintaining its foothold amid the march of improvement on that island.

Carex tentaculata var. *altior*, *Boott.* (*C. Purshii* *Olney.*) Charlton and North Greenbush.

Carex intumescens, *Rudge.* Helderberg mountains. A starved form with but one or two perigynia in a spike.

Scolopendrium vulgare, *Sm.* A rediscovery of this interesting fern was recently made by *Mrs. Barnes* and other members of the Syracuse Botanical Club, probably in the identical station where it was found by *Pursh* in 1807. Specimens collected in this locality by *Mrs. Leavenworth* were kindly contributed by *Mrs. M. J. Myers*. If we

regard the stations near Jamesville as one locality there are now three localities in the State where this fern is known to grow.

Botrychium Lunaria, Sw. A new station for this rare fern has been discovered near Syracuse, and specimens have been contributed by Mrs. H. S. Gifford.

Chara foetida var. *longibracteata*, A. Br. This interesting variety of our common chara occurs in pools by the side of the railroad at Verona.

Chara fragilis, Desv. This and the preceding species abound in the "Green Lakes" of Onondaga county. On account of the clearness of the water, the plants are seen at a great depth and they give the green appearance that suggests the popular name of the lakes.

Fissidens grandifrons, Brid. Rivulets near Jamesville, but as usual the moss is sterile.

Cladonia papillaria, Hoffm. Sterile soil. Ballston. July.

Agaricus melleus, Vahl. This extremely variable species sometimes has a white pileus.

Agaricus virescens, Pk. I find that this name is preoccupied and substitute for it *Agaricus viriditinctus*.

Gomphidius rhodoxanthus, Schw. This plant has been thought by some to be the same as *Paxillus flavidus*, Berk., but it does not agree well with the description of that species. Neither does it agree fully with the characters of the genus *Gomphidius*. I do not find the pileus viscid, nor the lamellæ forked, though they are venose-connected. They do not readily separate from the pileus as in *Paxillus*.

Russula virescens, Fr. According to the description of this species the margin of the pileus should be even, but specimens sometimes occur in which the margin is wholly or partly striate. The number of forked and intermediate lamellæ is also variable and the warts are sometimes pale-brown instead of green. The color of the pileus is generally grayish-green but it is frequently tinged with yellow.

Panus stipticus, Bull. This usually occurs on trunks of deciduous trees, but occasionally it is found on hemlock trunks.

Lenzites betulina, Fr. Specimens of this species have been found on hemlock trunks. *Lenzites vialis* also occurs both on frondose and acerose trees, so that the division of the genus into two sections depending on the character of the habitat is scarcely reliable.

Polyporus igniarius, Fr. One specimen was found about one foot broad and having seventeen strata of pores, thus indicating an age of seventeen years.

Polyporus pergamenus, Fr. The typical form of this species, according to the description, has the pileus coriaceous-membranaceous, rigid, tomentose, concentrically sulcate, white; the pores seriatly placed, pallescent and produced into very thin dentate plates. Its habitat is said to be pine, and its locality Arctic America. The species, as now understood, proves to be a very common and very variable one and includes several synonyms. In Ravenel's *Fungi Car. Exsicc.*, Fasc. 1, No. 13, *Polyporus laceratus*, Berk., is represented to be a synonym of this species. Dr. Berkeley himself does not give it as a distinct species in his *Notices of North American Fungi*, though it was founded on specimens from New Orleans, from which we infer that he does not regard it as a good species. According to the description it scarcely

differs from *Polyporus elongatus*, Berk., except in its shape and its larger pores. The former difference is of little value for *P. elongatus* is known to vary very much in shape and size. But *P. elongatus*, according to authentic specimens received from *Dr. Michener*, can scarcely be regarded as any thing more than a mere form, or perhaps variety, of *P. pergamenus*. For of this species we have in this State two prevailing forms. One form has the pileus tomentose, concentrically sulcate and white, and its pores become paler with age and are at length produced or lacerated into thin dentate plates precisely as required by the description. But it differs from the type in generally, though not always, having the pileus too thick to be called membranaceous, and in the pores not being seriatly placed. These slight differences, however, are of but little account in such a variable plant as ours is known to be, and there can be no doubt that it should be referred to *P. pergamenus*. The other form, which is more abundant even than the first, is generally thinner and less distinctly tomentose. Indeed, it is sometimes nearly or quite smooth, and it often appears to become smoother with age. Instead of being concentrically sulcate it is generally more or less marked with narrow delicate zones. There are also fine radiating lines or striations which are more perceptible in the smoother specimens. The color is generally grayish pallid or subochraceous. The pores are usually seriatly placed, especially toward the margin, and though variable in color they are commonly tinged with purple when fresh and young, as in the preceding form. As in that form also they become paler with age. This is the form recently published under the name *Polyporus pseudopergamenus*, Thum. When the pileus is narrowed toward its base so that its length is greater than its breadth it is *Polyporus elongatus*, Berk. It occurs on a great variety of deciduous trees, but is most frequent on birch, maple, oak and chestnut. The first form is most common on poplar though not limited to it. I have not found either growing on pine. These two forms run into each other by such insensible gradations that it is not possible to draw any satisfactory line of distinction between them, and therefore the conclusion must be that both are forms of one species, *Polyporus pergamenus*.

According to Berkeley and Curtis *Polyporus Menandianus*, Mont. also belongs to this species, thus making the synonymy include *P. laceratus*, Berk., *P. elongatus*, Berk., *P. Menandianus*, Mont., and *P. pseudopergamenus*, Thum. It may also be added that according to Berkeley and Curtis the specimens in the Schweinitzian Herbarium under the names *Polyporus abietinus* and *Polyporus stereoides* should be referred to *P. pergamenus*. This species sometimes revives to a certain extent the second season. It puts on a new hymenium and a new growth on the margin of the pileus. The same is true also of *Polyporus cinnabarinus*.

Polyporus vulgaris, Fr. The variety with pale yellow pores occurs on decaying maple wood at Verona. The yellow hue is generally lost in drying.

Polyporus splendens, Pk. This name proves to be preoccupied and I would therefore substitute for it *Polyporus subsericeus* Pk. For the same reason I would substitute *Polyporus guttulatus*, Pk., for *Polyporus maculatus*, Pk., *Polyporus flavidus*, Pk., is *P. Peckianus*, Cke.

Cheirospora botryospora, Fr. This species occurs with us on the beech, *Fagus ferruginea*, and the water beech, *Carpinus Americana*. In Europe it occurs also on the ivy.

Puccinia linearis, Pk., On *Calamagrostis Canadensis*. Copake. The name being preoccupied it is changed to *Puccinia striatula*, Pk.

Uromyces solida, B. & C. Living leaves of *Desmodium rotundifolium*. Newburg. The name of this species proves to be inappropriate and the description very imperfect if we may rely on authentic specimens received from Dr. Curtis. It is scarcely possible to identify the species satisfactorily from the published description. The spores are not always "compact," but often quite lax. Neither are they always "obovate," but generally ovate or elliptical. The rough or verruculose epispore is a noticeable feature, yet it is not mentioned in the description. It is not surprising, therefore, that the species has recently been republished under a new name, *Uromyces Desmodii* Thum.

Ræstelia lacerata, Tul. This fungus was recently detected by Prof. D. S. Martin growing in abundance on the living leaves of apple trees at Rogers Rock near Ticonderoga. An allied fungus, *Ræstelia cancellata*, has also been found to attack the fruit of the quince.

Peridermium decolorans, Pk. This is considered by Baron Thumen in his "Blasenrost Pilze der Coniferen" to be a variety of *Peridermium abietinum*.

Peronospora alta, Fckl. Living leaves of English plantain, *Plantago lanceolata*. Verona.

Sphaerella nigrita, Cke. This is not specifically distinct from *Sphaerella spleniata*, C. & P., according to specimens received from Mr. Gerard.

NEW YORK SPECIES OF AMANITA.

"Spores white. Veil or *volva* universal, at first continuous distinct from the cuticle of the pileus. Hymenophorum distinct from the stem. *All terrestrial.*" *Hymen. Europ.* p. 17.

The Agarics which are grouped under the subgeneric name *Amanita* are distinguished from all others by their white spores and their universal veil distinct from the pileus. In the subgenus *Volvaria* there is a similar veil or *volva*, but the spores are rosy or pinkish-colored. By some authors the species of these two subgenera have been united under the common name *Amanita*, but even in this case it was found convenient to separate them into two sections, depending on the color of the spores. Some mycologists have regarded the species of *Amanita* as worthy of generic distinction, and have separated them from the Agarics as a distinct genus. But by those species whose *volva* is evanescent they approach so closely to other subgenera that it is difficult to maintain this position unless we also raise the other subgenera to the same rank. The differences between the subgenera are so slight that this has not seemed advisable to the most eminent mycologists; and yet the species of Agarics are already so numerous that it is very difficult to find appropriate unoccupied specific names for the new ones

frequently discovered, and some mode of relief in this respect is exceedingly desirable.

The species of *Amanita* grow on the ground in the woods, groves and copses. They rarely occur in open fields, unless in the vicinity of trees or near the margin of woods. Thin, open woods and copses afford the most favorable localities. In the early condition the plant is wholly enveloped in its volva, but as it increases in size the volva is necessarily ruptured. In some species, *A. caesareus*, for example, the volva is distinctly membranous, and includes the young plant as if in an oval sack. At length the upper part of the volva is ruptured, and the pileus and stem are exerted. Sometimes one or more irregular and unequal fragments of the ruptured volva adhere to the surface of the pileus for a time, and are carried up by it in its growth. But usually in these species the surface of the pileus is smooth, and the remains of the ruptured volva wholly adhere to the base of the stem or its bulb like a membranous margin, a sheath or a lacerated cup. In other species the volva is not distinctly membranous, but is more floccose or scaly and friable in its character. It envelops the young plant, but the distinction between the pileus and bulbous base of the stem is soon manifest, and as the stem elongates the upper part of the volva is separated from the lower part, and persistently adheres to the surface of the pileus. As this expands its covering or calyptra breaks up into superficial scales or warts. These are often angular or pyramidal in form, and sometimes unlike the pileus in color, and afford a beautiful ornamentation. The part that remains at the base of the stem often breaks up into mealy or floccose scales, and sometimes wholly disappears when the plant matures. Generally a smooth pileus indicates a perfect membranous volva, and a warty one an imperfect, floccose or evanescent one. Sometimes, especially after heavy rains, specimens, which normally have the pileus warty, are found with a smooth pileus; but these are only occasional, and probably mostly accidental cases, the warts having been washed off by the rain. Most of the species are solitary or gregarious and of moderate or large size. The pileus, when fully expanded, is nearly plane and quite regular, so that these *Agarics* are among the most noble and attractive in their appearance. Many of them have a thin pellicle or cuticle, which, in the young and moist plant, is slightly viscid.

The lamellæ in nearly all the species are white or whitish, and free from the stem. Usually they are narrowed toward the stem, and cease just before reaching it, thus leaving a small free space around its apex. In many species the short ones that intervene between the long ones are abruptly terminated at their inner extremity, as if truncated or cut square off. The stem is usually rather long and well formed, and in most species is more or less thickened or bulbous at the base. In some species it is hollow or stuffed with cottony fibrils; in others it is solid. In the greater number of species it is furnished with a membranous ring or annulus, that surrounds it near the top like a flabby collar. In the young plant this is stretched from the stem to the margin of the pileus, and wholly conceals the lamellæ. As the pileus expands the annulus breaks loose from its attachment to the margin, and remains adhering to the stem. In some species this rupture is not always clean and even, small portions remaining at-

tached to the margin. The annulus then has a lacerated or torn appearance. The species are readily divided into two primary sections, depending on the presence or absence of the annulus. The species having an annulus have been again divided by Fries into subsections, depending on the character of the volva. These are thus characterized:

1. Volva rupturing at the apex or circumscissile, the free margin persistent. Of our species *A. caesareus*, *A. spretus* and *A. phalloides* belong to this subsection.

2. Volva definitely circumscissile, persistent on the margined base, the covering of the pileus broken up into thick warts. Here belong *A. russuloides*, *A. muscarius*, *A. Frostianus*, *A. solitarius* and *A. strobiliformis*.

3. Volva wholly friable, reduced to scales and warts. Our only representative of this subsection is *A. rubescens*.

4. Volva wholly obsolete, flocculose, entirely evanescent. Of this subsection we have thus far no representative.

The second and third sub-sections appear to run into each other in such a way that it is difficult to keep them distinct.

In collecting specimens for examination, the earth should be carefully removed from the base of the stem before the plant is taken up, in order to obtain it entire and to secure the volva in as perfect condition as possible. Young plants taken just as the pileus is emerging from the volva, if kept in a warm, moist atmosphere, will continue to elongate the stem and expand the pileus.

The characters especially to be noted in the determination of the species are found in the volva, whether membranous and persistent or floccose-scaly, and more or less evanescent; in the pileus, whether smooth and naked or warty, and whether even or striated on the margin; in the stem, whether with or without an annulus, whether solid or hollow and whether with or without a bulb at the base, and if bulbous what is the character of the bulb. The color, though a conspicuous character, is so variable in some species that it is deemed of secondary importance. The spores, beyond their color, can only be available in affording distinctive characters by the aid of a compound microscope and a micrometer.

Some of the species have a very bad reputation for their deleterious and poisonous qualities, but a few are generally admitted by authors to be esculent. I have not personally tested the edible qualities of any of the species, and those indicated as edible are thus given on the authority of others. I do not consider it safe for any one who is not fully able to distinguish the edible from the poisonous species to indulge in the use of the *Amanitas* for food.

SYNOPSIS OF THE SPECIES.

1. Stem furnished with an annulus.....	2
2. Volva membranous, persistent; pileus not warty.....	3
3. Pileus widely striate on the margin, lamelle yellow.....	<i>A. caesareus</i> .
3. Pileus narrowly striate, lamelle white.....	<i>A. spretus</i> .
3. Pileus even on the margin, lamelle white.....	<i>A. phalloides</i> .
2. Volva squamose, friable, sometimes evanescent.....	4
4. Pileus striate on the margin.....	5
5. Pileus widely striate, warts soon disappearing.....	<i>A. russuloides</i> .

5. Pileus narrowly striate.....	6
6. More than two inches broad, spores elliptical... <i>A. muscarius.</i>	
6. Less than two inches broad, spores globose.... <i>A. Frostianus.</i>	
4. Pileus even on the margin.....	7
7. Flesh with reddish stains when wounded..... <i>A. rubescens.</i>	
7. Flesh without reddish stains when wounded.....	8
8. Bulb of the stem acutely margined, often split.. <i>A. strobiliformis.</i>	
8. Bulb not acutely margined..... <i>A. solitarius.</i>	
1. Stem destitute of an annulus.....	9
9. Volva membranous ..	10
10. Pileus hairy-squamulose, volva large, firm. <i>A. volvatus.</i>	
10. Pileus soon glabrous, volva sheathing, flabby. <i>A. vaginatus.</i>	
9. Volva not membranous ..	11
11. Pileus soon glabrous..... <i>A. nivalis.</i>	
11. Pileus warty.. <i>A. strangulatus.</i>	
11. Pileus pulverulent..... <i>A. farinosus.</i>	

STEM FURNISHED WITH AN ANNULUS.

Agaricus caesareus, Scop. Orange Agaric. Pileus hemispherical, then expanded, smooth, bright red or orange, fading to yellow, widely and *distinctly striate on the margin*; lamellæ free, yellow; stem equal or slightly tapering upward, flocculose, stuffed with cottony fibrils or hollow, yellowish, bearing a yellowish annulus near the top and inserted at the base in a *large loose membranous white volva*; spores elliptical, .00035 in. to .0004 in. long.

Plant 5 in. to 8 in. high, pileus 4 in. to 8 in. broad, stem 4 lines to 6 lines thick. August.

This is a large, beautiful and very showy Agaric and has been called "*Fungorum princeps*," chief of fungi. It occurs in wet seasons in thin open woods, but is not very common. It sometimes grows in large circles or "fairy rings." The American plant differs in some slight respects from the European as represented in figures and descriptions, and I have modified the description to meet the peculiarities of our plant. In Europe the pileus is said to vary in color, being sometimes white, pale-yellow, red and copper-colored, though usually orange-yellow. In our plant I have found the pileus very uniform in coloration, it being at first bright-orange or even a brilliant red, fading with age to yellow, either wholly or on the margin only. In dried specimens the red color entirely disappears. The striations of the margin are quite deep and long, and almost as distinct as in *A. vaginatus*, where they are said to be "pectinate-sulcate." The flesh is represented as yellowish. In our plant it may be white, yellow or red under the cuticle, but next the lamellæ it is pretty constantly yellow. The stem is described as subventricose. In our plant I have always found it equal or slightly tapering upwards and generally rather long in proportion to the size of the pileus, so that the American plant must have a more graceful aspect than the European. The stem is yellowish, but adorned with delicate floccose fibrils of a yellowish-rhubarb color. The annulus is also sometimes tinged with this hue. The volva is soft and almost tomentose in texture, yet distinctly membranous, persistent and white. The lamellæ are yellow, a character by which it is at once distinguished from all our other species. All authors agree in attributing esculent qualities to this fungus. It has been termed "*Cibus Deorum*," the food of the gods. Cordier says it is delicious and everywhere sought after, but utters a caution against confounding it with

the "False Orange" or Fly Agaric, *Agaricus muscarius*. *Agaricus aurantius* Bull. and *Amanita aurantia*, Pers., are given as synonyms.

Agaricus spretus, Pk. Despised Agaric. Pileus subovate, then convex or expanded, smooth or at first adorned with a few fragments of the volva, *slightly striate on the margin*, whitish or pale-brown; lamellæ close, *reaching the stem, white*; stem equal, smooth, slightly pruinose above the white annulus, stuffed or hollow, whitish, finely striate at the top, inserted at the base in the rather large *persistent membranous somewhat sheathing volva*; spores elliptical, .0004 in. to .0005 in. long, .00025 in. to .0003 in. broad, generally containing a single large nucleus.

Plant 4 in. to 6 in. high, pileus 3 in. to 5 in. broad, stem 4 lines to 6 lines thick. August.

This species occurs in bushy or open places and seems to prefer a dry gravelly or sandy soil. It is not common. It sometimes grows in clusters and then has the pileus more or less irregular. The striations of the margin of the pileus are rather short and not always deep and distinct. The lamellæ reach the stem and form little decurrent lines at its apex. The stem is without any bulb at its base, which is more or less sheathed by the persistent volva much as in *A. vaginatus*. In light sandy soil the stem penetrates the earth quite deeply. The whole plant is sometimes white, but often the pileus and stem are tinged with brown. It appears to be related in some respects to *A. porphyrius* and *A. recutitus*, but it differs from both in its coloration and in other characters.

Agaricus phalloides, Fr. Phallus-like Agaric. Pileus at first ovate or subcampanulate, then expanded, slightly viscid when young and moist, smooth or rarely adorned by a few fragments of the volva, *even on the margin*, white, yellowish-brown or blackish-brown; lamellæ rather broad, rounded behind, free, white; stem equal or slightly tapering upward, stuffed or hollow, smooth or slightly floccose, annulate, *bulbous*, the ruptured volva either appressed loose or merely forming a narrow margin to the bulb; spores *globose*, .0003 in. to .00033 in. broad.

Plant 4 in. to 8 in. high, pileus 2 in. to 5 in. broad, stem 3 to 6 lines thick. Summer and Autumn.

This species is common and variable. It occurs everywhere in woods and assumes such different colors that the inexperienced mycologist is apt to mistake its different forms for distinct species. With us the prevailing colors of the pileus are white, yellowish-white, grayish-brown and blackish-brown. It is remarkable that the form with a greenish pileus, which seems to be common enough in Europe, does not occur here. Fries also mentions a form having a white pileus with a black disk. A somewhat similar form occurs here, in which the pileus is grayish-brown with a black disk. Some of the variously-colored forms were formerly taken to be distinct species, in consequence of which several synonyms have arisen, of which *A. virescens*, Fl. Dan., *Amanita viridis*, Pers., and *Amanita citrina*, Pers., are examples. *A. vernus*, Bull., is a variety having a white pileus, a rather thick annulus and an appressed volva. It sometimes occurs early in the season; hence the specific name. It also occurs late in the season and runs into the typical form so that it is not easy to keep it distinct. The flesh and the lamellæ are white, the stem is white, pallid or brownish, and the annulus is either white or brownish. The bulb is generally very broad

and abrupt or depressed, though it sometimes is small and approaches an ovate form. The large bulbs are sometimes split externally in two or three places and are, therefore, two or three-lobed. In such cases the volva is less persistent than usual and its free portion then furnishes merely an acute edge or narrow margin to the bulb. Specimens sometimes occur in which the margin of the pileus is narrowly adorned with a slight tomentose villosity, but usually it is perfectly smooth and even. By this character taken in connection with the membranous volva and bulbous base of the stem, the species is readily distinguished. Sometimes a strong odor is emitted by it, but usually the odor is slight. Authors generally pronounce this a poisonous and very dangerous species. Its appearance is attractive, but its use as food is to be avoided.

Agaricus russuloides, Pk. Russula-like Agaric. Pileus at first ovate, then convex or expanded, at first rough with a few superficial warts, soon smooth, viscid when moist, *widely striate-tuberculate on the margin*, pale-yellow or straw color; lamellæ close, free, narrowed toward the stem, white; stem firm, smooth, stuffed, equal or slightly tapering upward, bulbous, furnished with a thin subevanescent annulus; *volva fragile*, subappressed; spores broadly elliptical, .0004 in. long, .0003 in. broad.

Plant 2 in. to 3 in. high, pileus 1.5 in. to 2 in. broad, stem 3 lines to 5 lines thick. June.

This rare species was found in grassy places in open woods several years ago, and has not been met with by me since. It is remarkable for and easily known by the widely striate margin of the pileus. The tuberculate appearance is due to short transverse veins or wrinkles which intervene between and connect the lamellæ and give to the surface of the pileus an appearance similar to that seen in many species of *Russula*. The dried specimens look very much like small dried forms of *A. cæsareus*, but they have not the perfect volva of that species. The bulb is ovate and the volva fragile and easily broken into fragments. Its nearest relationship is with *A. muscarius*, from which its smoother pileus and peculiar margin at once distinguish it.

Agaricus muscarius, L. Fly Agaric. Pileus at first ovate or hemispherical, then broadly convex or nearly plane, slightly viscid when young and moist, *rough with numerous whitish or yellowish warts*, rarely smooth, narrowly and *slightly striate on the margin*, white, yellow or orange-red; lamellæ white; stem equal or slightly tapering upward, stuffed with webby fibrils or hollow, bearing a white annulus above, *ovate-bulbous* at the base, white or yellowish; the volva usually breaking up into scales and adhering to the upper part of the bulb and the base of the stem; spores *elliptical*, .0003 in. to .0004 in. long, .00025 in. to .0003 in. broad.

Plant 5 in. to 8 in. high, pileus 3 in. to 6 in. broad. June to October.

The Fly Agaric, or "False Orange" as it is called in France, is a common and variable species. It occurs in thin open woods and in bushy pastures. The fine ornamentation of its warts and its beautiful colors make it a very showy and attractive species. I have not seen it with the bright blood-red or scarlet colors attributed to the European plant, but it is usually more or less orange-colored when young, fading to yellow with advancing age, either wholly

or on the margin only. Sometimes the fading process goes on until the pileus is nearly white. In one variety the pileus is of a uniform citrine or lemon-yellow color, in another it is wholly white. This form I suspect is the same as *A. subremotus*, B. & C. The margin is narrowly and usually but slightly striate. Sometimes, especially after heavy rains, it is not uncommon to find specimens almost or entirely destitute of warts and even of the fragments of the volva at the base of the stem. The flesh under the cuticle is not always yellow. It may be either white or orange according to the color exhibited by the pileus. The lamellæ are sometimes faintly tinged with a yellowish or creamy hue. The stem also, which is usually white, may be occasionally tinged with yellow. The remains of the volva often encircle it at the base in a somewhat concentric manner. The varieties already mentioned may be characterized thus:

Var. *formosus* (*Amanita formosa*, G. & R.) Pileus soft, fragile, citrine-yellow, warts loose, white or yellowish. Var. *albus*. Pileus white, warts rather firm, subacute. Var. *regalis*, a large form with a liver-colored pileus, and Var. *umbrinus* with a thin, brown or livid pileus and dark-brown disk I have not seen.

The species is renowned for its intoxicating and poisonous properties. Cordier states that it is one of the most active poisons and has caused numerous accidents by being mistaken for the Orange Agaric. A kind of fly poison is sometimes manufactured from it. If a moist plant be placed where flies have access to it they will sip the viscid substance from the surface of the pileus and pay the penalty with their lives. I have seen it surrounded by a circle of dead flies thus destroyed.

Agaricus Frostianus, *Pk.* Frost's Agaric. Pileus convex or expanded, bright-orange or yellow, warty, sometimes nearly or quite smooth, striate on the margin; lamellæ free, white or slightly tinged with yellow; stem white or yellow, stuffed, bearing a slight, sometimes evanescent, annulus, bulbous at the base, the bulb *slightly margined* by the volva; spores *globose* .0003 in. to .0004 in. in diameter.

Plant 2 in. to 3 in. high, pileus 1 in. to 2 in. broad, stem about 2 lines thick. June to October.

This appears like a very small form of the Fly Agaric, to which, as var. *minor*, it was formerly referred. The only decided characters for distinguishing it are its small size and globose spores. Relying mainly on the latter I have hesitatingly admitted it as a species. It should yet be compared with *Amanita puella*, G. & R., which Fries regards as a mere form of *A. muscarius*, characterizing it with the words "smaller, without warts." It is also near, *A. gemmatum* Fr., but that is described as having a solid exannulate stem. Mr. Frost's manuscript description says "not often warty," but I have nearly always found it more or less warty. The specific name "affinis" which was given to this species by Mr. Frost, has been more than once used, in connection with other species, and it seems best to substitute another for it. Our plant sometimes grows in company with *A. muscarius*, but it seems to prefer more dense woods, especially mixed or hemlock woods. It is generally very regular and beautiful and has the stem quite often of a yellow color, and the bulb margined above with a collar-like ring.

Agaricus rubescens, *Pers.* Reddish Agaric. Pileus at first ovate, then broadly convex or nearly plane, *warty*, slightly viscid when young

and moist, even or substriate on the margin, whitish, reddish-brown or brown; lamellæ reaching to the stem toward which they are narrowed, white; stem equal or slightly tapering upward, squamulose, stuffed or hollow, thickened or bulbous at the base, slightly striate at the top, annulate, whitish or pallid; *flesh becoming reddish where wounded*; spores elliptical, .0003 in. to .00035 in. long, .0002 in. to .00025 in. broad.

Plant 4 in. to 6 in. high, pileus 3 in. to 5 in. broad, stem 4 lines to 6 lines thick. July to September.

This Agaric occurs both in thin and in dense woods. It is solitary or scattered in its mode of growth. The pileus is generally adorned with soft, easily removable, whitish or reddish-stained warts, but as in other species, it is not unusual after heavy rains to find specimens with the pileus entirely naked. The margin of the pileus is generally even, but sometimes specimens are found in which it is slightly striated. It is also in this, as in all the other species, sometimes split in one or more places. The color is quite variable and is generally somewhat sordid and undecided in character. It is whitish, alutaceous, pinkish-brown, yellowish-brown or reddish-brown. The flesh is white and generally becomes reddish where bruised or wounded, especially in warm wet weather. Reddish stains are usually found on the stem or lamellæ, being the result probably of the bites of insects. They are not always readily produced at will in the American plant. Sometimes the little branny scales that clothe the stem are colored red. The base of the stem is thickened or bulbous, but the bulb is ovate or gradually tapering into the stem, and not abrupt and distinct as in *A. phalloides*. The volva is wholly friable and often entirely disappears from the base of the stem or bulb.

A. circinatus, Schum., is regarded by Fries as a variety of this species, distinguished by its plane brownish-red pileus and numerous adnate circinating warts. *A. verrucosus*, Bull., is a mere form with minute warts and flesh slowly changing to red.

One author places this Agaric among the suspected species. Berkeley says of it, "Quality doubtful," while most authors, including Badham, Rognes, Currey, Cooke and Curtis, pronounce it esculent. Cordier says it is a most delicate food, of which large quantities are consumed in Lorraine.

Agaricus solitarius, Bull. Solitary Agaric. Pileus convex or plane, *warty*, white or whitish, *even on the margin*; lamellæ reaching the stem, white or slightly tinged with cream-color; stem at first mealy or scaly, equal, *solid*, white, bulbous, the bulb scaly or mealy, *narrowed below into a root-like prolongation*; *annulus lacerated*, often adhering in fragments to the margin of the pileus and lamellæ; spores elliptical-oblong, .0003 in. to .0005 in. long, .00025 in. broad.

Plant 4 in. to 8 in. high, pileus, 3 in. to 6 in. broad, stem 4 lines to 6 lines thick. August and September.

The Solitary Agaric grows singly or very much scattered in thin woods and open places. It is generally white throughout, though sometimes the pileus is tinged with brown and the warts are a little ochreous or brownish. In some specimens they are few and scattered, but generally they are numerous, crowded, angular and often erect and acute, especially on the disk. There are two forms of the species. In one, the volva breaks up into brownish scales which adorn the bulb

and lower part of the stem. In the European plant these scales are said to be imbricating. I have not found this form in our State, but it occurs farther south. In the other, the bulb and lower part of the stem are covered with white mealy or granular particles. This form occurs on Long Island. The annulus also and the upper part of the stem, when young, are covered with floccose or mealy particles. The former is soon lacerated and a part of it frequently adheres to the margin of the pileus and the edge of the lamellæ. Sometimes there is very little of it left to form a ring on the stem. This lacerated annulus and the peculiar deeply-rooting bulb are marked and distinguishing features in this species. *A. echinocephalus*, Vitt., is apparently a closely-related species, but is characterized as having a shining pileus with pyramidal acute seceding warts and a distant persistent annulus. The lamellæ are also said to become green. *A. albellus*, Scop., and *Aminata pellita*, Secr., are regarded by Fries as synonyms.

Authors are divided in their estimate of the qualities of this fungus, one saying that it is very poisonous, another, that it is scarcely edible, and another, that its flesh is white and of an excellent flavor. In any case it is too scarce with us to be of much value.

Agaricus strobiliformis, Vitt. Fir-cone Agaric. Pileus convex or nearly plane, *rough with angular supersistent warts*, white or cinereous, sometimes yellow on the disk, the margin even and extending a little beyond the lamellæ; lamellæ free, rounded behind, not reaching the stem, equal or slightly tapering upward, *solid*, floccose-scaly, white, bulbous, *the bulb very large, margined above and furnished with one or two concentric furrows*, somewhat pointed below, floccose mealy when young; spores elliptical, .0005 in. to .0006 in. long, .0003 in. to .0004 in. broad.

Plant 6 in. to 10 in. high, pileus 6 in. to 10 in. broad, stem 8 lines to 15 lines thick. Autumn.

This Agaric, which usually attains a very large size, is quite rare with us. It is generally of a white or whitish color, but sometimes yellowish on the disk, and it has the pileus rather thickly studded with firm angular mostly persistent warts which are often flattened at the top in such a way as to resemble somewhat the scales of a pine cone, whence the specific name. They are generally whitish though sometimes tinged with brown. In some instances they fall away and leave the pileus nearly smooth. The annulus is large, and as in the preceding species is often torn or lacerated. The bulb at the base of the stem is one of the peculiar and distinguishing features of the species. It is very large, sometimes attaining a diameter of two and a half inches, and at the upper part a slight furrow intervenes between its narrow margin and the stem, as if produced by the impressed margin of the young pileus. Sometimes a second furrow surrounds the bulb a little below this, and below the second furrow the thick exterior coat of the bulb is split longitudinally in several places, thus giving it a lobed appearance. The larger part of the bulb often appears above the surface of the ground, but it is somewhat pointed or conical below and thus slightly penetrates the earth, but it has not the long distinct tap root that so strongly characterizes the preceding species. All traces of the volva soon disappear from the bulb. The plant formerly referred to *A. muscurius* as variety *major* is to be referred to this species. The solid

stem and even margin of the pileus separate this species from white forms of *A. muscarius*. Authors generally agree in calling it an edible species.

STEM DESTITUTE OF AN ANNULUS.

Agaricus volvatus, Pk. Volvate Agaric. Pileus convex, then nearly plane, *slightly striate on the margin, hairy or floccose-scaly*, white or whitish, the disk sometimes brownish, lamellæ close, free, white; stem equal or slightly tapering upward, stuffed, minutely floccose-scaly, whitish, inserted at the base in a *large, firm, cup-shaped, persistent volva*; spores *elliptical*, .0004 in. long, .0003 in. broad.

Plant 2 in. to 3 in. high, pileus 2 in. to 3 in. broad, stem 3 to 4 lines thick. July and August.

This species is quite rare. It grows in woods and open places and is easily distinguished from all others by the absence of the annulus and the presence of the large somewhat cup-shaped persistent volva. The pileus is not smooth as is usually the case in the species with a persistent membranous volva, but is more or less scaly with minute tufts of fibrils or tomentose hairs. Sometimes the margin is not very distinctly striate. The color varies from white to brownish. The lamellæ, which are white in the fresh plant, in the dried specimens assume a dull cinnamon-brown hue, except on the edge which remains white and is more or less floccose. *A. volvaceus*, Bull., has a similar volva, but its spores and lamellæ are pinkish or flesh-colored and it belongs, therefore, to the subgenus *Volvaria*.

Agaricus vaginatus, Bull. Sheathed Agaric. Pileus at first ovate or subcampanulate, then convex or nearly plane, *smooth*, rarely adorned with a few fragments of the volva, slightly viscid when young or moist, *deeply and distinctly striate on the thin margin*, very variable in color; lamellæ free, white or whitish; stem rather slender, equal or slightly tapering upward, stuffed or hollow, fragile, nearly smooth or minutely mealy-squamulose, *not bulbous*; surrounded at the base by the more or less elongated *sheathing flabby volva*; spores *globose*, shining, .0003 in. to .0004 in. in diameter.

Plant 4 in. to 7 in. high, pileus 2 in. to 4 in. broad, stem 2 lines to 4 lines thick. Woods and copses, sometimes on much decayed wood. June to October.

This, like our other common species *A. muscarius* and *A. phalloides* is very variable. The pileus is generally smooth, but sometimes, especially in young plants, it is adorned with one or more irregular fragments of the volva. The thin margin is rather widely striate and the striæ are so deep and distinct that the margin has sometimes been described as "sulcate" and "pectinate-sulcate." The prevailing colors are grayish-brown, livid-brown and fawny or ochery-brown with their intermediate shades. The flesh and lamellæ are white or whitish, and the stem is generally paler than the pileus. Both it and the pileus are somewhat fragile and the plant is easily broken unless handled with care. The pileus is sometimes slightly prominent or umbonate in the center, but it is nearly plane and quite regular. In very wet weather this and many other species sometimes have the margin a little raised or reflexed so that the pileus appears concave or depressed in the center. The volva is so fragile that unless care is taken in gathering the

specimens it does not adhere to the base of the stem but is left in the ground. In appearance this species is rather slender and regular, in mode of growth it is solitary or very much scattered. It grows in woods either dense or thin and sometimes in open places, and it seems to be able to accommodate itself to a great variety of circumstances. As it often happens, the variability of this species has given rise to numerous synonyms, which are mostly indicative of its various colors. Among these may be mentioned *A. plumbeus*, Shæff., *A. hyalinus*, Schæff., *A. badius*, Schæff., *A. fulvus*, Schæff., *A. trilobus*, Bolt., *A. pulvinatus*, Bolt., *Amanita livida*, Pers., and *Am. spadicea*, Pers. Some authors class this among the edible species, others, among the suspected or doubtful ones. Cordier pronounces it a delicate food.

Agaricus nivalis, Grev. Snowy Agaric. Alpine Agaric. Pileus at first ovate, then convex or plane, smooth, *striate on the thin margin*, white, sometimes tinged with yellow or ochraceous on the disk, flesh white; lamellæ subdistant, white, free; stem equal, rather tall, nearly smooth, *bulbous*, stuffed, white, the volva very fragile, *soon breaking up into fragments or sometimes persisting in the form of a collar-like ring at the upper part of the bulb*: spores globose, .0003 in. to .0004 in. in diameter.

Plant 4 in. to 6 in. high, pileus 2 in. to 3 in. broad, stem 2 to 4 lines thick. July to October.

This fungus has generally been considered a mere variety of the preceding, from which, according to the "English Flora," it differs merely in the "greater distance of the lamellæ and the greater compactness of the stem." But in the American plant, which seems to me to be the same specifically, I find two other notable points of distinction, namely, the more frail fragmentary volva and the distinctly bulbous base of the stem. This last character is also noticed in Greville's description, and it has especially influenced me to keep the species distinct. In its original locality its habitat is said to be "highland pastures and summits of mountains." With us it occurs in open, grassy places and in thin woods, but it is not common. I have seen it in the counties of Essex, Rensselaer and Otsego. It approaches in some respects, *A. Frostianus*, but its larger size, smooth pileus, lighter color and the absence of an annulus will easily distinguish it from that species. *A. fungites*, Batsch, is given as a synonym of this species.

Agaricus strangulatus, Fr. Strangulated Agaric. Pileus at first ovate or subelliptical, then campanulate, convex or plane, *warty*, slightly viscid when moist, *deeply and distinctly striate on the margin*, grayish-brown; lamellæ free, close, white; stem equal or tapering upwards, stuffed or hollow, nearly smooth, white or whitish, *the volva soon breaking up into scales or subannular fragments*: spores globose, .0004 in. to .0005 in. in diameter.

Plant 4 in. to 6 in. high, pileus 2 in. to 4 in. broad, stem 3 lines to 6 lines thick. July.

This plant was found in 1869 growing in the grassy borders of a grove near Greenport, Long Island. I have not since found it, and conclude that it is a very rare species with us. In color and general appearance it resembles *A. vaginatus*, from which it may be distinguished by the warty pileus and the slight volva which does not sheath the base of the stem, but soon breaks up into small fragments, or scales, which sometimes

form a sort of ring around the base of the stem, but which oftener remain as scales or disappear entirely. The warts of the pileus are often very numerous, persistent and close, especially on the disk, but sometimes they nearly all disappear, leaving the resemblance to *A. vaginatus* very close. They are dingy-gray or mouse-colored. The stem usually tapers upward and is adorned with minute branny scales or with a sort of mealliness, especially on the upper part. This species was described by Berkeley and Broome under the name *A. Ceciliae*, but Fries considers it the same as his *A. strangulatus*. Our plant has globose spores, while the spores of *A. Ceciliae* are described in the Handbook of British Fungi as "oval, .00034 by .0006 in.," a discrepancy which I am unable to explain. Neither is the application of the specific name *strangulatus* clear.

Agaricus farinosus, Schw. Mealy Agaric. Pileus nearly plane, thin, *flocculent-pulverulent, widely and deeply striate on the margin*, grayish-brown or livid-brown; lamellæ free, whitish; stem whitish or pallid, equal, stuffed or hollow, mealy, *subbulbous*, the volva *flocculent-pulverulent*, evanescent; spores variable, *elliptical ovate* or *subglobose*, .00025 in. to .0003 in. long.

Plant about 2 in. high, pileus 1 in. to 15 lines broad, stem 1 line to 3 lines thick. July to September.

This is our smallest *Amanita*. It is neither very common nor very abundant when it does occur. The pileus is generally grayish-brown or mouse-colored, though specimens sometimes occur that are almost white. The striations of the margin are long and generally distinct. The dusty flocculent covering is grayish-brown and usually most dense on or near the center of the pileus. It is this that suggests the specific name and affords a good distinguishing character for the species, which might otherwise be easily mistaken for a diminutive form of *A. vaginatus*. The lamellæ are sometimes uneven or floccose on the edge, which gives them a serrated appearance. Toward the outer extremity they are somewhat venosely connected in the interspaces as in *A. russuloides*. The stem is whitish and more or less mealy, with a slight bulb at the base which is at first clothed like the pileus. It is described by Schweinitz as "solid," but I have always found it stuffed or hollow.

Two other species of *Amanita* have been published by *E. C. Howe*, M. D., of Yonkers, under the names *A. onustus* and *A. soleatus*. No locality is added to the descriptions, but they are presumably of this State. I have seen no specimens of these species, but the description of the latter indicates that it is the same as *A. volvatus*. I have therefore deemed it best to omit them, until we have more definite information concerning them.

In the preceding pages, when no name is added to the station or stations mentioned, the plant has been found therein by the writer. Dates signify the time when the specimens were collected, and therefore indicate, to some extent, the time of the occurrence of the plant. Grateful acknowledgments are rendered to those Botanists whose names appear in the preceding pages, and who have kindly aided me by contribution of notes and specimens.

Very respectfully submitted,

CHARLES H. PECK.

ALBANY, January 7, 1880.

[Assem. Doc. No. 127.] 7

EXPLANATION OF PLATE I.

CORYNEUM PUSTULATUM *Peck.*

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- FIG. 1. Piece of a branch bearing the fungus in pustules.
FIG. 2. One immature and three mature spores in position x 400.
FIG. 3. Two free spores x 400.

ASTEROSPORIUM BETULINUM *Peck.*

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- FIG. 4. Piece of a branch bearing the fungus in pustules.
FIG. 5. One immature and two mature spores x 400.

SYNPHRAGMIDIUM EFFUSUM *Peck.*

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- FIG. 6. A piece of wood bearing a patch of the fungus.
FIG. 7. Mycelium with two rudimentary spores x 400.
FIG. 8. A spore with the series of cells adhering to each other x 400.
FIG. 9. A spore with the series of cells separating from each other x 400.
FIG. 10. A single separated series of cells separating from each other x 400.

TORULA UNIFORMIS *Peck.*

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- FIG. 11. A piece of bark bearing tufts of the fungus.
FIG. 12. Two clusters of flocci x 400.
FIG. 13. Two flocci united at the base x 400.

MICROSTROMA LEUCOSPORUM *Niessl.*

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- FIG. 14. Part of a leaflet bearing small patches of the fungus.
FIG. 15. Vertical view of a spore mass x 400.
FIG. 17. Lateral view of a spore mass x 400.
FIG. 17. Five spores x 400.

CANTHARELLUS BREVIPES *Peck.*

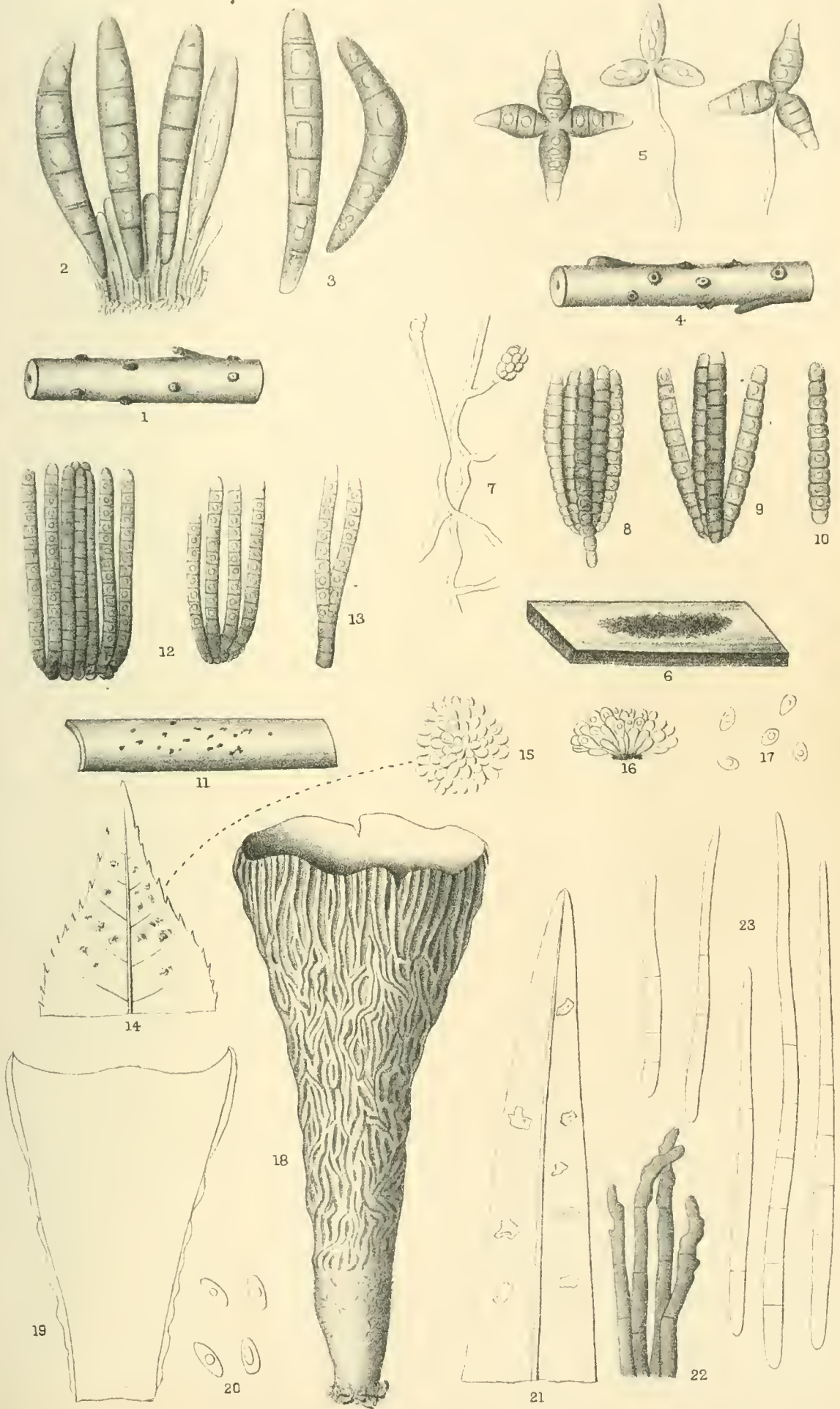
Page

- FIG. 18. A small plant.
FIG. 19. Vertical section of a pileus.
FIG. 20. Four spores x 400.

CERCOSPORA ELONGATA *Peck.*

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- FIG. 21. Part of a leaf bearing the fungus in angular spots.
FIG. 22. A tuft of flocci x 400.
FIG. 23. Five spores x 400.



EXPLANATION OF PLATE II.

**CERCOSPORA SMILACIS* *Thum.*

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- FIG. 1. A leaf bearing the fungus in orbicular spots.
FIG. 2. A tuft of flocci x 400.
FIG. 3. Three spores x 400.

HELICOSPORIUM CINEREUM *Peck.*

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- FIG. 4. A piece of wood bearing a patch of the fungus.
FIG. 5. Mycelium and part of three flocci x 400.
FIG. 6. One spore partly uncoiled and two spores coiled x 400.

PATELLARIA HAMAMELIDIS *Peck.*

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- FIG. 7. A piece of bark bearing the fungus.
FIG. 8. Two receptacles magnified.
FIG. 9. A paraphysis and an ascus containing spores x 400.
FIG. 10. Four spores x 400.

CALICIOPSIS PINEA *Peck.*

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- FIG. 11. A piece of bark bearing the fungus.
FIG. 12. One mature and two immature plants with a cluster of spheriform bodies at the base, all magnified.
FIG. 13. Two asci containing spores x 400.
FIG. 14. Five spores x 400.
FIG. 15. Five spermatia x 400.

HELVELLA PALUSTRIS *Peck.*

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- FIG. 16. A young plant.
FIG. 17. A mature plant.
FIG. 18. A paraphysis and an ascus containing spores x 400.

VALSA ACROCYSTIS *Peck.*

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- FIG. 19. Piece of a branch bearing the fungus.
FIG. 20. A magnified cluster of perithecia with the epidermis removed.
FIG. 21. An ascus containing spores x 400.
FIG. 22. One immature and two mature spores x 400.

CUCURBITARIA LONGITUDINALIS *Peck.*

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- FIG. 23. Piece of a branch bearing the fungus.
FIG. 24. A row of perithecia magnified.
FIG. 25. An ascus containing spores x 400.
FIG. 26. Three spores x 400.

*This species was unpublished when the report was written, but was afterward published by Baron Thumen. Owing to the delay in printing I am enabled to insert the name given by him and thus avoid a synonym.

