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REPORT OF THE BOTANIST.

1878  
for year 1875

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

SIR. — Since the date of my last report, specimens of two hundred and twenty-five species of plants have been mounted and placed in the State Herbarium, of which two hundred and one were not before represented. A list of these is marked (1).

Specimens have been collected in the counties of Albany, Rensselaer and Lewis. These represent one hundred and sixteen species of fungi new to the Herbarium. Sixty-eight of them are regarded as new or undescribed species. A list of collected plants is marked (2).

Specimens of thirty-seven species, new to the Herbarium and not among my collections of the past season, have been received from correspondents. Twelve of them are regarded as new or hitherto undescribed species. If the contributed specimens be added to those of my own collecting, the total number of additional species represented is one hundred and fifty-three. This does not include extralimital species, specimens of a considerable number of which have been received. A list of contributors and their contributions is marked (3).

Notices of previously unreported species, with descriptions of new species, are marked (4).

Notices of species previously reported, with remarks and observations, are marked (5).

Nearly three hundred species of fungi that attack and inhabit living plants have been detected in the State.

They affect almost as many species of flowering plants. In some cases several parasites attack the same host plant; in others, one parasite attacks two or more host plants indiscriminately. But, in many instances, a single parasite is peculiar to a single supporting plant, in which cases the latter may be taken by the student as a guide in his search for the description of the former. A *Puccinia* found on the leaves of the dwarf cornel, *Cornus Canadensis*, is almost

certain to answer to the description of *Puccinia porphyrogenita*, and an *Æcidium* on the leaves of the barberry, *Berberis vulgaris*, will scarcely be any other than *Æcidium Berberidis*.

A fact of still greater moment is, that some of our cultivated plants are attacked by fungoid foes which, minute as they are, materially diminish their vigor, impair their useful products and, in some instances, even destroy their vitality. Raspberries are attacked by the American raspberry rust, *Uredo luminata*; pea vines, by the pea mildew, *Erysiphe Martii*; oats and wheat, by the grain smut, *Ustilago Carbo*; plum and cherry trees, by the black-knot, *Sphaeria morbosæ*, and lettuce and onions by their respective molds, *Peronospora ganigliiformis* and *Peronospora Schleideniana*. Such fungi must be regarded as injurious to the interests of the husbandman, nor is the pecuniary loss which they occasion trivial or inconsiderable. The loss produced by the potato mold alone, *Peronospora infestans*, abundantly warrants all the effort and labor and study that have been devoted to the investigation of the history of the fungus and to the discovery of some efficient means for preventing its attacks or overcoming their destructive consequences.

On the other hand those fungi that infest noxious weeds and hinder their dissemination and multiplication, must be regarded as the friends and allies of man. Thus the thistle rust, *Trichobasis suaveolens*, an early state of *Puccinia Compositarum*, sometimes attacks the Canada thistle with great virulence, and so impairs its vigor as to prevent the development of the seeds, thereby checking the propagation and spread of this pestilent plant. So, also, the troublesome bur-grass, *Cenchrus tribuloides*, is sometimes infested by a smut fungus, *Ustilago Syntherismae*, which not only prevents the development of the seeds of the grass but also of the annoying bur-like involucre. It may yet be found practicable to keep down this grass by the artificial dissemination of the spores of its parasitic fungus in those light, sandy soils where the grass usually abounds. It certainly is desirable that the life histories of these fungoid friends and foes should be better understood than they now are, and that the means of multiplying or diminishing their numbers according to their character should be under the control of the farmer.

With these thoughts in mind it has seemed advisable to group together the names of the parasitic fungi hitherto found in the State, with their supporting plants. The list of these is marked (6).

( 1. )

## PLANTS MOUNTED.

*Not new to the Herbarium.*

*Nuphar advena Ait.*  
*Rhus venenata DC.*  
*Geum Virginianum L.*  
*Pinguicula vulgaris L.*  
*Lophanthus scrophulariæfolius*  
*Trillium erect. v. album Ph.*  
*Allium vineale L.*  
*A. tricocum Ait.*  
*Scirpus Eriophorum Mx.*  
*Eriophorum Virginicum L.*  
*E. gracile Koch.*  
*Carex exilis Dew.*  
*C. fœnea Willd.*  
*C. Grayii Carey.*  
*C. livida Willd.*  
*C. Crawei Dew.*  
*Eleusine Indica Gart.*  
*Millium effusum L.*  
*Poa trivialis L.*  
*P. alsodes Gr.*  
*Asplenium thelypteroides Mx.*  
*Onoclea sensibilis L.*  
*Lygodium palmatum Sw.*  
*Ophioglossum vulgatum L.*

*New to the Herbarium.*

*Negundo aceroides Mœnch.*  
*Sedum reflexum L.*  
*Nardosmia palmata Hook.*  
*Aster amethystinus Nutt.*  
*Centaurea nigra L.*  
*Verbena bracteosa Mx.*  
*Callitriche heterophylla Ph.*  
*Habenaria leucophæa Nutt.*  
*Allium Canadense Kalm.*  
*Barbula recurvifolia Schp.*  
*Hypnum compactum C. Mull.*  
*Biatora uliginosa Schrad.*

*Collema limosum Ach.*  
*Synalissa Schæereri Mass.*  
*Spirogyra longata Ktz.*  
*Hydrogastrum granulatum Desv.*  
*Pleurococcus vulgaris Mengh.*  
*Agaricus pusillomyces Pk.*  
*A. tenerrimus Berk.*  
*A. Austini Pk.*  
*A. Watsoni Pk.*  
*A. erinaccellus Pk.*  
*A. Colvini Pk.*  
*Coprinus Seymouri Pk.*  
*Hygrophorus marginatus Pk.*  
*H. parvulus Pk.*  
*H. Peckianus Howe.*  
*Cantharellus pruinosis Pk.*  
*Lentinus umbilicatus Pk.*  
*Boletus Spraguei Frost.*  
*B. chromapes Frost.*  
*Polyporus Stephensii Berk.*  
*Hydnum aurantiacum Batsch.*  
*H. auriscalpium L.*  
*Michenera Artocreas B. & C.*  
*Stereum candidum Schw.*  
*Corticium giganteum Fr.*  
*C. colliculosum B. & C.*  
*Cyphella muscigena Fr.*  
*Solenia filicina Pk.*  
*Clavaria pyxidata Pers.*  
*C. rugosa Bull.*  
*C. pulchra Pk.*  
*C. gracillima Pk.*  
*Typhula Grevillei Fr.*  
*Tremella vesicaria Bull.*  
*Physarum contextum Pers.*  
*P. albicans Pk.*  
*Dictydium umbilicatum Schrad.*  
*Phoma pallens B. & C.*

- Phoma Mariæ *Clinton*.  
 Diplodia Herbarum *Lev*.  
 Sphærospis Sambuci *Pk*.  
 S. biformis *Pk*.  
 S. Squieriæ *Clinton*.  
 S. Wilsoni *Clinton*.  
 S. Clintonii *Pk*.  
 Hendersonia Peckii *Clinton*.  
 H. Mariæ *Clinton*.  
 H. Sarmentorum *West*.  
 Vermicularia coptina *Pk*.  
 Septoria Coptidis *B. & C*.  
 S. maculosa *Ger*.  
 S. Wilsoni *Clinton*.  
 S. sambucina *Pk*.  
 S. Scrophulariæ *Pk*.  
 S. Rhoidis *B. & C*.  
 Dinemasporium Pezizula *B. & C*.  
 Asteroma Rosæ *DC*.  
 Morthiera Mespili *Fekl*.  
 Discella discoidea *C. & P*.  
 Sphæronema conforme *Pk*.  
 S. oxysporum *Berk*.  
 Coryneum Kunzei *Cd*.  
 Melanconium disseminatum *Fr*.  
 M. minutissimum *Schw*.  
 Pestalozzia insidens *Zab*.  
 P. rostrata *Zab*.  
 P. monochæta *Desm*.  
 Septonema Peziza *C. & E*.  
 Sporidesmium Lepraria *Berk*.  
 Puccinia Sorghi *Schw*.  
 P. bullaria *Lk*.  
 P. Smilacis *Schw*.  
 P. Dayi *Clinton*.  
 P. Clintonii *Pk*.  
 Ustilago neglecta *Niessl*.  
 Uromyces Graminum *Ch*.  
 U. Phaseoli *Strauss*.  
 Protomyces Menyanthis *D. By*.  
 Peridermium columnare *A. & S*.  
 Æcidium album *Clinton*.  
 Æ. Nesææ *Ger*.  
 Æ. dracontiatum *Schw*.  
 Cystopus Bliti *Biv*.  
 Stilbum candidum *Pk*.  
 S. aurifilum *Ger*.  
 Monotospora biseptata *Pk*.  
 Stachybotrys lobulata *Berk*.  
 Haplographium apiculatum *Pk*.  
 Helminthosporium Urticiæ *Pk*.  
 Macrosporium Saponariæ *Pk*.  
 Nematogonum aurantiacum *Desm*.  
 Erysiphella aggregata *Pk*.  
 Microsphæra Van Bruntiana *Ger*.  
 M. Platani *Howe*.  
 M. Symphoricarpi *Howe*.  
 M. Menispermii *Howe*.  
 M. abbreviata *Pk*.  
 Uncinula luculenta *Howe*.  
 Chætomium Douglasii *Schw*.  
 Peronospora obliqua *Ch*.  
 P. Geranii *Pk*.  
 Geoglossum velutipes *Pk*.  
 Peziza amplispora *C. & P*.  
 P. pallidula *C. & P*.  
 P. omphalodes *Bull*.  
 P. sepulta *Fr*.  
 P. ovilla *Pk*.  
 P. clandestina *Bull*.  
 P. Cucurbitæ *Ger*.  
 P. hyalina *Pers*.  
 P. scirpina *Pk*.  
 P. Pteridis *A. & S*.  
 P. corneola *C. & P*.  
 P. subatra *C. & P*.  
 P. atrocinerea *Ch*.  
 Helotium pileatum *Pk*.  
 H. salicellum *Fr*.  
 Patellaria fenestrata *C. & P*.  
 P. dispersa *Ger*.  
 P. fuispora *C. & P*.

- Sphinctrina tigillaris *B. & Br.*  
 Cenangium Rubi *Fr.*  
 C. deformatum *Pk.*  
 C. Aucupariæ *Fr.*  
 Stictis pupula *Fr.*  
 S. hysterina *Fr.*  
 S. quercina *Pk.*  
 Rhytisma Urticæ *Fr.*  
 Hysterium Rousselii *De Not.*  
 H. magnosporium *Ger.*  
 Colpoma Ledi *Pk.*  
 Ailographum subconfluens *Pk.*  
 Torrubia superficialis *Pk.*  
 T. clavulata *Schw.*  
 Epichloe typhina *Berk.*  
 Nectria sanguinea *Fr.*  
 Hypoxylon Sassafras *Schw.*  
 Dothidea Linderæ *Ger.*  
 D. clavispora *C. & P.*  
 Melogramma gyrosum *Schw.*  
 M. Bulliardi *Tul.*  
 Diatrype aspera *Fr.*  
 D. subelypeata *C. & P.*  
 D. anomala *Pk.*  
 Melanconis bicornis *Ck.*  
 Valsa Prunastri *Fr.*  
 V. Rubi *Fekl.*  
 V. Woolworthi *Pk.*  
 V. leiphemia *Fr.*  
 V. acerina *Pk.*  
 V. oxyspora *Pk.*  
 V. obscura *Pk.*  
 V. mucronata *Pk.*
- Valsa suffusa *Fr.*  
 V. femoralis *Pk.*  
 V. sambucina *Pk.*  
 Cucurbitaria alnea *Pk.*  
 C. seriata *Pk.*  
 Lophiostoma Jerdoni *B. & Br.*  
 L. macrostoma *Fr.*  
 L. triseptata *Pk.*  
 L. Scrophulariæ *Pk.*  
 L. Spirææ *Pk.*  
 Sphæria pulicaris *Pers.*  
 S. hirtissima *Pk.*  
 S. subcorticalis *Pk.*  
 S. phæostromoides *Pk.*  
 S. ampicornis *Ellis.*  
 S. canina *Pk.*  
 S. valsoides *Pk.*  
 S. minima *Awd.*  
 S. Scoriadea *Fr.*  
 S. monosperma *Pk.*  
 S. rubefaciens *Pk.*  
 S. Urticæ *Rabh.*  
 S. mirabilis *Pk.*  
 S. tubæformis *Tode.*  
 Sphærella sparsa *Awd.*  
 S. carpineæ *Fr.*  
 S. indistincta *Pk.*  
 S. orbicularis *Pk.*  
 S. oblivia *Ck.*  
 Venturia Myrtilli *Ck.*  
 V. Clintonii *Pk.*  
 V. Kalmiæ *Pk.*

(2.)

## PLANTS COLLECTED.

- Agaricus transmütans *Pk.*  
 A.    sapidus *Kalchb.*  
 A.    abundans *Pk.*  
 A.    citrinellus *Pers.*  
 A.    stylobates *Pers.*  
 A.    pubescentipes *Pk.*  
 A.    pruinatipes *Pk.*  
 A.    teneroides *Pk.*  
 A.    placomycetes *Pk.*  
 A.    squalidellus *Pk.*  
 A.    elongatipes *Pk.*  
 A.    atomatoides *Pk.*  
 A.    incertus *Pk.*  
 Coprinus pulchrifolius *Pk.*  
 C.    plumbens *Pk.*  
 Cortinarius splendidus *Pk.*  
 C.    sphagnophilus *Pk.*  
 C.    robustus *Pk.*  
 C.    castanellus *Pk.*  
 Gomphidius rhodoxanthus *Schw.*  
 Hygrophorus speciosus *Pk.*  
 Lactarius scrobiculatus *Scop.*  
 L.    vellerius *Fr.*  
 L.    subpurpureus *Pk.*  
 L.    parvus *Pk.*  
 Marasmius spongiosus *B. & C.*  
 Boletus badius *Fr.*  
 B.    Russellii *Frost.*  
 B.    Peckii *Frost.*  
 B.    nigrellus *Pk.*  
 B.    griseus *Frost.*  
 B.    ornatipes *Pk.*  
 B.    Ravenelii *B. & C.*  
 Exobasidium Cassandræ *Pk.*  
 Phallus Dæmonum *Fr.*  
 Lycoperdon coloratum *Pk.*  
 Chondrioderma Michellii *Lib.*  
 Lamproderma physaroides *A. & S.*
- Cryptosporium Caricis *Cd.*  
 Sphæropsis propullans *Schw.*  
 S.    Gallæ *Schw.*  
 Discosia faginea *Lib.*  
 Melasmia alnea *Lev.*  
 Septoria cerasina *Pk.*  
 S.    difformis *C. & P.*  
 Excipula leucotricha *Pk.*  
 Discella Platani *Pk.*  
 D.    Kalmiæ *Pk.*  
 D.    macrosperma *Pk.*  
 Melanconium pallidum *Pk.*  
 Phragmidium gracile *Grev.*  
 Ustilago Candollei *Tul.*  
 Uronyces Claytoniæ *C. & P.*  
 Coleosporium ochraceum *Bon.*  
 Cystopus Portulacæ *DC.*  
 Stilbum vulgare *Tode.*  
 Epicoccum neglectum *Desm.*  
 Periconia truncata *C. & P.*  
 P.    corticalis *C. & P.*  
 Helminthosporium oosporum *Cd.*  
 H.    episphæricum *C. & P.*  
 Polyactis pulvinata *B. & C.*  
 Peronospora effusa *Grev.*  
 P.    pygmæa *Ung.*  
 Ramularia Nemopanthis *C. & P.*  
 Oidium leucoconium *Desm.*  
 Stysanus Stemonitis *Cd.*  
 Dactylium roseum *Berk.*  
 Fusisporium phyllogenum *C. & P.*  
 F.    parasiticum *Pk.*  
 Chætomium funiculum *Ck.*  
 Peziza imperialis *Pk.*  
 P.    griseo-rosea *Ger.*  
 P.    albospadicea *Grev.*  
 P.    bronca *Pk.*  
 P.    longipes *C. & P.*

Peziza agrostina <i>Pk.</i>	Valsa cinctula <i>C. &amp; P.</i>
P. Pinastri <i>C. &amp; P.</i>	V. Fraxinicola <i>C. &amp; P.</i>
P. Thalictri <i>Pk.</i>	V. Linderæ <i>Pk.</i>
P. virginella <i>Ck.</i>	Sphæria fulgida <i>C. &amp; P.</i>
P. subtilissima <i>Ck.</i>	S. squalidula <i>C. &amp; P.</i>
Helotium hydrogenum <i>Pk.</i>	S. salebrosa <i>C. &amp; P.</i>
H. saphrophyllum <i>C. &amp; P.</i>	S. recessa <i>C. &amp; P.</i>
Ascobolus ciliatus <i>Schm.</i>	S. interstitialis <i>C. &amp; P.</i>
A. furfuraceus <i>Pers.</i>	S. obtusissima <i>B. &amp; C.</i>
Bulgaria purpurea <i>Fckl.</i>	S. Fimeti <i>Pers.</i>
Stictis versicolor <i>Fr.</i>	S. spiculosa <i>Pers.</i>
S. filicina <i>Pk.</i>	S. obducens <i>Fr.</i>
Hypocrea rufa <i>Fr.</i>	S. ceanothina <i>Pk.</i>
H. chromosperma <i>C. &amp; P.</i>	S. melantera <i>Pk.</i>
H. apiculata <i>C. &amp; P.</i>	S. minutella <i>Pk.</i>
Hypomyces transformans <i>Pk.</i>	S. smilacinina <i>Pk.</i>
Dothidea filicina <i>Fr.</i>	S. culmifraga <i>Desm.</i>
Valsa trichispora <i>C. &amp; P.</i>	S. Collinsii <i>Schw.</i>
V. tumidula <i>C. &amp; P.</i>	Sphærella colorata <i>Pk.</i>

( 3. )

## CONTRIBUTORS AND THEIR CONTRIBUTIONS.

Mrs. E. E. ATWATER, Chicago, Ill.

Phegopteris Dryopteris <i>Fee.</i>	Cystopteris fragilis <i>Bernh.</i>
P. polypodioides <i>Fee.</i>	Mitremyces lutescens <i>Schw.</i>

Mrs. T. E. MORRIS, Potomac, Va.

Mitremyces lutescens *Schw.*

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

Scirpus maritimus *L.* | Botrychium matricariæfolium.

Mrs. BARNES, Syracuse, N. Y.

Botrychium matricariæfolium *A. Br.*

Mrs. L. A. MILLINGTON, Glens Falls, N. Y.

Arceuthobium Americanum <i>Engelm.</i>	Arceuthobium robustum <i>Engelm.</i>
	Aspid. Noveb. v. fragrans <i>Mill.</i>

W. W. HILL, Albany, N. Y.

Pinus contorta <i>Dougl.</i>	Woodwardia Virginica <i>Sm.</i>
Aspidium spinulosum <i>Sw.</i>	Dicksonia punctilobula <i>Kze.</i>
Asplenium Filix-fœmina <i>Bernh.</i>	Botrychium matricariæfolium.

C. DEVOL, M. D., Albany, N. Y.

Pinus contorta *Dougl.*

W. R. GERARD, Poughkeepsie, N. Y.

Omphalaria pulvinata <i>Nyl.</i>	Uncinula geniculata <i>Ger.</i>
Agaricus tremulus <i>Schæff.</i>	Helotium æruginosum <i>Fr.</i>
Boletus parasiticus <i>Bull.</i>	Bulgaria purpurea <i>Fckl.</i>
Melanogaster ambiguus <i>Tul.</i>	

E. C. HOWE, M. D., Yonkers, N. Y.

Badhamia hyalina <i>Pers.</i>	Diatrype Smilacicola <i>Schw.</i>
Septoria Ulmi <i>Kze.</i>	

I. A. LAPHAM, Milwaukee, Wis.

Podisoma macropus *Schw.*

Prof. J. HALL, Albany, N. Y.

Rumex Engelmanni *Ledeb.*

Prof. G. H. FRENCH, Irvington, Ill.

Dryas octopetala <i>L.</i>	Heuchera bracteata <i>Seringe.</i>
Jamesia Americana <i>T. &amp; G.</i>	

H. GILLMAN, Detroit, Mich.

Uryomces Junci *Schw.*

C. F. PARKER, Germantown, Pa.

Rhytisma acerinum *Fr.*

Prof. C. E. BESSEY, Ames, Iowa.

Septoria Besseyi <i>Pk.</i>	Cystopus candidus <i>Lev.</i>
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Rev. H. WIBBE, Oswego, N. Y.

Azalea viscosa *L.*



## C. C. FROST, Brattleborough, Vt.

Marasmius archyropus <i>Fr.</i>	Paxillus porosus <i>Berk.</i>
M. erythropus <i>Fr.</i>	Lycoperdon cyathiforme <i>Bosc.</i>
Boletus grisens <i>Frost.</i>	Endobotrys elegans <i>B. &amp; C.</i>

## E. A. RAU, Bethlehem, Pa.

Pannaria crossophylla *Tuckerm.*

## H. A. WARNE, Oneida, N. Y.

Pellæa gracilis <i>Hook.</i>	Phragmidium mucronatum <i>Fr.</i>
Scolopendrium vulgare <i>Sm.</i>	P. gracile <i>Grev.</i>
Guepinia helvelloides <i>DC.</i>	Lycoperdon constellatum <i>Fr.</i>
Lactarius vellereus <i>Fr.</i>	L. Warnei <i>Pk.</i>

## J. B. ELLIS, Newfield, N. J.

Hymenochæte agglutinans <i>Ellis.</i>	Ombrophila violacea <i>Fr.</i>
Peziza inquinans <i>Ck.</i>	O. purpurascens <i>Fr.</i>
P. nigrescens <i>Ck.</i>	O. subaurea <i>Ck.</i>
Dermatea tabacina <i>Ck.</i>	Sporidesmium rude <i>Ellis.</i>
Hypocrea rufa <i>Fr.</i>	Diatrype moroides <i>C. &amp; P.</i>
H. consimilis <i>Ellis.</i>	Menispora ciliata <i>Cd.</i>

## Hon. G. W. CLINTON, Buffalo, N. Y.

Corticium sulfureum <i>Fr.</i>	Graphiolum Phœnicis <i>Poit.</i>
Phoma nebulosum <i>Berk.</i>	Stilbum smaragdinum <i>A. &amp; S.</i>
Peckia Clintonii <i>Pk.</i>	Ægerita candida <i>Pers.</i>
P. Sarraceniæ <i>P. &amp; C.</i>	Cercospora Callæ <i>P. &amp; C.</i>
Cryptosporium Noveboracense.	Ramularia Nemopanthis <i>C. &amp; P.</i>
Septoria Polygalæ <i>P. &amp; C.</i>	Zygodermus hydroides <i>B. &amp; C.</i>
S. emaculata <i>P. &amp; C.</i>	Bulgaria purpurea <i>Fckl.</i>
Vermicularia concentrica <i>P. &amp; C.</i>	Tympanis gyrosa <i>B. &amp; C.</i>
Discosia rugulosa <i>B. &amp; C.</i>	Hypocrea patella <i>C. &amp; P.</i>
Pestalozzia Guepini <i>Desm.</i>	H. chromosperma <i>C. &amp; P.</i>
Sporidesmium concinnum <i>Berk.</i>	Hypoxylon fuscopurpureum <i>Schw.</i>
Clasterisporium uncinatum <i>Clint.</i>	Diatrype Cephalanthi <i>Schw.</i>
Puccinia Calthæ <i>Lk.</i>	Melogramma superficialis <i>P. &amp; C.</i>
P. Gentianæ <i>Strauss.</i>	Valsa leptasca <i>P. &amp; C.</i>
P. Physostegiae <i>P. &amp; C.</i>	Sphæria spermoides <i>Hoffm.</i>
Cystopus spinulosus <i>DeBy.</i>	S. exilis <i>A. &amp; S.</i>

(4.)

## PLANTS NOT BEFORE REPORTED.

OMPHALARIA PULVINATA *Nyl.*Poughkeepsie. *W. R. Gerard.*AGARICUS (TRICHOLOMA) TRANSMUTANS *n. sp.*

Pileus convex, smooth, very viscid or glutinous and alutaceous when moist, becoming brownish or reddish-brown when dry; lamellæ narrow, close, some of them branched, whitish or pale yellow, becoming spotted with reddish stains; stem equal or slightly tapering upwards, smooth, stuffed or hollow, whitish, often marked with reddish stains; spores subglobose, .0002' \* in diameter.

Plant 3'-4' high, pileus 2'-3' broad, stem 3"-5" thick.

Ground in woods. Sandlake. August.

It occurs in wet weather and manifests a tendency to grow in circles.

AGARICUS SAPIDUS *Kalchb.*

Trunks of trees and old stumps. Albany and Knowersville. June and October.

The cæspitose habit and lilac-tinted spores are to be observed in distinguishing this species from its allies. It is considered edible.

AGARICUS TREMULUS *Schæff.*

Mosses. Poughkeepsie. *Gerard.*

AGARICUS (COLLYBIA) ABUNDANS *n. sp.*

Pileus thin, convex or expanded, subumbilicate, innate-fibrillose, whitish inclining to fuscous, often a little darker and more densely fibrillose on the disk, the thin margin easily splitting; lamellæ narrow, close, adnate, sometimes veiny, white; stem equal, smooth, hollow, easily splitting, often curved, colored like the pileus, pruinose at the top.

Plant gregarious or subcæpitose, 1'-2' high, pileus 1'-1.5' broad, stem 1" thick.

Decaying trunks in woods. Sandlake and Greig. August and September.

This fungus is not frequent, but when it does occur it is usually in great abundance. When drying the margin rolls inward and the color becomes darker.

\* One accent signifies inch or inches, two accents line or lines.

*AGARICUS CITRINELLUS Pers.*

Decaying mossy trunks in woods. Greig. September.

*AGARICUS STYLOBATES Pers.*

Among fallen leaves in woods. Sandlake. August.

The pileus in our specimens is grayish and the striations are dichotomous.

*AGARICUS (VOLVARIA) PUBESCENTIPES n. sp.*

Pileus convex, dry, white, clothed with minute hairy squamules or reflexed fibrils, fimbriate on the margin; lamellæ close, free, white, then flesh-colored, sometimes minutely serrated or eroded on the edge; stem slender, subequal, pubescent; volva subappressed, white; spores elliptical, .00025'-.00028' long, usually containing a single nucleus.

Plant about 1' high, pileus 6"-12" broad, stem 1" thick.

Ground in borders of deciduous woods. Sandlake. August.

The different pileus as well as habitat separates this from *A. hypopithys*. (Plate 1, figs. 1-3.)

*AGARICUS (NAUCORIA) PRUINATIPES n. sp.*

Pileus regular, convex, smooth, hygrophanous, brownish when moist, ochraceous-yellow when dry, flesh whitish; lamellæ close, nearly plane, rounded behind, pale-cinnamon; stem equal, firm, stuffed or hollow, pruinose, striate, pallid or cinereous; spores subelliptical, brownish-ferruginous, .00025' long.

Plant 1'-2' high, pileus 1'-1.5' broad, stem about 1" thick.

Ground in woods. Greig. September.

The pruinosity of the stem is due to the presence of minute flocculent or mealy squamules.

*AGARICUS (GALERA) TENEROIDES n. sp.*

Pileus thin, campanulate or expanded, hygrophanous, brownish-cinnamon and striatulate when moist, paler when dry; lamellæ narrow, close, yellowish-cinnamon; stem straight, equal, hollow, colored like the pileus; spores subluteous, nearly elliptical, .0003'-.00035' long.

Plant gregarious, 1'-1.5' high, pileus 8"-12" broad, stem .5" thick.

Ground in wood roads. Greig. September.

This species is closely related to *A. tener*, from which it differs in its more expanded pileus, more narrow lamellæ, shorter stem and smaller paler spores. Its color is nearly the same as that of *A. tener*.

AGARICUS (PSALLIOTA) PLACOMYCES *n. sp.*

Pileus rather thin, expanded, plane, dry, squamulose, whitish, the disk and small scales brown; lamellæ close, free, white, then pinkish, finally blackish-brown; stem smooth, containing a small pith, slightly tapering upward, bulbous, whitish, the bulb stained with yellow and usually giving rise to one or two root-like processes; annulus large, flabby, often studded with drops of a dark-colored fluid; spores elliptical, brown, .00018'-.0002' long.

Plant 3'-5' high, pileus 2'-3' broad, stem 2"-4" thick.

Ground under hemlock trees. Oneida. *H. A. Warne*. Knowersville. July.

This is a beautiful Agaric, the flattened pileus being finely adorned by the minute brown scales.

AGARICUS (HYPHOLOMA) SQUALIDELLUS *n. sp.*

Pileus thin, subconical, convex or subcampanulate, expanded when old, smooth, hygrophanous, ochraceous-yellow when dry, darker and striatulate when moist, squalid and spore-stained when old; lamellæ broad, lax, rounded behind, whitish, then purplish-brown with a whitish edge; stem slender, stuffed, fibrous, subflexuous, reddish-brown; spores elliptical, purple-brown, .00035'-.0004' long.

Plant gregarious, 1'-2' high, pileus 6"-12" broad, stem 1" thick.

Damp ground in or near wood roads. Greig. September.

A small form sometimes occurs with the pileus gibbous or broadly umbonate.

AGARICUS (PSILOCYBE) ELONGATIPES *n. sp.*

Pileus thin, convex, then expanded, smooth, moist, yellow; lamellæ subdistant, broad, plane, then ventricose, yellowish becoming brown, usually with the edge whitish; stems elongated, subfragile, flexuous, equal, stuffed or hollow, usually with a few silky fibrils, pallid or rufous; spores brown, elliptical, .0004'-.0005' long.

Plant 3'-5' high, pileus 6"-10" broad, stem 1" thick.

Among sphagnum in marshes and wet places in woods. Greig. September.

It appears to be allied to *A. elongatus*. When young the presence of a slight veil is manifest.

AGARICUS (HYPHOLOMA) INCERTUS *n. sp.*

Pileus fragile, convex or subcampanulate, then expanded, hygrophanous, often radiately-wrinkled, whitish with the disk yellowish, the thin margin sometimes purplish-tinted, often wavy, adorned by fragments of the white flocculent fugacious veil; lamellæ close, nar-

row, whitish, then rosy-brown, the edge often uneven; stem equal, straight, hollow, easily splitting, whitish, pruinose or slightly furfuraceous at the top; spores elliptical, purplish-brown, .0003' long, .0002' broad.

Plant gregarious or subcaespitose, 2'-3' high, pileus 1'-2' broad, stem 1"-2" thick.

Ground among bushes. Green Island and Sandlake. June and July.

The veil is sometimes so strongly developed as to form an imperfect annulus. The color is nearly white from the first.

AGARICUS (PSILOCYBE) ATOMATOIDES *n. sp.*

Pileus rather thin, fragile, convex or subcampanulate, then expanded, rugose-wrinkled, subhygrophanous, sprinkled with minute shining particles and with tufts of the white floccose fugacious veil, grayish or ochraceous-brown, sometimes with a pinkish tint; lamellæ rather broad, subventricose, rounded behind, cinereous then dark-brown; stem equal, hollow, clothed when young with minute floccose scales, pruinose at the top, whitish; flesh cinereous; spores subelliptical, blackish brown, .00028'-.0003' long, .00016' broad.

Plant 1.5'-2' high, pileus 8"-12" broad, stem 1" thick.

Ground and decaying wood under pine trees. West Albany. June and July.

In very wet weather the pileus has a dark watery appearance but it dries quickly. The spores in the mass are almost black, nevertheless the plant is closely related to the fragile species of *Psilocybe*.

COPRINUS PULCHRIFOLIUS *n. sp.*

Pileus membranaceous, conical or campanulate, striate to the small even yellowish disk, cinereous, sprinkled with minute whitish scales or granules; lamellæ narrow, crowded, free, cinnamon-brown, often furnished with a few minute hyaline spine-like processes; stem slender, fragile, hollow, white; spores elliptical, brown with a slight rosy tinge .0003' long.

Plant solitary, 2'-3' high, pileus 6"-12" broad, stem scarcely 1" thick.

Ground in woods. Greig. September.

This remarkable species does not accord well with the characters of the genus to which I have referred it, neither in the color of the spores nor in the persistent nature of the lamellæ, for I have not found these to be deliquescent. Nor will it do to place it among the *Psathyrae*, for the lamellæ are free and the pileus is not hygrophanous. Also, the free lamellæ and brown spores forbid its reference to *Psathyrella*. I have, therefore, thought best for the present to place it

in the genus *Coprinus*, some of the species of which it much resembles in external appearance.

*COPRINUS PLUMBEUS n. sp.*

Pileus submembranaceous, fragile, campanulate, sulcate-striate nearly to the apex, leaden-gray, tawny or brownish-yellow on the small disk, sprinkled with tawny-cinereous hairs or flocci; lamellæ narrow, close, free; stem slightly tapering upward, hollow, floccose, white; spores elliptical, .0004' long, .00025' broad.

Plant 3'-5' high, pileus 1'-1.5' broad, stem 1"-2" thick.

Ground in wood roads. Greig. September.

*CORTINARIUS (PHLEGMACIUM) SPHAGNOPHILUS n. sp.*

Pileus convex or expanded, smooth, viscid, pale-brown, marked with darker watery spots, especially on the margin; lamellæ broad, subdistant, transversely rugulose, violaceous, then cinnamon; stem long, firm, bulbous, silky, striate, pale-violaceous; spores oblong-elliptical, .0004'-.0005' long.

Plant 5'-6' high, pileus 2'-3' broad, stem 4"-5" thick.

Sphagnous marshes. Greig. September.

The spotted pileus is a distinctive feature in this species.

*CORTINARIUS (MYXACIUM) SPLENDIDUS n. sp.*

Pileus convex or subcampanulate, viscid, pale-fuscous; lamellæ not crowded, whitish, then cinnamon; stem equal, viscid, violaceous, whitish above; spores with an apiculus at one end, .0006'-.00065' long.

Plant 3' high, pileus 2' broad, stem 3"-5" thick.

Ground in woods. Sandlake. August.

The shining brown pileus and violet colored stem afford a singular combination of colors. The plant is apparently very rare.

*CORTINARIUS (INOLOMA) ROBUSTUS n. sp.*

Pileus hemispherical, then expanded, smooth, pale-bay, the margin sometimes lobed; lamellæ close, pale-cinnamon; stem stout, solid, bulbous, pallid, clothed with whitish silky fibrils; spores elliptical, .00035' long.

Plant 2'-4' high, pileus 2'-3' broad, stem 3"-6" thick.

Ground in woods. Greig. September.

The plant is quite variable in size but it usually has a stout, rugged appearance.

CORTINARIUS (DERMOCYBE) CASTANELLUS *n. sp.*

Pileus thin, convex or expanded, umbonate, smooth, shining, dark-chestnut color; the umbo almost black; lamellæ close, rounded behind, cinnamon; stem silky, equal, stuffed or hollow, pallid or whitish, obscurely violaceous above; spores elliptical, .00035' long.

Plant 2' high, pileus 6"-12" broad, stem 1"-2" thick.

Ground in open fields. West Albany. October.

The smaller size of the plant, the umbonate pileus and larger spores distinguish this from *C. nigrellus*, which it somewhat resembles in color.

GOMPHIDIUS RHODOXANTHUS *Schw.*

Ground in deciduous woods. Sandlake. August.

The pileus is not always red, but varies sometimes toward yellow, sometimes toward brown. The spores are oblong, .0004'-0.0005' in length.

HYGROPHORUS SPECIOSUS *n. sp.*

Pileus at first ovate or subconical, then expanded with the thin margin decurved, smooth, glutinous, often with a small umbo, bright red or scarlet, becoming yellowish; lamellæ arcuate, decurrent, subdistant, white, the interspaces sometimes veiny; stem long, subequal, solid, white or yellowish, sometimes viscid; spores elliptical, .0003'-0.00035' long.

Plant gregarious, 3'-5' high, pileus 1'-2' broad, stem 3"-5" thick.

Ground under or near larch trees. Greig and Center. September and October.

This is a very showy plant. The small umbo or disk retains the red color longer than the rest of the pileus. (Plate 2, figs. 1-5.)

LACTARIUS SCROBICULATUS *Scop.*

Ground in woods. Bethlehem. August.

LACTARIUS VELLEREUS *Fr.*

Ground in woods. Sandlake. Oneida. *Warne.* August.

The tomentum of the pileus and pubescence of the stem are frequently obsolete or indistinct.

LACTARIUS SUBPURPUREUS *n. sp.*

Pileus at first convex, then expanded or depressed, smooth, subviscid, variegated with purplish and cinereous hues; lamellæ dull-red or purplish; stem equal, colored like the pileus; milk sparse, dark-red.

Plant 2'-4' high, pileus 2'-3' broad, stem 3"-5" thick.

Mossy ground in swamps. Sandlake. August.

The species is related to *L. deliciosus*, but there are no orange hues either to the plant or the milk as in that species.

*LACTARIUS PARVUS n. sp.*

Pileus nearly plane, then depressed, smooth, reddish-brown, becoming paler; lamellæ crowded, narrow, white, then tinged with yellow; stem mostly short, often curved, stuffed, equal or slightly tapering upward, whitish; milk white, taste acrid; spores globose, rough, .00033' in diameter.

Plant about 1' high, pileus 6"-12" broad, stem 1"-2" thick.

Decaying stumps in woods. Sandlake and Greig. August and September.

*MARASMIUS SPONGIOSUS B. & C.*

Ground among fallen leaves. West Albany and Center. August.

*BOLETUS BADIUS Fr.*

Woods. Greig and Sandlake. August and September.

*BOLETUS PARASITICUS Bull.*

Parasitic on *Scleroderma vulgare*. Willowemoc. Gerard.

*BOLETUS RUSSELLII Frost.*

Woods. Sandlake. August.

This species is rare with us. It is remarkable for its long lacunose-reticulated and roughly lacerated stem, which is narrowed at the top and sometimes strongly curved at the base. Mr. Frost finds a form with the stem much twisted.

*BOLETUS RAVENELII B. & C.*

Woods. Sandlake. August.

If I understand this species correctly it often attains much larger dimensions than those given in the description. The tubes are at first whitish but in drying they change to a brown color. They become dingy-brown where bruised. The stem sometimes tapers downwards and is usually peronate and more or less annulate by the yellow veil. The pileus is reddish where the pulverulence has vanished. The plant is sometimes cæspitose.

*BOLETUS NIGRELLUS n. sp.*

Pileus dry, minutely tomentulose, blackish; tubes plane or convex, scarcely depressed around the stem, small, unequal, subrotund, whitish, then tinged with pink; stem equal, short, even, colored like the pileus;



flesh white, unchangeable; spores oblong, mostly narrowed toward one end, .0004'-.0005' long.

Plant 3'-4' high, pileus 3'-4' broad, stem 6"-10" thick.

Woods. Sandlake. August.

*BOLETUS PECKII Frost n. sp.*

Pileus dry, firm, minutely tomentulose, red, fading to buff-brown, the margin usually retaining its color longer than the disk; tubes nearly plane, adnate or slightly decurrent, yellow, turning blue when wounded; stem equal or subventricose, strongly reticulated, red, yellow at the top; spores ochraceous-brown, oblong, .00035'-.0004' long.

Plant 3'-4' high, pileus 2'-3' broad, stem 3"-6" thick.

Ground in deciduous woods. Sandlake. August.

The stem is generally brighter colored than the pileus and retains its color longer. The species should be referred to the *Calopodes*.

*BOLETUS GRISEUS Frost n. sp.*

Pileus dry, firm, nearly smooth, gray or grayish black; tubes nearly plane, adnate, sometimes slightly depressed around the stem, small, unequal, subrotund, white; stem whitish or yellowish, strongly reticulated, often abruptly narrowed and yellow at the base; flesh whitish or gray; spores ochraceous-brown, oblong, .0004'-.0005' long.

Plant 3'-4' high, pileus 2'-4' broad, stem 6"-12" thick.

Deciduous woods. Sandlake. August.

The plants have a rather strong unpleasant odor. The color of the pileus is variable, but it is generally some shade of gray. The reticulations of the stem are finer at the top, coarser, elongated and somewhat compound toward the base, but in the dried specimens the finer reticulations at the top of the stem are the most distinct, the others becoming obsolete. My esteemed friend, Mr. Frost, finds a form which he considers a variety of this species, differing from the type in having the tubes flesh and stem yellow.

*GUEPINIA HELVELLOIDES DC.*

Decayed wood partly buried. Oneida. Warne.

Mr. Warne remarks that he has found it in but one limited locality, four or five feet square, and that its color when fresh is a very beautiful reddish-brown.

*PHLEBIA PILEATA n. sp.*

Pilei coriaceous, effuso-reflexed, more or less imbricated and laterally confluent, concentrically sulcate, zonate, subtomentose, purplish-brown; hymenium a little paler, usually stained with red or orange on the margin, the folds crowded, radiating, frequently interrupted

behind and appearing like coarse papillæ, when dry suffused with a dull tawny bloom; spores elliptical, colorless, .0003' long.

Dead branches of beech. Greig. September.

*CORTICIUM SULPHUREUM Fr.*

Decaying wood. Buffalo. *Clinton.*

*EXOBASIDIUM CASSANDRÆ n. sp.*

Gall a suborbicular thickened portion of the leaf, generally concave above, convex below, two to four lines in diameter, red or yellow, at length white pruinose on the lower surface; spores oblong, colorless, variable in size, .0002'-.0005' long.

Living leaves of *Cassandra calyculata*. Buffalo. *Clinton.* Sandlake. July. Perhaps this is only a form of *E. Vaccinii*.

*MELANOGASTER AMBIGUUS Tul.*

Clay banks. Poughkeepsie. *Gerard.*

*PHALLUS DÆMONUM Fr.*

Shaded ground. Albany. September.

This is placed by some in a genus *Dictyophora*.

*LYCOPERDON CONSTELLATUM Fr.*

Fallen leaves under trees. Oneida. *Warne.* August.

This is a fine species, having, if possible, a more shaggy appearance than *L. pedicellatum* and *L. separans*. The spinous processes are either straight or curved. The color is a cervine brown, and scarcely changes in drying. (Plate 2, figs. 13 and 14.)

*LYCOPERDON COLORATUM n. sp.*

Peridium subglobose or obovate, sessile, six to ten lines in diameter, radicating, yellow or reddish-yellow, membranaceous, roughened with minute granular or furfuraceous warts; capillitium and spores pale, the latter globose, .00016'-.0002' in diameter.

Ground in bushy places. Sandlake. August.

The species is remarkable for the pale color of the capillitium and the yellow hue of the peridium.

*CHONDRIODERMA MICHELII Lib.*

Fallen leaves, grass and twigs. West Albany. September. (Plate 1, figs. 4-6.)

*BADHAMIA HYALINA Pers. (Didymium simulans Howe.)*

Ailanthus bark. Yonkers. *Howe.*

LAMPRODERMA PHYSAROIDES *A. & S.*

Decaying wood. Buffalo. *Clinton*. Indian Lake.

PHOMA NEBULOSUM *Berk.*

Dead nettle stems. Buffalo. *Clinton*. May.

CRYPTOSPORIUM CARICIS *Cd.*

Dead leaves of sedges. West Albany. May.

CRYPTOSPORIUM NOVEBORACENSE *B & C.*

Bark of hemlock. Markham Station. *Clinton*. May.

PECKIA *Clinton nov. gen.*

*Perithecia carbonaceous, sphaeriform, glabrous; spores concatenate.*

The strings of spores are nearly or quite colorless, sometimes branched in a retiform manner, sometimes involved in mucus. The character of the perithecia separates the genus from *Myxormia*.

PECKIA SARRACENIÆ *Peck & Clinton, n. sp.*

Perithecia scattered or collected in small groups, sometimes seated on blackish spots, small, slightly prominent, black; strings of spores retiformly branched, spores oblong, narrow, colorless, .0003' long.

Dead leaves of pitcher plant, *Sarracenia purpurea*. Buffalo. *Clinton*.

PECKIA CLINTONII *n. sp.*

Perithecia scattered, prominent on both surfaces of the leaf, smooth, black; strings of spores involved in mucus; spores subquadrate, slightly tinged with green, .0002' long.

Decaying leaves of *Smilacina trifolia*. Buffalo. *Clinton*. April.

The strings of spores sometimes adhere to each other laterally. Sometimes there is the appearance of a spurious or divided endochrome in the spores. (Plate 2, figs. 6-9.)

SPHÆROPSIS GALLÆ. (*Sphaeria Gallæ* Schw.)

Old galls and twigs of butternut, *Juglans cinerea*. Bethlehem.

The perithecia on the galls are so crowded that they appear to the naked eye to form a continuous black crust.

SPHÆROPSIS PROPULLANS. (*Sphaeria propullans* Schw.)

Dead stems of *Celastrus scandens*. Greenbush.

VERMICULARIA CONCENTRICA *P. & C. n. sp.*

Perithecia small, black, beset with straight rigid bristles, concentrically placed on arid orbicular spots; spores oblong, slightly curved, pointed at each end, colorless, .0008'-.001' long.

Living leaves of *Trillium erythrocarpum*. Pine Valley. Clinton. July.

The tissues at length fall out from the affected spot, leaving apertures through the leaf. The perithecia are less regularly disposed near the center of the spots. Judge Clinton also sends a variety on leaves of *Viola rotundifolia* in which the concentric arrangement of the perithecia is not at all perceptible, but I detect no other difference.

DISCOSIA FAGINEA *Lib.*

Fallen beech leaves. Portville. September.

DISCOSIA RUGULOSA *B. & C.*

Leaves of hickory, *Carya alba*. Chautauqua Lake. Clinton.

MELASMIA ALNEA *Lev.*

Living leaves of alder, *Alnus serrulata*. Center. August.

SEPTORIA CERASINA *n. sp.*

Spots scattered or confluent, rather small, subangular, brown or reddish-brown; perithecia few, collapsed when dry, appearing as if margined, pallid or amber-colored; tendrils whitish; spores long, filiform, generally strongly curved, .002'-.003' long.

Lower surface of cherry leaves, *Prunus serotinus*. Lake Pleasant. August.

This is quite unlike *Phyllosticta sanguinea* Desm., as represented by specimens from the collection of that gentleman. Frequently only one perithecium occupies a spot.

SEPTORIA POLYGALÆ *P. & C. n. sp.*

Perithecia minute, scattered or clustered, black; spores filiform, slender, straight or slightly curved, .001'-.0016' long.

Dead leaves of *Polygala paucifolia*. Portage. Clinton. May.

SEPTORIA EMACULATA *P. & C. n. sp.*

Perithecia rather large, scattered, prominent, black; spores filiform, curved or flexuous, usually containing several nucleoli, .002'-.0035' long.

Pods and living leaves of *Lathyrus palustris*. Buffalo. Clinton. July.

The leaves are without spots. The perithecia appear on one or both surfaces.

SEPTORIA DIFFORMIS *C. & P. n. sp.*

Spots suborbicular, brown; perithecia crowded, black, amphigenous; spores profuse, linear, straight or curved, hyaline, .0006'

long, oozing out and covering the spots with a white or glaucous bloom.

Living leaves of *Vaccinium Pennsylvanicum*. Lake Pleasant. August.

SEPTORIA ULMI *Kze.*

Elm leaves. New Baltimore. *Howe*. Catskill mountains.

EXCIPULA LEUCOTRICHA *n. sp.*

Perithecia small, scattered, the disk plane or slightly convex, orbicular, elliptical or elongated, black, surrounded by a few long septate whitish hairs; spores fusiform, colorless, .0003'-.0004' long.

Dead grass leaves. West Albany. June.

The species is well marked by the pale delicate hairs of the perithecium.

DISCELLA MACROSPERMA *n. sp.*

Perithecia obsolete; mass of spores prominent, reddish-brown or blackish, pale when moist; spores oblong, straight or slightly curved, often narrowed toward one end, colorless, .0013'-.0016' long, .0004' broad, containing a granular endochrome.

Dead bark of willows. North Greenbush. July.

DISCELLA PLATANI *n. sp.*

Pustules small, erumpent, pallid; spores subelliptical or oblong, smooth, deciduous, colorless, .0003'-.0005' long.

Dead twigs of buttonwood, *Platanus occidentalis*. Bethlehem. May.

The sporophores rarely remain attached to the spores and these have no granular aspect as in *D. platyspora*.

DISCELLA KALMIÆ *n. sp.*

Pustules small, erumpent, at length blackish, the perithecia mostly deficient above and somewhat excipuliform; spores oblong-obovate, sometimes slightly curved, colorless, .0004'-.0006' long.

Dead stems of sheep laurel, *Kalmia angustifolia*. Sandlake. June.

MELANCONIUM PALLIDUM *n. sp.*

Stroma small, yellowish; spores oozing out in a blackish mass, separately pallid or almost colorless, ovate or oblong, often slightly curved and subcymbiform, .0006'-.0007' long.

Dead branches of *Carya alba*. West Troy. June.

The species is remarkable for the pale color of the spores. These sometimes contain two or three large nuclei. (Plate 1, figs. 7 and 8.)

SPORIDESMIUM CONCINNUM *Berk.*

Decaying wood. Markham Station. *Clinton*. May.

CLASTERISPORIUM UNCINATUM *Clinton n. sp.*

Thinly effused, blackish-brown; spores large, subfusiform, straight or curved, five to seven-septate, colored, .0016'-.002' long, tapering below into the pale or colorless septate short pedicel which is strongly curved, coiled or uncinatate at the narrowed base.

Lower surface of fallen oak leaves. Buffalo. *Clinton*. Nov.

The cells of the spores are often nucleate, and the terminal cell is sometimes truncate and paler than the others. The uncinatate base of the pedicel is a characteristic feature. (Plate 1, figs. 9 and 10.)

*C. pedunculatum*, which in a former report was referred to this genus, must be placed in the genus *Helminthosporium*. It becomes *H. attenuatum* C. & P.

PHRAGMIDIUM GRACILE *Grev.*

Leaves of *Rubus odoratus*. Bethlehem, Trenton Falls and Watkin's Glen. September.

This plant was formerly reported as a variety of *Phragmidium mucronatum*, but having compared it with authenticated European specimens of both forms of that species, I am satisfied that our plant is distinct. In the Uredo form the spots are more definite, the sori and spores are larger and the latter have a more coarsely-roughened epispore. In the Brand form the spores are longer and yet more narrow, the papillæ are more prominent and the mucro is generally longer and roughened.

PUCCINIA GENTIANÆ *Strauss.*

Leaves of *Gentiana Andrewsii*. Buffalo. *Clinton*. August.

PUCCINIA CALTHÆ *Lk.*

Leaves of *Caltha palustris*. Buffalo. *Clinton*. July.

PUCCINIA PHYSOSTEGIÆ *P. & C. n. sp.*

Spots none; sori evenly scattered, small, rotund, surrounded by the ruptured epidermis, blackish-brown; spores elliptical, scarcely constricted, .0014'-.0016' long, .0008'-.001' broad; pedicels short, slender.

Lower surface of leaves of *Physostegia Virginiana*. Strawberry Island. *Clinton*. August. (Plate 2, figs. 25 and 26.)

UROMYCES CLAYTONIÆ *C. & P. n. sp.*

Sori amphigenous, scattered, small, ovate or elliptical, brown; spores oval or elliptical, with a slight apiculus, .0013'-.0016' long, about .001' broad; pedicels slender, short, hyaline.

Leaves of *Claytonia Caroliniana*. Cold Spring. June.

USTILAGO CANDOLLEI *Tul.*

Heads of flowers of *Polygonum sagittatum*. Forestburgh. September.

The more even and darker colored spores separate this from *U. utriculosa*.

USTILAGO MONTAGNEI *Tul.* var. *major* *Desm.*

Heads of flowers of *Rhynchospora glomerata*. Long Island. *E. S. Miller*.

The larger size of the spores; with their remarkable pustules, serve to distinguish this from *U. Montagnei*, to which, as a variety, it is referred. I have thought it worthy of illustration. (Plate 1, figs. 11-12.)

COLEOSPORIUM OCHRACEUM *Bon.*

Leaves of *Agrimonia Eupatoria*. Greenport. July.

This is *Uredo Agrimonie* Schw. according to Dr. Curtis.

CYSTOPUS PORTULACÆ *DC.*

Leaves of purslane, *Portulaca oleracea*. Sandlake and Fishkill. August and September.

CYSTOPUS SPINULOSUS *De Bary.*

Leaves of Canada thistle, *Cirsium Canadense*. Buffalo. *Clinton*.

GRAPHIOLUM PHENICIS *Poit.*

Leaves of *Phœnix dissectifolia*. Conservatories, Buffalo. *Clinton*. May.

STILBUM VULGARE *Tode.*

Decaying wood. Sandlake. August.

STILBUM SMARAGDINUM *A. & S.*

Decaying wood. Markham Station. *Clinton*. May.

EPICOCUM NEGLECTUM *Desm.*

Decaying stems of Indian corn, etc. Buffalo. *Clinton*. North Greenbush. July.

The spores in our specimens often exceed the dimensions given in the description of this species.

ÆGERITA CANDIDA *Pers.*

Decaying wood. Grand Island and Sodus Bay. *Clinton*. October and November.

PERICONIA TRUNCATA *C. & P. n. sp.*

Scattered, black; stem rather thick, composed of loosely compacted

slender septate threads; capitulum expanded, truncate; spores elliptical, attenuated towards either end.

Dead branches of apple trees. Center. May.

PERICONIA CORTICALIS *C. & P. n. sp.*

Scattered, black; stem erect, rigid, composed of slender septate threads which are free at the apex forming a subglobose head and bearing at the tips minute globose spores, .00012' in diameter.

Bark of *Thuja occidentalis*. Adirondack Mts. July.

HELMINTHOSPORIUM OÖSPORUM *Cd.*

Dead stems of grape vines. Watkins. September.

HELMINTHOSPORIUM EPISPHERICUM *C. & P. n. sp.*

Flocci rather long, tufted, slender, flexuous, septate, rarely branched, blackish-brown; spores oblong-clavate, three to four septate, .002'-.003' long, truncate at the apex, the second and third cells from the top generally more highly colored than the others.

On some effete Diatrype. Albany. August. (Pl. 2, figs. 18-20.)

CERCOSPORA CALLÆ *P. & C. n. sp.*

Spots definite, narrow, oblong, pallid; flocci amphigenous, minutely tufted, short, flexuous, somewhat nodulose, not at all or indistinctly septate, slightly colored, cinereous or subolivaceous in the mass; spores colorless, terminal, at first simple, then elongated and one to five-septate, nearly straight, cylindrical or obclavate, .001'-003' long.

Living leaves of *Calla palustris*. Buffalo. Clinton. August.

PERONOSPORA PYGMEÆ *Ung.*

Leaves of *Anemone Pennsylvanica*. Bethlehem. May and June.

PERONOSPORA EFFUSA *Grev.*

Leaves of *Chenopodium album*. West Albany. August and Sept.

RAMULARIA NEMOPANTHIS *C. & P. n. sp.*

Spots brownish, rather irregular; flocci hypophyllous, fasciculate, short, delicate; spores fusiform or cylindrical, .0008' long, .0002' broad.

Living leaves of *Nemopantes Canadensis*. Buffalo. Clinton. Kasoag. July.

POLYACTIS PULVINATA *B. & C.*

Dead trunks and branches of alders. Center. October.

OIDIUM LEUCOCONIUM *Desm.*

Living rose leaves. Conservatories, Buffalo. Clinton.

Wild rose leaves. West Albany. July and November.



Judge Clinton remarks that the fungus curls and kills the leaves of the cultivated roses. The fungus is now regarded as a state of *Sphaerotheca pannosa*, the perfect condition of which we have not yet seen.

STYSANUS STEMONITIS *Cd.*

Fallen leaves of *Amelanchier Canadensis*.

Our specimens do not fully agree with the description and are therefore referred here with some hesitation. The stem is black and has a decidedly swollen or bulbiform base so that, after the spores have fallen, the plant might readily be taken for a *Sphaeria* with a long subulate ostiolum.

DACTYLIUM ROSEUM *Berk.*

On apples. Albany. November.

The apples were first attacked by *Spilocæa Pomi*, then on these affected spots this fungus appeared, forming a whitish, scarcely roseate, effused pulverulent mass.

FUSISPORIUM PHYLLOGENUM *C. & P. n. sp.*

Hypophyllous, collected in suborbicular spots; flocci fasciculate, simple or branched, nodulose; spores cylindrical, curved, three to seven-septate, colorless, .0025'-.003' long.

Living leaves of *Erigeron annuum*. Bethlehem. October.

FUSISPORIUM PARASITICUM *n. sp.*

Flocci delicate, tufted, sometimes branched, white; spores unequal in length, three to five-septate, straight or curved, usually pointed at one end and obtuse at the other, colorless, .0012'-.002' long.

On *Sphaeria Collinsii*. Center. July.

ZYGODESMUS HYDNOIDES *B. & C.*

Decaying wood. Buffalo. Clinton. September.

CHÆTOMIUM FUNICOLUM *Ch.*

Old broom. Albany.

The specimens are old and without asci and are to this extent doubtful, but they appear to belong here.

UNCINULA GENICULATA *Ger.*

Leaves of *Morus rubra*. Poughkeepsie. Gerard. September.

GEOGLOSSUM NIGRITUM *Pers.*

Marshy ground in woods. Greig. September. (Plate 1, figs. 20-22.)

Externally this species resembles *G. Peckianum*, from which it is

separated by its spores paraphyses and somewhat porous club. From *G. glabrum* it is at once distinguished by its glabrous stem and the longer, not moniliform, terminal joints of the paraphyses. Its spores scarcely differ from those of *G. glabrum* except in being more narrow.

The spores of *G. glabrum* having been described in the Handbook as three to four-septate, I was led to consider a similar plant with seven-septate spores as distinct and described it in the 25th Report under the name *Geoglossum simile*. But the description on which I relied proves to have been erroneous, and the spores of *G. glabrum* have since been published as seven-septate, so that *G. simile* of the 25th Report becomes a synonym of *G. glabrum*.

The application of the specific name *glabrum* to the plant designated by it is unfortunate and liable to mislead the student, for the stem is covered by a kind of minutely-tufted tomentum of matted septate filaments, which, with the projecting masses of spores from the mature club, give the plant a scarcely less hairy aspect than that of *Geoglossum hirsutum*.

*PEZIZA IMPERIALIS n. sp.*

Bright sulphur-yellow; cups irregular, six to twelve lines broad, often split on one side, with the margin incurved, externally pruinose-tomentose, the disk glabrous, becoming slightly orange-tinted in drying; stem thick, somewhat lacunose, usually narrowed at the top, four to eight lines high; asci cylindrical; spores elliptical, .0004' long, .0002' broad; paraphyses filiform, slightly thickened at the top.

Ground in woods. Greig. September.

In consequence of the bright color the plant is quite showy. The external pruinosity is due to the presence of a minute tomentum. The species is apparently allied to *P. sordescens* B. & C., but unless that species is badly described our plant must be distinct. (Plate 1, figs. 13-15.)

*PEZIZA GRISEO-ROSEA Ger.*

Ground in woods. Knowersville and Sandlake. July and August.

*PEZIZA ALBOSPADICEA Grev.*

Ground in woods. Sandlake. August.

*PEZIZA BRONCA n. sp.*

Cups gregarious or crowded, sessile, subhemispherical, four to nine lines broad, whitish or very pale-buff, externally roughened by small crowded whitish warts; asci cylindrical; spores elliptical, one to two-nucleate, .0008'-.0009' long, .0005' broad.

Ground. Knowersville and Sandlake. July and August. (Plate 2, figs. 10-12.)

PEZIZA LONGIPES *C. & P.*

Petioles of fallen leaves. Memphis. August.

PEZIZA AGROSTINA *n. sp.*

Cups scattered, small, .02'-.03' broad when dry, sessile, hemispherical or subglobose, externally hairy, of a dull pinkish hue, the hairs of the margin bent inwards when moist, usually with longer subulate whitish points, the others not subulate, often rough and more or less septate; disk pallid or cream-colored; asci cylindrical; spores subcylindrical, .00025'-.0003' long; paraphyses broad, longer than the asci, tapering upwards to a point.

Dead stems of *Calamagrostis Canadensis*. West Albany. June.

The peculiar paraphyses indicate an alliance with *P. apala*, *P. brunneola*, etc. The species belongs to the *Dasyscyphae*.

PEZIZA SUBTILISSIMA *Ck.*

Dead branches of pine. West Albany. July.

PEZIZA VIRGINELLA *Ck.*

Fallen leaves. Center. May.

PEZIZA PINASTRI *C. & P.*

Dead pine leaves adhering to cut branches. Center. May.

PEZIZA THALICTRI *n. sp.*

Cups abundant, sessile, bursting through the epidermis, small, punctiform when dry, externally black, the margin usually whitish or cinereous and subfimbriate; disk cinereous; asci oblong; spores crowded, elongated, simple or multinucleate, .001'-.0012' long, .0002' broad.

Base of dead stems of *Thalictrum cornuti*. Center. May.

When moist the cups expand, revealing the disk. The substance is then so much swollen that the black exterior breaks up into small scales, giving a scabrous appearance to the cups. The species should be referred to the section *Mollisia*.

HELOTIUM SAPROPHYLLUM *C. & P. n. sp.*

Minute, stipitate, ochraceous; cups plane; stems slender, slightly thickened upwards, as long as or longer than the diameter of the cup; asci sublanceolate; spores lanceolate or somewhat clavate, biseriolate, one to two-nucleate, .0008' long, .00025' broad.

Fallen leaves. Lake Pleasant. August.

The species is closely related to *H. fastidiosum* but is smaller throughout.

HELOTIUM HYDROGENUM *n. sp.*

Gregarious or scattered, sessile, smooth, externally brownish; disk nearly plane, margined, pallid or yellowish, becoming tinged with brown or green in drying; asci subclavate; spores subcylindrical, slightly curved, often containing several minute nuclei, .0005'-.0006' long.

Decaying wood lying in water. Sandlake. July.

The plants on the upper surface of the wood have the disk more yellow than those just at or beneath the surface of the water. They were associated with *Mitrula paludosa* and *Vibrissea Truncorum*.

ASCOBOLUS FURFURACEUS *Pers.*

Excrement of cattle. Buffalo. Clinton. Sandlake and West Albany. July and August.

When fresh the cups have a beautiful greenish-yellow color.

ASCOBOLUS CILIATUS *Schm.*

Excrement of cattle. Buffalo. Clinton. November.

TYMPANIS GYROSA *B. & C.*

Dead branches of apple tree. Silver Lake. Clinton. June.

BULGARIA PURPUREA *Fckl.*

Decaying wood. Poughkeepsie. Gerard. Buffalo. Clinton. Greig, East Worcester and Catskill Mts. July to September. The long spores, .0006'-.001', separate this from *B. sarcoides*.

STICTIS VERSICOLOR *Fr.*

Dead branches and decaying wood. Buffalo. Clinton. West Troy. July.

STICTIS FILICINA *n. sp.*

Pustulate, erumpent, surrounded by the lacerated epidermis; disk plane or concave, pallid or cream-colored; spores filiform, .0016'-.002' long.

Dead stems of *Osmunda cinnamomea*. Center. May.

The pustules are numerous and brownish at first. The covering epidermis is at length lacerated, the numerous narrow suberect laciniae retaining their brownish hue.

HYPOCREA CHROMOSPERMA *C. & P. n. sp.*

Fleshy, soft, convex, orbicular, one to two lines broad, flattened and patellate when dry, whitish or watery tan-color; ostiola slightly prominent; asci cylindrical; spores quadrate-globose, brownish when mature, .00016'-.0002' in diameter.

Decaying wood. Buffalo. *Clinton*. Greenbush and Croghan. July to September.

The colored spores are a noticeable feature.

*HYPOCREA PATELLA* C. & P. n. sp.

Fleshy, patellate, discoid, one to two lines broad, pale ochraceous; asci cylindrical; spores globose, sixteen, hyaline, .00012'-.00016' in diameter.

Decaying wood. Buffalo. *Clinton*. March and April.

This plant resembles externally some species of *Helotium*. The ostiola are smaller and less prominent than in the preceding species.

*HYPOCREA RUFA* Fr.

Dead alders. Center.

*HYPOCREA APICULATA* C. & P. n. sp.

Fleshy, soft, growing in irregular patches, smooth, ochraceous inclining to orange, the extreme margin barren; asci cylindrical; spores fusiform, with an apiculus at each extremity, uniseptate, colorless, .0011'-.0015' long, .0003'-.0004' broad.

Ground and rocks. Catskill Mts. and Sandlake. June to August.

The color of the ostiola in this species is variable, ranging from amber to orange.

*HYPOMYCES TRANSFORMANS* n. sp.

Subiculum effused, variable in color, pallid, golden-yellow, ochraceous or brick-red; perithecia ovate or subglobose, papillate, sunk in the subiculum; ostiola prominent, obtuse, amber or orange; asci cylindrical; spores fusiform, apiculate at each end, somewhat rough, simple or rarely with the endochrome obscurely divided, colorless, .0013'-.0015' long.

Parasitic on *Cantharellus cibarius*, which it transforms into an irregular mass. Sandlake. August.

The spores of *Hypocrea apiculata* resemble those of this and other species of *Hypomyces*, but the plant is not "parasitic on fungi," an essential character in the genus *Hypomyces* as at present defined. Neither do its spores agree well with the spore-character of the genus *Hypocrea* to which the species is referred, so that the plant must be regarded as an aberrant species intermediate between the two genera. It therefore becomes a question whether the two genera are well separated and whether they ought not to be reunited.

*MELOGRAMMA SUPERFICIALIS* P. & C. n. sp.

Stroma superficial, depressed, one to two lines broad, pale or yellowish within; perithecia unequal, more or less irregular, crowded,

depressed, blackish-brown or black; asci very broad, varying from subglobose to oblong-clavate, fugacious; spores oblong, obtuse, fenestrate, slightly constricted at the center and appearing uniseptate, .001'-.0013' long.

Bark of living mountain ash, *Pyrus Americanus*. Buffalo. Clinton. May.

DOTHIDEA FILICINA *Fr.*

Dead stems of *Pteris aquilina*. Center. May.

The spores in our specimens are oblong-fusiform, triseptate, .001'-.0012' long, either with or without a hyaline appendage at each end.

DIATRYPE SMILACICOLA *Schw.* (*Hypoxyton Smilacicola* Howe.)

Dead stems of Smilax. Yonkers. Howe.

DIATRYPE CEPHALANTHI *Schw.*

Dead stems of *Cephalanthus occidentalis*. Buffalo. Clinton. July. Catskill.

It belongs to the section *Diatrypella*.

DIATRYPE ADUSTA *C. & P. n. sp.*

Pustules small, slightly elevated, subconical, blackish, covered by the epidermis which is pierced by the very small disk; stroma white; ostiola few, small, black; asci cylindrical; spores uniseriate, simple, elliptical, colored, .0007'-.0009' long.

Dead branches. New Baltimore. Howe.

VALSA TRICHISPORA *C. & P. n. sp.*

Small, pustulate; stroma cortical, pale ochraceous as well as the erumpent disk; perithecia few, dark-brown when mature; ostiola exserted, quadrisulcate; asci clavate; spores filiform, hyaline, five to seven-septate, .0024' long, .0001' broad.

Dead twigs of oak. Greenbush.

It looks like a miniature *Valsa leiphemia*.

VALSA TUMIDULA *C. & P. n. sp.*

Erumpent, piercing the elevated discolored cuticle, ultimately exposing the blackened disk; perithecia four to six, semi-immersed in the wood, circumscribed by a black line; ostiola obtuse, quadrisulcate; asci clavate; spores linear; straight or curved, obtuse, hyaline, .0004'-.0005' long.

Dead branches of *Cratægus*. Garrisons. June.

VALSA CINCTULA *C. & P. n. sp.*

Pustulate; perithecia few, clustered, black; ostiola cylindrical, thick, piercing the whitish disk which encircles them with an irregular white ring; asci clavate; spores fasciculate, linear, multinucleate, at length three to seven-septate, .0024' long, .0002' broad.

Dead branches of chestnut. Guilderland. May. (Plate 2, figs. 21-24.)

VALSA FRAXINICOLA *C. & P. n. sp.*

Pustulate, perforating the epidermis; perithecia ovoid, black, circinating; ostiola rather long, convergent, somewhat quadrisulcate; asci clavate; spores minute, sausage-shaped, crowded at the apex of the asci.

Ash branches. Tyre. September.

VALSA LINDERÆ *n. sp.*

Pustules small, rather prominent, crowded or scattered, closely surrounded by the ruptured epidermis, circumscribed by a black line; ostiola crowded, short, dull black, obliterating the blackish disk; perithecia usually four to six, nestling in the inner bark; asci slender, clavate; spores eight, yellowish in the mass, cylindrical, curved, obtuse, .0003'-.0005' long.

Dead branches of the spice bush, *Lindera Benzoin*. Albany. July.

VALSA LEPTASCA *P. & C. n. sp.\**

Subpustulate, blackish, erumpent; perithecia small, numerous, tapering above into the papillate or subconical ostiola; asci elongated, cylindrical, slender; spores uniseriate, simple, oblong or elliptical-oblong, usually binucleate, colorless, .0003' long.

Dead branches of *Rhus typhina*. Buffalo. Clinton. July and August.

Sometimes the pustules are confluent or effused, in which case the plant might be taken for a Sphæria.

SPHÆRIA COLLINSII *Schw.*

Leaves of *Amelanchier Canadensis*. Center. May.

This remarkable Sphæria was found in considerable quantity in the locality mentioned. It attacks all the leaves on an affected branch, and even the branch itself gives indications of the presence and influence of the fungus. It is more or less contorted, swollen and deflected toward the ground. The upper surface of the leaves assumes a dark-green or lurid hue, the lower surface being wholly occupied by matted filaments, the subiculum of the Sphæria. This

is at first olive-brown in color, but at length black spots appear upon it. These gradually enlarge until the whole surface becomes black. With this change in the color of the subiculum, the perithecia appear, but they do not, apparently, perfect their spores until the following spring, spore-bearing specimens having been found in May. The affected leaves adhere to the branch during the winter and the early part of the following summer. These dry leaves, when seen among the surrounding green leaves that put forth before these have fallen, together with the drooping branch that bears them, are deceptively imitative of dead leaves on a branch that has been broken down but still adheres by a shred to the parent trunk. The young fungus commences its growth before the old one of the previous year has disappeared. I have taken from the same tree, at the same time, old leaves bearing the mature *Sphæria*, and young leaves bearing the subiculum and young perithecia of the succeeding crop. The fungus does not appear to kill the branch it attacks.

As Schweinitz does not describe the fruit of this fungus I subjoin the following description of its characters:

Asci cylindrical; spores uniseriate, abruptly narrowed at one end and divided by an obscure septum into two very unequal parts, colorless, .0004'-.0005' long.

This fungus is manifestly closely allied to *Sphæria morbosa*, which some European mycologists have referred to the genus *Cucurbitaria*, but as the erumpent character of the *Cucurbitariæ* is not present in *S. Collinsii*, the species is left where Schweinitz placed it.

*SPHERIA (VILLOSÆ) CÆSARIATA C. & P. n. sp.*

Perithecia gregarious, about .012' in diameter, subglobose, papillate, black, shining, beset with scattered erect rigid septate black hairs; asci cylindrical or clavate; spores biseriate, narrowly fusiform, five to seven-septate, greenish, .0015'-.0017' long, each cell nucleate.

Decaying wood. Portville. September.

*SPHERIA (VILLOSÆ) LEONINA C. & P. n. sp.*

Perithecia subconfluent or rarely scattered, dark-brown, oval, covered with a short thick tawny-orange tomentum, the papillate apex naked; asci clavate or cylindrical; spores biseriate, lanceolate, uniseptate, constricted, at length triseptate, brown, .0014'-.0015' long; paraphyses slender, filiform.

Cut surface of wood. Portville. September.

*SPHERIA FIMETI Pers.*

Horse dung. Sandlake. July.

*SPHERIA OBDOCENS Fr.*

Ash branches. Bethlehem. June.



SPHÆRIA SPERMOIDES *Hoffm.*

Decaying wood. Buffalo. *Clinton*. May.

SPHÆRIA (DENUATÆ) SALEBROSA *C. & P. n. sp.*

Perithecia gregarious or crowded, globose, rough, black, depressed and umbilicate, pierced at the apex and faintly radiately sulcate, .02'-.03' broad; asci cylindrical or clavate; spores lanceolate, acute uniseptate, constricted at the septum, brown, .0014'-.002' long, .0003'-.0004' broad; paraphyses numerous, filiform.

Dead stems of shrubs. Center. October.

SPHÆRIA (DENUATÆ) RECESSA *C. & P. n. sp.*

Perithecia gregarious, at first semi-immersed, smooth, flattened, dark-brown or black, .012' broad; asci subclavate; spores one or two-seriate, elliptical, uniseptate, deeply constricted at the septum, colorless, .0005'-.0008' long, .00025'-.0004' broad.

Decaying wood. Tyre. September.

The perithecia have a somewhat discoid appearance.

SPHÆRIA (DENUATÆ) SQUALIDULA *C. & P. n. sp.*

Perithecia gregarious, globose, semi-immersed, pierced at the apex, about .012' broad, black; asci cylindrical; spores uniseriate, elliptical, simple, binucleate, colorless, .0005'-.0007' long.

Decaying chestnut wood. Portville. September.

SPHÆRIA (DENUATÆ) INTERSTITIALIS *C. & P. n. sp.*

Perithecia gregarious, at first semi-immersed, always apparently so by nestling between the fibres of the wood, subglobose, pierced at the apex, black, .012'-.02' in diameter; asci cylindrical; spores uniseriate, polymorphous, triseptate, with occasional vertical septa, deeply constricted, brown, .0012'-.0014' long, .0005'-.00065' broad.

Decorticated wood of cherry. Greenbush. November.

SPHÆRIA EXILIS *A. & S.*

Decaying wood. Markham Station. *Clinton*. May.

SPHÆRIA SPICULOSA *Pers.*

Dead branches. North Greenbush. July.

SPHÆRIA OBTUSISSIMA *B. & C.*

Decaying maple wood. Sandlake. July.

I depend upon specimens received from the late Dr. Curtis for the validity of this determination as I have seen no description of the species.

SPHÆRIA (OBTECTÆ) CEANOTHINA *n. sp.*

Perithecia small, scattered or rarely two or three crowded together, smooth, subglobose; ostiola piercing the epidermis, somewhat rugged, often curved or deformed; spores crowded or biseriate, oblong, obtuse, sometimes curved, colorless, .0005'-.0006' long.

Dead stems of *Ceanothus Americanus*. Center. May.

SPHÆRIA (OBTECTÆ) MELANTERA *n. sp.*

Perithecia gregarious, minute, covered by the blackened epidermis; asci linear; spores crowded or biseriate, oblong or subfusiform, triseptate, slightly constricted at the septa, colored, .0005'-.0007' long.

Dead stems of raspberry, *Rubus strigosus*. Center. May.

SPHÆRIA (CAULICOLÆ) FULGIDA *C. & P. n. sp.*

Perithecia gregarious, sometimes disposed in lines, soon free, globose, black, smooth, shining, scarcely papillate, .01'-.012' in diameter, at length collapsed; asci clavate or cylindrical; spores filiform, curved or flexuous, multinucleate, at length multiseptate, colorless, .003' long.

Dead stems of herbs. Albany. May.

This is allied to *S. rubella*, *S. acuminata*, *S. Bardanæ* and *S. Urticæ*.

SPHÆRIA (CAULICOLÆ) SMILACININA *n. sp.*

Perithecia abundant, minute, at first covered by the thin often blackened epidermis, slightly prominent; asci cylindrical or subclavate; spores crowded, ovate or unequally elliptical, pale greenish-yellow, .0005'-.0006' long, usually containing a single large nucleus.

Dead stems of *Smilacina stellata*. Center. May.

SPHÆRIA (CAULICOLÆ) MINUTELLA *n. sp.*

Perithecia minute, somewhat flattened, black, the upper part at length breaking away leaving the base attached to the matrix; asci sublanceolate; spores oblong, simple, colorless, .0003' long.

Dead stems of herbs. North Greenbush. June.

SPHÆRIA CULMIFRAGA *Desm.*

Dead stems of grass. Watkins. September.

SPHÆRELLA COLORATA *n. sp.*

Spots orbicular, small, scattered or rarely confluent, reddish-brown, usually with a darker margin; perithecia minute, black, epiphyllous; asci cylindrical; spores cylindrical or subfusiform, uniseptate, colorless, .0006'-.0007' long.

Living leaves of sheep laurel, *Kalmia angustifolia*. Center. July.  
The spots are more distinctly margined on the upper than on the lower surface of the leaf. They are sometimes greyish. Plate 2, figs. 15-17.)

(5.)

PLANTS PREVIOUSLY REPORTED — REMARKS AND OBSERVATIONS.

The first twelve species of fungi here given were reported without description. They are now repeated with descriptions.

DOTHIDEA CLAVISPORA. (*Hysterium clavisporum* C. & P.).

Stroma small, oblong, elliptical or linear, at first covered by the epidermis, then erumpent, longitudinally striate under a lens, black; asci clavate; spores crowded, clavate, multiseptate, colored, .001'-.0013' long.

Dead stems of *Phragmites communis*.

The fungus frequently grows in long lines or series. Mature fruit-bearing specimens especially occur on the older and more discolored stems. The septa are from five to nine, the intervals between them being very short. The basal cell is usually the longest.

HYSTERIUM EXARIDUM C. & P.

Superficial, seated on irregular bleached spots; perithecia elliptical, minutely rugose, opaque, black; lips elevated, paler, connivent; asci clavate; spores filiform, hyaline.

Fallen leaves of *Kalmia angustifolia*.

COLPOMA JUNIPERINUM C. & P.

Perithecia gregarious, oblong or elliptical, sometimes slightly elongated and flexuous, covered by the epidermis which is ultimately ruptured in an irregular manner, blackish, disk pallid, at length exposed; asci clavate; spores filiform; paraphyses slender, filiform, at first curved or circinate at the tips.

Bark of *Juniperus Virginiana*.

DIATRYPE MOROIDES C. & P.

Rather small, erumpent, the disk at length obliterated by the crowded somewhat prominent hemispherical black ostiola; perithecia crowded, blackish; asci cylindrical; spores uniseriate, oblong, uniseptate, colored, .0005'-.0006' long, about .0002' broad.

Dead alders.

VALSA BICINCTA *C. & P.*

Erumpent; stroma dirty-white, mealy; perithecia six to ten, subglobose, disposed in circles, black; ostiola elongated, convergent; disk whitish, surrounded by a black line, at length obsolete; asci cylindrical; spores biseriate, fusiform, four-nucleate, .0004'-.0005' long.

Dead branches of *Juglans cinerea*.

The spores in dried specimens sometimes have the appearance of being uniseptate or even triseptate from the division of the endochrome.

LOPHIOSTOMA TURRITUM *C. & P.*

Perithecia subgregarious, emergent, prominent, subglobose, black, with broad compressed truncate necks; ostiola elongated; asci cylindrical or clavate; spores oblong-elliptical, five-septate, brown, .0008'-.0009' long.

Dead willow branches.

The turret-shaped perithecia give a spinulose appearance to the twigs. The lips of the compressed ostiola are linear as in *Hysterium*.

LOPHIOSTOMA MAGNATUM *C. & P.*

Perithecia subgregarious, semi-immersed, globose, rather large, somewhat thin and fragile, pitchy-black; ostiola short, compressed; asci cylindrical or clavate; spores biseriate, lanceolate, constricted in the center, three to five-septate, .002'-.0023' long.

Decaying wood. It some resembles *L. macrostomum* in habit.

SPHÆRIA (VILLOSÆ) MUTANS *C. & P.*

Perithecia rather large, .026'-.036' broad, gregarious or crowded, globose, papillate, black, at first clothed with a thin tawny evanescent tomentum, at length naked, smooth, shining; asci subcylindrical; spores uniseriate, elliptical, brown, .0004'-.0005' long.

Decaying wood.

The species is allied to *S. mutabilis* Pers.

SPHÆRIA (VILLOSÆ) VIRIDICOMA *C. & P.*

Perithecia erumpent, then superficial, two or three together, ovate, black, clothed with a dense greenish tomentum, .03'-.04' broad; ostiola thick, prominent, naked; asci clavate or cylindrical; spores one to two-seriate; lanceolate, uniseptate and four-nucleate or triseptate, deeply constricted at each septum, colorless, .0013'-.0018' long, .0003'-.0004' broad.

Decaying beech wood and branches.

The two central cells of the spores are nearly globose.

SPHÆRIA (CAULICOLÆ) SEMEN *C. & P.*

Perithecia soon free, globose, clustered, pierced at the apex, black; asci clavate or cylindrical; spores biseriata, lanceolate, straight or curved, triseptate, deeply constricted in the center, colorless, .0012'-.0013' long.

Fallen petioles of mountain ash, *Pyrus Americana*.

SPHÆRIA (CAULICOLÆ) SUBCONICA *C. & P.*

Perithecia conoid, flattened at the base, somewhat collapsed when dry, seated beneath the epidermis which is at length thrown off, black; asci cylindrical; spores triseptate, brown, .0012' long, .0003' broad.

Dead stems of herbs.

It resembles *S. Doliolum* in habit, but differs in fruit.

SPHÆRIA (CAULICOLÆ) RACEMULA *C. & P.*

Perithecia cæspitose, rugose, small, flattened, black, at length collapsed, separating with the epidermis which is pierced by the elongated ostiola; asci clavate, sessile; spores narrowly lanceolate, colorless, four-nucleate, .0006' long.

Dead stems of *Epilobium angustifolium*.

AZALEA VISCOSA *L.*

This beautiful shrub has been found in the town of Schodack, Rensselaer county by *Rev. H. Wibbe*.

ARCEUTHOBIUM PUSILLUM *Pk.*

*Mrs. L. A. Millington* informs me that she has found this parasite growing on upland spruces, so that it is not limited to those growing in and around marshes.

RUMEX ENGELMANNI *Ledeb.*

Grassy grounds. Albany. *Prof. J. Hall*.

SCIRPUS MARITIMUS *L.*

Fine specimens were collected near Syracuse by *Mrs. Rust*.

BOTRYCHIUM MATRICARLEFOLIUM *A. Braun.*

Lewis county. *Mrs. Barnes* and *W. W. Hill*.

In the development of a science like Mycology it is not possible wholly to avoid mistakes and the necessity of changes in names and arrangement. Recent European publications enable me to make some corrections in the nomenclature of previous reports.

AGARICUS NAUCINUS *Fr.*

In the new edition of *Epicrisis* this species is described as having *globose spores*; it therefore becomes necessary to regard as a distinct species the plant reported under this name in the 23d Report, p. 72. I propose for it the name *Agaricus (Lepiota) naucinoides*, and add to the description already given the following: *Spores subelliptical, .0003'-.00035' long, .0002'-.00025' broad, generally with a single large nucleus.*

The difference in the spores, the smoother pileus and absence of an umbo will separate this from *A. naucinus*.

There is also another closely related species, *A. Schulzeri* Kalebh., which is said to have *ovate spores*, a small annulus, an umbonate pileus and a nauseous taste, characters by which it may be readily distinguished from our plant. *A. lavis* Krombh., and *A. cretaceus* Fr., are also liable to be confused with this plant if the spores be neglected, the former being distinguished by its rosy or flesh-colored spores, the latter by its brown spores. Thus it appears that there are five species that are not easily separated except by their spore characters; a strong indication of the importance of publishing these characters with the descriptions of species.

AGARICUS PONDEROSUS *Pk.* Report 26, p. 50.

This name being preoccupied is changed to *Agaricus magnivelaris* Pk.

AGARICUS COPRINOIDES *Pk.* Report 26, p. 59.

This name also has been applied to a European species and I would therefore name the American plant *Agaricus plicatellus* Pk.

AGARICUS LILACINUS *Pk.* Report 24, p. 63.

This, too, is applied in Europe to a different species. I would therefore substitute for it the more appropriate one, *Agaricus lilacifolius* Pk.

PLICATURA ALNI *Pk.*

In the first edition of *Epicrisis* the genus *Trogia* is limited to coriaceous Agaricini having the lamellæ or folds longitudinally channelled on the edge. In the Handbook of British Fungi the generic character of *Trogia* is so modified as to include species with *crisped* lamellæ, and *Cantharellus crispus* is referred to this genus. Also, in the second edition of *Epicrisis* the phrase "in spec. Europæa modo crispæ" is parenthetically inserted in the generic description of *Trogia* and *C. crispus* becomes *Trogia crispæ*. If this classification is to be adopted and followed then *Plicatura Alni* must be changed to *Trogia Alni*. The reasons for its adoption are twofold. First it is the arrangement of the venerable Fries, the life-long student of fungi, who probably has no equal in the knowledge of the Agaricini

and in the ability to judge concerning the value of their characters and their proper classification; second, the unnecessary multiplication of genera founded on slight differences is to be deprecated.

*BOLETUS RETIPES* B. & C. Report 23, p. 132.

As soon as the characters of this species were published by Rev. M. J. Berkeley, it became evident that the plant I had hesitatingly referred to it and described in the location cited was distinct. There is no pulverulence to our plant nor does it have "pilei arising from a common base." I would, therefore, give it the name *Boletus ornaticipes*. Either this or a closely related form is regarded by my friend, Mr. C. C. Frost, as a variety of *B. griseus*, but the yellow flesh and the tubes, which are also yellow from the first, indicate to my mind a specific difference. It is by having respect to such a difference in color that the whole genus has been divided into primary series, and it hardly seems fitting to throw together, as varieties of one species, forms thus separated.

*THELEPHORA PALLIDA* Schw.

This name, being preoccupied, must be changed. I would substitute for it, *Thelephora Schweinitzii*.

*Puccinia Tiarellæ* B. & C. Report 25, p. 115.

Since the publication of this species, for the authenticity of which I depended upon specimens received from the late Dr. Curtis, Rev. Dr. Berkeley has published in *Grevillea*, 1874, p. 53, under the same name, a species which is clearly quite different. He also finds *Puccinia Saxifragarum* on *Tiarella* leaves. Neither can this be our plant, for *P. Saxifragarum* has its spores much broader and more obtuse. In view, therefore, of the peculiar circumstances attending the publication of these two species under the same name, I deem it the most courteous, if not the most correct way, to drop the name *P. Tiarellæ* from its connection with the plant described in the 25th Report, and substitute for it the name *Puccinia spreta* Pk., thus leaving *P. Tiarellæ* B. & C. for the species to which it has been applied by Dr. Berkeley.

*UROMYCES PELTANDRÆ* Howe.

Some account of the synonymy of this species seems desirable. In the synopsis of the Fungi of North Carolina, Dr. Schweinitz describes a fungus under the name *Uredo Caladii*, giving *Caladium* as its habitat. In his Synopsis of North American Fungi, he changes the name of this fungus to *Uredo Ari-Virginici*, adding the remark, perhaps as a reason for the change, "it is not *Caladium* but *Arum* on which it is found frequently." This remark admits of two interpretations depending upon the stress given to the last word. He may have found the fungus at first on *Caladium* and afterwards more frequently on *Arum*, or he may at first have mistaken the host plant, *Arum*, for *Caladium*, in which case the remark must have been

intended as a correction of that mistake, the word "frequently" being simply an additional idea. The latter appears to me to be the most natural interpretation. He does not mention the particular species in either case, but from the context it appears that the Caladium, real or supposed, was our present *Peltandra glauca*, and the Arum, our *Peltandra Virginica*. However this may be, the fungus inhabiting the latter plant was regarded as Schweinitz's species until Dr. Howe described it under the name *Uromyces Peltandrae*, and thus indicated more correctly its generic relations. He subsequently substituted the specific name *Ari-Virginici* for *Peltandrae*, but the law of priority works badly in this case, for the oldest name, *Caladii*, is manifestly inappropriate and was discarded by Schweinitz himself, and against the other there is, in the minds of some, an objection because of its compound character. *Uromyces Pontederiae* Ger. is, according to specimens received from Mr. Gerard, on *Peltandra* leaves and not distinct from *U. Peltandrae*.

Until recently the *Uromyces* inhabiting the leaves of *Arisæma triphyllum* was considered specifically the same as the one on *Peltandra* leaves. Dr. M. C. Cooke has separated a form of this, in which the sori are clustered in spots, under the name *Uromyces Arisæmæ*. I am satisfied that this is not specifically distinct from the other form in which the sori are more evenly scattered over the whole surface of the leaf. There is no constant difference in the spores, and both forms manifestly run into each other in habit. Nor is there, in my opinion, any just ground for the separation of either from *U. Peltandrae* except perhaps as a variety, for the only appreciable differences I find between them are now and then a spore in the form on *Peltandra* leaves which slightly exceeds in size any that I find on *Arisæma* leaves and a greater tendency in the former to occupy the lower surface of the leaf, while in the latter there seems to be a greater tendency to occupy the upper surface. But both are frequently amphigenous in habit. I regard the following as the synonymy of the species :

<i>Uredo Caladii Schw.</i>	Synopsis Fung. Car.	No. 480.
<i>Uredo Ari-Virginici Schw.</i>	Synopsis N. A. Fung.	No. 2839.
<i>Uredo</i> " "	Rav. Fung. Car. Exsic.	Fasc. IV. No. 96.
<i>Uredo</i> " "	Curtis Cat. N. C. Plants,	p. 122.
<i>Uredo</i> " "	N. Y. Cab. Rep.,	23, p. 57.
<i>Uromyces Peltrandæ Howe.</i>	Bull. Torr. Club.	1874, p. 3.
<i>Uromyces Ari-Virginici Schw.</i>	" " "	" p. 43.
<i>Uromyces Pontederiae Ger.</i>	" " "	1875, p. 31.
<i>Uromyces Arisæmæ Ck.</i>	" " "	" p. 32.

#### UROMYCES LESPEDEZÆ Schw.

All our species of *Lespedezæ* are subject to the attacks of this fungus. The form that occurs on *L. capitata* usually has the spores and their pedicels a little longer than in the other forms and it was reported as distinct under the name *U. macrospora* B. & C., but I am now satisfied that it is unworthy of specific distinction. The form on



*L. hirta* was first described by Schweinitz as *Puccinia Lespedezæ-polystachia*, but afterwards, finding this fungus more abundant on *L. violacea*, he changed the name to *Puccinia Lespedezæ-violaceæ*. The fungus has for many years been referred to the genus *Uromyces* to which it properly belongs.

The same author also published a fungus which he found on *L. procumbens*, giving it the name *Puccinia Lespedezæ-procumbentis*, and describing the spores as having a distinct septum after the manner of true *Puccinia* spores. This *Puccinia* does not appear to have been found by subsequent collectors, but the same *Uromyces* that occurs on other *Lespedezæ* is often found on *L. procumbens* also, and is sometimes designated as *Uromyces Lespedezæ-procumbentis* Schw., though this designation is wholly unwarranted by the description of Schweinitz's fungus. Inasmuch as the *Uromyces* is common to all our *Lespedezæ* it seems best to drop that part of its trivial name that implies a specific limitation to its habitat and write *Uromyces Lespedezæ* instead of *U. Lespedezæ-violaceæ*.

#### UROMYCES PYRIFORMIS *Ch.*

As this fungus was reported without description, the following characters, kindly furnished by Dr. Cooke, are now given :

Amphigenous, erumpent; sori linear, sometimes confluent, rather pulverulent, purple-brown, margined by the fissured cuticle; pseudo-spores pyriform, deep-brown, epispore thickened above; pedicels rather short, thick, persistent, colored in the upper portion.

On *Acorus Calamus*.

The species is very closely allied to *U. Sparganii*, but appears to differ in habit.

#### PILEOLARIA BREVIPES *B. & R.*

This occurs with us on both sides of the leaves of *Rhus Toxicodendron*, and is sometimes found associated with *Uredo Toxicodendri* B. & R., which is probably its *Uredo*-form. I suppose the latter fungus to be the one described in Grevillea 1874, p. 56, as *Uromyces Toxicodendri* B. & R., although it does not well agree with the generic character of *Uromyces* for the pedicels are by no means *permanent*, since it is difficult to find one attached even to an immature spore. In this respect it is nearer *Trichobasis*, as a species of which it was formerly reported.

#### PEZIZA ANOMALA *Pers.*

This is now generally admitted to be a species of *Solenia*. Some European mycologists consider it the same as *S. ochracea*, others regard it as distinct. The two are kept separate by Fries in his new edition of *Epierisis*, and I am disposed to follow this arrangement, for so far as my observation goes they differ constantly in the color and shape of the tubes. *S. anomala* has also a tendency with us to grow in tufts, which I have not seen in *S. ochracea*.

PEZIZA SOLENIA *Pk.*

One author has referred this species to *Peziza Eupatorii* Schw. In establishing the species I depended upon the accuracy of Schweinitz's description, and in justification of my present opinion of the validity of it I quote the full description of *P. Eupatorii*, italicizing those parts not applicable to *P. Solenia*.

“*P. EUPATORII* L. V. S., *versus radices in maximis caulibus emortuis Eupatorii purpurei et maculati*, Bethl.

*P. gregaria, cupulis bi-vel tri-linearibus, madefactis explanatis, disco subconvexo, margine fere oblitterato. Siccitate connivens, sed non clausa, est hæc pezizula rufo-carnea, extus pilis nigrofuscis apice albescentibus fasciculatim obsita.*”

*P. Solenia* is not collected near the roots of the stems, but occurs more or less abundantly all along them even to the upper part. I have seen it on stems of *Eupatorium ageratooides* only, never on *E. purpureum* or its variety *maculatum*. The cups, instead of being two or three lines, are less than one-fourth of one line broad. The largest cups that I have seen do not exceed this measurement even when moist. In the moist state the cups become somewhat swollen but they assume no shape that could be called “explanate” or flattened. Even after long soaking the mouth still remains small and contracted, the disk, instead of being “subconvex,” is still deeply concave, and to say that the margin was “almost obliterated” would be very far from the truth. The flesh and hymenium are whitish and the hairs are not fasciculate. Thus it appears that our plant differs in almost every respect from the description of *P. Eupatorii*; in habit, habitat, size, shape, color of flesh, etc., agreeing only in being connivent in dryness and in having an external covering of similarly colored hairs. Unfortunately, Schweinitz did not describe the fruit of his species so that the comparison can be carried no farther. But it does not seem necessary. No ordinary degree of variability in the species and no reasonable allowance for mistakes in the description would harmonize so many and so great discrepancies.

HELOTIUM THUJINUM *Pk.*

This is thought by some to be the same as *Peziza cypressina*, and doubtless there is a close resemblance between them. Had the latter plant been placed in the genus *Helotium* instead of *Peziza*, I should have regarded them as one species myself.

SPHÆRIA VERBASICOLA *Schw.*

I have never seen this plant bearing the fruit of a *Sphæria*, but have seen the perithecia filled with a multitude of small elliptical hyaline spores .00016'—.00018' long. The species should therefore be considered a *Phoma* until it is found with the fruit of a *Sphæria*.

SPHÆRIA SARRACENIA *Schw.*

Fertile specimens of this plant indicate that it belongs to the genus *Sphærella*.

SPHÆRIA SPINA *Schw.*

This plant, which was formerly reported under the name *Sphærone-ma Spina*, has recently been characterized by Dr. Berkeley as having very small globose spores. The plant which we had regarded as belonging to this species (Schweinitz gives no description of the spores), has spores quite different and must be described as distinct.

SPHÆRGNEMA FRAXINI *n. sp.*

Perithecia nestling in the inner bark, covered by the epidermis which is pierced or ruptured by the long black rigid spiniform ostiola; globule whitish; spores long, slender, curved or flexuous, gradually tapering to a point at each end, generally multinucleate, colorless, .002'-.0025' long.

Dead branches of ash, *Fraxinus Americana*.

The long rigid ostiola render the branch prickly to the touch. The fungus is sometimes found intermingled with *Tympanis Fraxini* of which it may be a condition.

## ( 6. )

PARASITIC FUNGI OF NEW YORK AND THEIR  
SUPPORTING PLANTS.

But few species of the first great family of fungi, the HYMENOMY-CETES, are inhabitants of living plants. A single species and the members of a single anomalous genus comprise all with such a habitat that have hitherto been found within our limits. The species of *Exobasi-dium* attack and transform the buds and leaves of Ericaceous plants into soft gall-like swellings or excrescences. It is not known that they actually kill the plants they attack.

<i>Fungus.</i>	<i>Supporting plant.</i>
Solenia filicina <i>Pk.</i> .....	Osmunda cinnamomea.
Exobasidium Azaleæ <i>Pk.</i> .....	Azalea nudiflora.
E. Andromedæ <i>Pk.</i> .....	Andromeda ligustrina.
E. Cassandræ <i>Pk.</i> .....	Cassandra calyculata.

Of the second family, the GASTEROMYCETES, probably no member is strictly an inhabitant of living plants though several species occur on both living and dead plants. *Stemonitis herbatica* has as yet been detected only on living leaves and grass, but I do not think its habitat is thus limited.

The third family, the CONIOMYCETES, doubtless furnishes more fungi

inimical to living plants than all the others together. All the species of the three orders Pucciniæ, Cæomacei and Æcidiacei find their dwelling place on such plants. They are popularly known by the names Rust, Brand, Smut and Cluster cups. Many of them have a dual form but usually both forms occur on the same plant. In such cases only the second or principal form is given. In *Phragmidium* the spores have a permanent pedicel and two to ten septa according to the species. The color of the spores is blackish-brown or black. They grow on the stems or leaves. In the earlier condition the spores are simple and yellow or orange. These early forms constituted the genus *Lecythea*.

<i>Phragmidium speciosum Fr</i> . . . . .	Rose stems.
<i>P. mucronatum Lk.</i> . . . . .	Rose leaves.
<i>P. gracile Grev</i> . . . . .	<i>Rubus odoratus</i> .
<i>P. obtusum Lk</i> . . . . .	<i>Potentilla Canadensis</i> .
<i>Triphragmium clavellosum Berk</i> . . . . .	<i>Aralia nudicaulis</i> .

In *Puccinia* the spores have a permanent pedicel and a single transverse septum. They grow in dense sori or masses of a rusty-brown, blackish-brown or black color. These masses are usually dot-like and are scattered uniformly over the leaves or are collected in clusters on more or less discolored spots. The earlier forms of the species have the spores simple and were formerly grouped in the genus *Trichobasis*.

<i>Puccinia pulchella Pk</i> . . . . .	<i>Ribes prostratum</i> .
<i>P. Prunorum Lk.</i> . . . . .	<i>Prunus serotina</i> .
<i>P. Anemones Pers.</i> . . . . .	{ <i>Anemone nemorosa</i> .
	{ <i>Thalictrum dioicum</i> .
	{ <i>T. Cornuti</i> .
<i>P. solida Schw</i> . . . . .	{ <i>Anemone Virginiana</i> .
	{ <i>A. Pennsylvanica</i> .
<i>P. Calthæ Lk</i> . . . . .	<i>Caltha palustris</i> .
<i>P. aculeata Schw</i> . . . . .	<i>Podophyllum peltatum</i> .
<i>P. Violarum Lk</i> . . . . .	Violet leaves.
<i>P. Lychnidearum Lk</i> . . . . .	<i>Dianthus</i> leaves.
<i>P. Mariæ-Wilsoni Clinton</i> . . . . .	<i>Claytonia Caroliniana</i> .
<i>P. Noli-tangeris Cd</i> . . . . .	<i>Impatiens fulva</i> .
<i>P. Pyrolæ Ck</i> . . . . .	<i>Polygala paucifolia</i> .
<i>P. Waldsteiniae Curt</i> . . . . .	<i>Waldsteinia fragarioides</i> .
<i>P. tripustulata Pk</i> . . . . .	<i>Rubus villosus</i> .
<i>P. Peckiana Howe</i> . . . . .	{ <i>R. occidentalis</i> .
	{ <i>R. strigosus</i> .
<i>P. curtipes Howe</i> . . . . .	<i>Saxifraga Pennsylvanica</i> .
<i>P. spreta Pk</i> . . . . .	<i>Tiarella cordifolia</i> .
<i>P. Circææ Pers</i> . . . . .	{ <i>Circæa alpina</i> .
	{ <i>C. Lutetiana</i> .
<i>P. bullaria Lk</i> . . . . .	<i>Sanicle</i> stems.

Puccinia Umbelliferarum DC.....	Archangelica atropurpurea.	
P. Cryptotæniæ Pk.....	Cryptotænia Canadensis.	
P. Osmorrhizæ C. & P.....	} Osmorrhiza brevistylis.	
		O. longistylis.
P. porphyrogenita Curt.....	Cornus Canadensis.	
P. Galiorum Lk.....	Galium triflorum.	
P. Asteris Schw.....	} Aster macrophyllus.	
		A. cordifolius.
P. purpurascens C. & P.....	A. acuminatus.	
P. Gerardii Pk.....	A. simplex.	
P. Virgaureæ Lib.....	Solidago altissima.	
P. Xanthii Schw.....	Xanthium Strumarium.	
P. Helianthi Schw.....	Helianthus divaricatus.	
P. investita Schw.....	Gnaphalium polycephalum.	
P. Cirsii Lasch.....	} Cirsium lanceolatum.	
		C. arvense.
P. variabilis Grev.....	Taraxacum Dens-leonis.	
P. Lobeliæ Ger.....	Lobelia syphilitica.	
P. Dayi Clinton.....	Lysimachia ciliata.	
P. Clintonii Pk.....	Pedicularis Canadensis.	
P. Menthæ Pers.....	} Mentha Canadensis.	
		Monarda fistulosa.
	Hedeoma pulegioides.	
P. Physostegiae P. & C.....	Physostegia Virginiana.	
P. Convolvuli B. & C.....	Calystegia Sepium.	
P. Gentianæ Strauss.....	Gentiana Andrewsii.	
P. amphibii Fckl.....	} Polygonum amphibium.	
		P. Pennsylvanicum.
		P. Virginianum.
P. Smilacis Schw.....	Smilax rotundifolia.	
P. Veratri Niessl.....	Veratrum viride.	
P. mesomajalis B. & C.....	Clintonia borealis.	
P. obtecta Pk.....	} Scirpus validus.	
		S. pungens.
P. angustata Pk.....	} S. Eriophorum.	
		S. sylvaticum.
P. striola Lk.....	Carex crinita.	
P. caricina DC.....	C. stricta.	
P. Sorghi Schw.....	Zea Mays.	
P. arundinacea Hedw.....	Phragmites communis.	
P. Graminis Pers.....	Grasses and cereals.	
P. coronata Cd.....	Avena sativa.	
P. linearis Pk.....	Grasses.	

In *Gymnosporangium* and *Podisoma* the spores are pedicellate and uniseptate as in *Puccinia*, but their color is a yellowish-orange when moist, and the mass is then much swollen and tremelloid or gelatinous. The species of *Podisoma* form those globose excrescences on the Juniper that are known as "*Cedar apples*."

Gymnosporangium Juniperi <i>Lk.</i> . . . . .	Juniperus Virginiaua.
G. clavipes <i>C. &amp; P.</i> . . . . .	" "
Podisoma macropus <i>Schw.</i> . . . . .	" "
P. fuscum <i>Duby.</i> . . . . .	" "

The species of *Uromyces* resemble those of *Puccinia* in every respect, except that the spores are simple.

Uromyces triquetrus <i>Chk.</i> . . . . .	} Hypericum perforatum. H. mutilum. Elodes Virginiaica.	
U. Claytoniæ <i>C. &amp; P.</i> . . . . .		Claytonia Carolinaica.
U. appendiculosus <i>Lev.</i> . . . . .		Pisum sativum.
U. apiculatus <i>Lev.</i> . . . . .	Trifolium repens.	
U. Phaseoli <i>Strauss.</i> . . . . .	Phaseolus diversifolius.	
U. Lespedezæ <i>Schw.</i> . . . . .	Lespedeza leaves.	
U. solidus <i>B. &amp; C.</i> . . . . .	Desmodium leaves.	
U. Limonii <i>Lev.</i> . . . . .	Statice Limonium.	
U. Polygoni <i>Fekl.</i> . . . . .	Polygonum erectum.	
U. Euphorbiæ <i>C. &amp; P.</i> . . . . .	} Euphorbia maculata. E. hypericifolia.	
U. Peltandræ <i>Howe.</i> . . . . .		Peltandra Virginiaica.
U. pyriformis <i>Chk.</i> . . . . .	Arisæma triphyllum.	
U. Sparganii <i>C. &amp; P.</i> . . . . .	Acorus Calamus.	
U. Howei <i>Pk.</i> . . . . .	Sparganium eurycarpum.	
U. Lillii <i>Clinton.</i> . . . . .	Asclepias cornuti.	
U. Junci <i>Schw.</i> . . . . .	Lilium Canadense.	
U. Caricis <i>Pk.</i> . . . . .	Juncus effusus.	
U. Graminum <i>Chk.</i> . . . . .	Carex stricta.	
Pileolaria brevipes <i>B. &amp; R.</i> . . . . .	Brizopyrum spicatum.	
Ravenelia glandulæformis <i>B. &amp; C.</i> . . . . .	Rhus Toxicodendron.	
	Tephrosia Virginiaica.	

In *Ustilago* the spores are simple, without permanent pedicels and more or less globose in form. They are black or blackish-brown and form dusty smutty masses, most often in the ovaries or floral organs. They thus destroy the seeds of the host plant and interfere with its propagation.

Ustilago utriculosa <i>Tul.</i> . . . . .	Polygonum Pennsylvanicum.
U. Candollei <i>Tul.</i> . . . . .	P. sagittatum.
U. Erythronii <i>Clinton.</i> . . . . .	Erythronium Americanum.
U. Junci <i>Schw.</i> . . . . .	Juncus tenuis.
U. Montagnei <i>Tul.</i> . . . . .	Rhynchospora alba.
U. Mont. v. major <i>Desm.</i> . . . . .	R. glomerata.
U. urceolorum <i>Tul.</i> . . . . .	} Carex Pennsylvanica. C. umbellata.
U. Maydis <i>Cd.</i> . . . . .	
U. longissima <i>Tul.</i> . . . . .	Glyceria aquatica.
U. neglecta <i>Niessl.</i> . . . . .	Setaria glauca.
U. Synterismæ <i>Schw.</i> . . . . .	Cenchrus tribuloides.

Ustilago Carbo <i>Tul</i> .....	}	Triticum vulgare.
		Avena sativa.
Urocystis pompholygodes <i>Schl</i> .....	}	Hepatica acutiloba.
		Anemone Pennsylvanica.
U. occulta <i>Preuss</i> .....		Grass leaves.
Geminella foliicola <i>Schroet</i> .....		Carex Pennsylvanica.
Protomyces Menyanthis <i>DeB</i> .....		Menyanthes trifoliata.
P. Erythronii <i>Pk</i> .....		Erythronium Americanum.
Coleosporium ochraceum <i>Bon</i> .....		Agrimonia Eupatoria.

In *Melampsora* as in *Phragmidium* the earlier state was referred to the genus *Lecythea*. The mature *Melampsora* is seldom developed before the supporting leaf has fallen.

Melampsora salicina <i>Lev</i> .....	Willow leaves.
M. populina <i>Lev</i> .....	Poplar leaves.

Many of the species of *Trichobasis* are now known to be earlier forms of species of *Puccinia*. The following have not yet been traced to their later state.

Trichobasis Pyrolæ <i>Berk</i> .....	}	Pyrola rotundifolia.
		P. secunda.
T. Iridicola <i>Pk</i> .....		Iris versicolor.

In *Uredo* the spores are simple, usually globose and collected in yellow or orange-colored masses which are mostly small and dot-like. One species, *U. luminata*, is very detrimental to raspberry and black-berry plants.

Uredo Caryophyllacearum <i>Johnst</i> ...	Caryophyllaceæ.	
U. luminata <i>Schw</i> .....	}	Rubus villosus.
		R. Canadensis.
		R. occidentalis.
		R. strigosus.
U. effusa <i>Strauss</i> .....	Rose leaves.	
U. Solidaginis <i>Schw</i> .....	Solidago and Aster leaves.	
U. pustulata <i>Pers</i> .....	}	Epilobium hirsutum.
		E. angustifolium.
U. Vacciniorum <i>Pers</i> .....	Vaccinium corymbosum.	
U. Azaleæ <i>Schw</i> .....	Azalea nudiflora.	
U. Ledicola <i>Pk</i> .....	Ledum latifolium.	
U. Empetri <i>DC</i> .....	Empetrum nigrum.	
U. Smilacis <i>Schw</i> .....	Lilium Canadense.	
U. Filicum <i>Desm</i> .....	Cystopteris fragilis.	
U. Aspidiotus <i>Pk</i> .....	Phegopteris Dryopteris.	
U. Peckii <i>Thum</i> .....	Amphicarpæ monoica.	

In *Cystopus* the spores are white, hence these fungi are sometimes called white rusts.

<i>Cystopus candidus</i> <i>Lev</i> .....	} Capsella Bursa-pastoris. Sisymbrium officinale. Lepidium Virginicum. Dentaria diphylla etc.	
<i>C. cubicus</i> <i>Str</i> .....		Tragopogon porrifolius.
<i>C. Portulacæ</i> <i>DC</i> .....		Portulaca oleracea.
<i>C. spinulosus</i> <i>DeB</i> .....		Cirsium arvense.
<i>C. Bliti</i> <i>Biv</i> .....	Amarantus retroflexus.	

The *Æcidiacei* or Cluster-cup fungi consist essentially of small cup-shaped or cylindrical receptacles which contain the mostly yellow or orange-colored simple spores. These cups are sometimes scattered over the leaves but they are more frequently clustered together on discolored spots.

In *Ræstelia* they are lacerated and the spores brownish, except in *R. aurantiaca* in which they are orange.

In *Æcidium* the cups are scolloped or toothed on the margin.

In *Peridermium* they rupture irregularly and occur only on Coniferæ.

<i>Ræstelia lacerata</i> <i>Sow</i> .....	} Amelanchier Canadensis. Cratægus (various species).	
<i>R. cornuta</i> <i>Tul</i> .....		Amelanchier Canadensis.
<i>R. aurantiaca</i> <i>Pk</i> .....		Pyrus Americana.
<i>Æcidium clematitatum</i> <i>Schw</i> .....	} Amelanchier Canadensis. Cratægus (various species).	
<i>Æ. quadrifidum</i> <i>DC</i> .....		Clematis Virginiana.
<i>Æ. Ranunculi</i> <i>Schw</i> .....	Anemone nemorosa.	
<i>Æ. Ranunculacearum</i> <i>DC</i> .....	Ranunculus abortivus.	
<i>Æ. Thalictri</i> <i>Grev</i> .....	Ranunculacæe.	
<i>Æ. Calthæ</i> <i>Grev</i> .....	"	
<i>Æ. Berberidis</i> <i>Pers</i> .....	Caltha palustris.	
<i>Æ. podophyllatum</i> <i>Schw</i> .....	Berberis vulgaris.	
<i>Æ. Violæ</i> <i>Schum</i> .....	Podophyllum peltatum.	
<i>Æ. Mariæ-Wilsoni</i> <i>Pk</i> .....	Viola pubescens.	
<i>Æ. hypericatum</i> <i>Schw</i> .....	V. cucullata.	
<i>Æ. claytoniatum</i> <i>Schw</i> .....	Hypericum mutilum.	
<i>Æ. Geranii</i> <i>DC</i> .....	Claytonia Caroliniana.	
<i>Æ. impatientatum</i> <i>Schw</i> .....	Geranium maculatum.	
<i>Æ. crassum</i> <i>Pers</i> .....	Impatiens pallida.	
<i>Æ. Orobi</i> <i>DC</i> .....	Rhamnus catharticus.	
<i>Æ. album</i> <i>Clinton</i> .....	Tritolium repens.	
<i>Æ. Grossulariæ</i> <i>DC</i> .....	Vicia Americana.	
<i>Æ. Epilobii</i> <i>DC</i> .....	Ribes leaves.	
<i>Æ. Cænothæræ</i> <i>Pk</i> .....	Cænothera biennis.	
	" "	



Æcidium Nesææ <i>Ger</i> .....	Nesæa verticillata.
Æ. Osmorrhizæ <i>Pk</i> .....	Osmorrhiza brevistylis.
Æ. sambuciatum <i>Schw</i> .....	Sambucus Canadensis.
Æ. houstoniatum <i>Schw</i> .....	{ Houstonia longifolia.
	{ H. cærulea.
Æ. Compositarum <i>Mart</i> .....	Compositæ.
Æ. asteratum <i>Schw</i> .....	Aster cordifolius.
Æ. erigerontatum <i>Schw</i> .....	{ Erigeron annuum.
	{ E. bellidifolium.
Æ. tracheliifoliatum <i>Schw</i> ... ..	Helianthus divaricatus.
Æ. gnaphaliatum <i>Schw</i> .....	Gnaphalium polycephalum.
Æ. tenue <i>Schw</i> .....	Eupatorium ageratoides.
Æ. statices <i>Desm</i> .....	Statice Limonium.
Æ. lysimachiatum <i>Lk</i> .....	Lysimachia quadrifolia.
Æ. Chelonis <i>Ger</i> .....	Chelone glabra.
Æ. penstemoniatum <i>Schw</i> .....	Penstemon pubescens.
Æ. Gerardiæ <i>Pk</i> .....	Gerardia quercifolia.
Æ. Menthæ <i>DC</i> .....	Labiatæ.
Æ. Lycopi <i>Ger</i> .....	Lycopus Europæus.
Æ. Hydrophylli <i>Pk</i> .....	Hydrophyllum Canadense.
Æ. dubium <i>Clinton</i> .....	Calystegia Sepium.
Æ. Fraxini <i>Schw</i> .....	Fraxinus Americana.
Æ. Allenii <i>Clinton</i> .....	Shepherdia Canadensis.
Æ. pustulatum <i>Curt</i> .....	Comandra umbellata.
Æ. hydroideum <i>B. &amp; C</i> .....	Dirca palustris.
Æ. Euphorbiæ <i>Pers</i> .....	Euphorbia hypericifolia.
Æ. Urticæ <i>DC</i> .....	Urtica dioica.
Æ. Convallariæ <i>Schum</i> .....	Lilium Canadense.
Æ. myricatum <i>Schw</i> .....	Myrica cerifera.
Æ. dracontiatum <i>Schw</i> .....	{ Arisæma Dracontium.
	{ A. triphyllum.
Æ. aroidatum <i>Schw</i> .....	Peltandra Virginica.
Æ. Iridis <i>Ger</i> .....	Iris versicolor.
Æ. macrosporum <i>Pk</i> .....	Smilax rotundifolia.
Æ. uvulariatum <i>Schw</i> .....	Uvularia sessilifolia.
Peridermium Cerebrum <i>Pk</i> .....	Pinus rigida.
P. columnare <i>A. &amp; S</i> .....	Abies Canadensis.
P. elatinum <i>A. &amp; S</i> .....	A. balsamea.
P. balsameum <i>Pk</i> .....	A. “
P. decolorans <i>Pk</i> .....	A. nigra.
Graphiola Phœnicis <i>Poit</i> .....	Phœnix dissectifolia.

The remaining Coniomyces that inhabit living plants belong chiefly to the genus *Septoria*. Most of these occur on dry or discolored spots on the leaves.

Phoma Mariæ <i>Clinton</i> .....	Lonicera flava,
Sphæropsis Wilsoni <i>Clinton</i> .....	L. “
Hendersonia Peckii <i>Clinton</i> .....	L. “
H. Mariæ <i>Clinton</i> .....	L. “

Melasmia alnea <i>Lev</i> .....	Alnus serrulata.
Asteroma Rosæ <i>DC.</i> .....	Rose leaves.
Septoria Coptidis <i>B. &amp; C</i> .....	Coptis trifolia.
S. Rhoidis <i>B. &amp; C.</i> .....	Rhus typhina.
S. Toxicodendri <i>Curt</i> .....	R. Toxicodendron.
S. ampelina <i>B. &amp; C.</i> .....	Vitis æstivalis.
S. destruens <i>Desm</i> .....	Malva rotundifolia.
S. sanguinea <i>Desm.</i> .....	Prunus serotina.
S. cerasina <i>Pk.</i> .....	P.
S. Hippocastani <i>B. &amp; Br.</i> .....	Æsculus Hippocastanum.
S. acerina <i>Pk</i> .....	Acer Pennsylvanica.
S. Polygalæ <i>P. &amp; C</i> .....	Polygala paucifolia.
S. emaculata <i>P. &amp; C.</i> .....	Lathyrus palustris.
S. Rubi <i>B. &amp; C</i> ... ..	Rubus Canadensis.
S. Œnotheræ <i>B. &amp; C</i> .....	Œnothera biennis.
S. maculosa <i>Ger.</i> .....	Cuphea viscosissima.
S. sambucina <i>Pk</i> .....	Sambucus pubens.
S. Erigerontis <i>Pk.</i> .....	Erigeron annuum.
S. Nabali <i>B. &amp; C</i> .....	Nabalus albus.
S. Lobeliæ <i>Pk</i> .....	Lobelia spicata.
S. difformis <i>C. &amp; P.</i> .....	Vaccinium Pennsylvanicum.
S. Kalmicola <i>Schw</i> .....	Kalmia latifolia.
S. Verbenæ <i>D. &amp; R.</i> .....	Verbena hastata.
S. Verbascicola <i>B. &amp; C</i> .....	Verbascum Blattaria.
S. Scrophulariæ <i>Pk.</i> .....	Scrophularia nodosa.
S. Wilsoni <i>Clinton</i> .....	Chelone glabra.
S. Polygonorum <i>Desm</i> .....	Polygonum Persicaria.
S. Ulmi <i>Kze</i> .....	Ulmus Americana.
S. ochroleuca <i>B. &amp; C</i> .....	Castanea vesca.
S. viride tingens <i>Curt</i> .....	Allium tricoccum.
S. mirabilis <i>Pk.</i> .....	Onoclea sensibilis.
Vermicularia concentrica <i>P. &amp; C.</i> ...	Trillium erythrocarpum.
	Viola rotundifolia.
Pestalozzia Gnepini <i>Desm</i> .....	Camellia Japonica.
P. Mariæ <i>Clinton</i> .....	Rhododendron maximum.
Coryneum triseptatum <i>Pk</i> .....	R. maximum.

The fourth family, the HYPHOMYCETES, molds or filamentous fungi, contains comparatively few noxious species but among these few are some of the most pernicious foes of our cultivated plants. In the genus *Peronospora* we find such baneful pests as the potato mold, spinach mold, lettuce mold and onion mold. *Oidium monilioides* Lk. which occurs on grass leaves and *Oidium leucoconium* Desm. which attacks rose leaves are regarded as conditions respectively of *Erysiphe graminis* and *Sphærotheca pannosa*, the second form of which has not yet been detected with us.

Cercospora Callæ <i>P. &amp; C.</i> . . . . .	Calla palustris.
Peronospora pygmæa <i>Ung</i> . . . . .	Anemone Pennsylvanica.
P: parasitica <i>Pers</i> . . . . .	Cardamine rhomboidea.
P. Geranii <i>Pk</i> . . . . .	Geranium maculatum.
P. obliqua <i>Ck</i> . . . . .	Rumex crispus.
P. effusa <i>Grev</i> . . . . .	Chenopodium album.
Ramularia Nemopanthis <i>C. &amp; P.</i> . . . .	Nemopanthes Canadensis.

In the last family, the ASCOMYCETES, we find a few groups, such as the Perisporiacei or mildews and the species of Rhytisma, inhabiting, for the most part, living leaves. But by far the greater part of this vast family find their dwelling-place on decaying substances.

In the *Perisporiacei* a white webby film usually appears on the leaf, and sometimes, as in the pea mildew, this involves the whole plant.

Sphærotheca Castagnei <i>Lev</i> . . . . .	{ Spiræa opulifolia. Poterium Canadense. Agrimonia Eupatoria. Geum album. Bidens connata. Erechthites hieracifolia. Taraxacum Dens-leonis. Brunella vulgaris. Rhus glabra.	
S. pruinosa <i>C. &amp; P</i> . . . . .		
		{ Magnolia acuminata. Liriodendron Tulipifera. Ribes Cynosbati. Celastrus scandens. Cornus florida. C. paniculata. C. stolonifera. C. circinata.
Phyllactinia guttata <i>Lev</i> . . . . .		{ Cratægus coccinea. C. Crus-galli. Corylus Americana. Castanea vesca. Fagus ferruginea. Carpinus Americana. Fraxinus Americana. Alnus serrulata. Asclepias Cornuti.
Uncinula adunca <i>Lev</i> . . . . .		{ Salix cordata. S. discolor. Populus balsamifera. Acer spicatum.
U. circinata <i>C. &amp; P</i> . . . . .		{ A. rubrum. A. Pennsylvanicum.
U. luculenta <i>Howe</i> . . . . .		{ Populus heterophylla.

Uncinula macrospora <i>Pk</i> .....	Ulmus Americana.
U. flexuosa <i>Pk</i> .....	Æsculus Hippocastanum.
U. Ampelopsidis <i>Pk</i> .....	Ampelopsis quinquefolia.
U. Clintonii <i>Pk</i> .....	Tilia Americana.
U. spiralis <i>B. &amp; C</i> .....	Vitis æstivalis.
U. geniculata <i>Ger</i> .....	Morus rubra.
U. parvula <i>C. &amp; P</i> .....	Celtis occidentalis.
	{ Prunus Cerasus.
	{ P. Virginiana.
Podosphæra Kunzei <i>Lev</i> .....	{ Spiræa tomentosa.
	{ S. salicifolia.
	{ Cratægus coccinea.
P. biuncinata <i>C. &amp; P</i> .....	Hamamelis Virginiana.
Microsphæra Menispermii <i>Howe</i> .....	Menispermum Canadense.
M. Russellii <i>Clinton</i> .....	Oxalis stricta.
M. diffusa <i>C. &amp; P</i> .....	Desmodium Canadense.
M. holosericea <i>Lev</i> .....	Astragalus Cooperi.
M. pulchra <i>C. &amp; P</i> .....	Cornus alternifolia.
M. Dubyi <i>Lev</i> .....	Lonicera parviflora.
M. Symphoricarpi <i>Howe</i> .....	Symphoricarpus racemosus.
M. Van Bruntiana <i>Ger</i> .....	Sambucus Canadensis.
M. Viburni <i>Schw</i> .....	{ Viburnum Lentago.
	{ V. dentatum.
M. Friesii <i>Lev</i> .....	Syringa vulgaris.
M. Fr. v. Castaneæ <i>C. &amp; P</i> .....	Castanea vesca.
M. Fr. v. Vaccinii <i>C. &amp; P</i> .....	Vaccinium corymbosum.
M. Vaccinii <i>Pk</i> .....	V. vacillans.
M. Platani <i>Howe</i> .....	Platanus occidentalis.
M. extensa <i>C. &amp; P</i> .....	{ Quercus rubra.
	{ Q. alba.
M. abbreviata <i>Pk</i> .....	Q. bicolor.
M. pencillata <i>Lev</i> .....	{ Fagus ferruginea.
	{ Corylus rostrata.
M. Alni <i>Tul</i> .....	{ Alnus serrulata.
	{ A. incana.
M. densissima <i>Schw</i> .....	Quercus tinctoria.

The last species I have seen on dead leaves only, but it probably attacks them when living.

Erysiphe communis <i>Schl</i> .....	{ Ranunculus acris.
	{ R. abortivus.
	{ Thalictrum Cornuti.
	{ T. anemonoides.
	{ Pisum sativum.
E. Martii <i>Lk</i> .....	{ Amphicarpæa monoica.
	{ Baptisia tinctoria.
	{ Lupinus perennis.
E. Euphorbiæ <i>Pk</i> .. . . . .	Euphorbia hypericifolia.

Erysiphe lamprocarpa <i>Lev.</i> . . . . .	}	Artemisia trifida.
		Inula Helenium.
		Aster (various species).
		Solidago (various species).
		Phlox paniculata.
		Verbena hastata.
		Chelone glabra.
		Stachys aspera.
}	Galeopsis tetrahit.	
	Hydrophyllum Canadense.	
	Scutellaria lateriflora.	

The species of *Rhytisma*, and of *Dothidea* in part, form black blotches or protuberances on the leaves. Frequently they do not perfect their fruit till after the leaf has fallen. *R. Solidaginis* Schw. and *R. Asteris* Schw. are only insect galls, and of *R. Monogramma* B. & C., I have seen no good specimens.

Peziza Dehnii <i>Rabh.</i> . . . . .	Potentilla argentea.	
Epichloe typhina <i>Berk</i> . . . . .	Carex stems.	
Rhytisma acerinum <i>Fr</i> . . . . .	}	Acer saccharinum.
		A. rubrum.
		A. spicatum.
R. punctatum <i>Fr</i> . . . . .	A. Pennsylvanicum.	
R. Blakei <i>Curt</i> . . . . .	Rubus hispidus.	
R. Andromedæ <i>Fr</i> . . . . .	Andromeda polifolia.	
R. decolorans <i>Schw.</i> . . . . .	A. ligustrina.	
R. Pruni <i>Schw</i> . . . . .	Prinus verticillatus.	
R. Canadensis <i>Schw.</i> . . . . .	Nemopantes Canadensis.	
R. salicinum <i>Fr</i> . . . . .	}	Salix discolor.
		S. humilis.
		S. Cutleri.
Hypoderma lineare <i>Pk.</i> . . . . .	Pinus Strobus.	
Dothidea Ulmi <i>Fr</i> . . . . .	Ulmus Americana.	
D. Lespedezæ <i>Schw</i> . . . . .	Lespedeza capitata.	
D. Trifolii <i>Fr</i> . . . . .	Trifolium repens.	
D. Dalibardæ <i>Pk</i> . . . . .	Dalibarda repens.	
D. Graminis <i>Fr</i> . . . . .	Grass leaves.	
D. vorax <i>B. &amp; C</i> . . . . .	" "	
D. Pteridis <i>Fr</i> . . . . .	Pteris aquilina.	
Melogramma superficialis <i>P. &amp; C</i> . . . . .	Pyrus Americana.	
Diatrype anomala <i>Pk</i> . . . . .	Corylus stems.	
Sphæria morbosa <i>Schw.</i> . . . . .	}	Prunus Pennsylvanica.
		P. Virginiana.
		P. Cerasus.
		P. domestica.
S. Collinsii <i>Schw.</i> . . . . .	Amelanchier Canadensis.	
S. fimbriata <i>Pers</i> . . . . .	Carpinus Americana.	
S. Coryli <i>Batsch</i> . . . . .	Corylus leaves.	

Venturia pulchella <i>C. &amp; P</i> .....	Cassandra calyculata.
V. compacta <i>Pk</i> .....	Vaccinium macrocarpum.
V. Kalmiæ <i>Pk</i> .....	Kalmia glauca.
Stigmatæa Robertiani <i>Fr</i> .....	Geranium Robertianum.

In closing this report, grateful acknowledgments are rendered to those botanists whose names appear in the preceding pages, for their kind aid and coöperation in the investigation of our flora, and for their generous contributions of specimens. When no name is added to the station or stations herein given, the plant has been found therein by the writer. Dates signify the time when the specimens were collected.

Respectfully submitted.

CHAS. H. PECK.

ALBANY, *January* 11, 1876.

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EXPLANATION OF PLATES.

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## EXPLANATION OF PLATE I.

### *AGARICUS PUBESCENTIPES* Peck.

Page 39.

- Fig. 1. A small plant.  
Fig. 2. A plant of medium size, showing the lamellæ.  
Fig. 3. Four spores  $\times 400$ .

### *CHONDRIODERMA MICHELII* Lib.

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- Fig. 4. Four plants attached to a piece of grass leaf.  
Fig. 5. Two plants enlarged, one showing the upper, the other the under surface of the flattened peridium.  
Fig. 6. Four spores  $\times 400$ .

### *MELANCONIUM PALLIDUM* Peck.

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- Fig. 7. Piece of a branch bearing the fungus; the epidermis removed from one end.  
Fig. 8. Six spores  $\times 400$ .

### *CLASTERISPORIUM UNGINATUM* Clinton.

Page 50.

- Fig. 9. Piece of a leaf bearing the fungus.  
Fig. 10. Three spores  $\times 400$ .

### *USTILAGO MONTAGNEI* Tul. var. *MAJOR* Desm.

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- Fig. 11. Upper part of a plant, with the heads affected by the fungus.  
Fig. 12. Five spores  $\times 400$ .

### *PEZIZA IMPERIALIS* Peck.

Page 54.

- Fig. 13. A small plant.  
Fig. 14. A larger plant.  
Fig. 15. A paraphysis and an ascus containing spores  $\times 400$ .

### *GEOGLOSSUM VELUTIPES* Peck.

Page 65, 28th Report.

- Fig. 16. Two plants of ordinary size.  
Fig. 17. A single hair  $\times 400$ .  
Fig. 18. Two paraphyses and an ascus containing spores  $\times 400$ .  
Fig. 19. Three spores  $\times 400$ .

### *GEOGLOSSUM NIGRITUM* Pers.

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- Fig. 20. Two plants of ordinary size.  
Fig. 21. Two paraphyses and an ascus containing spores  $\times 400$ .  
Fig. 22. Two spores  $\times 400$ .





## EXPLANATION OF PLATE II.

### *HYGROPHORUS SPECIOSUS* Peck.

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- Fig. 1. A small plant, with the pileus not fully expanded.
- Fig. 2. A plant of ordinary size, with the pileus expanded.
- Fig. 3. Vertical section of a pileus.
- Fig. 4. Transverse section of a stem.
- Fig. 5. Four spores  $\times$  400.

### *PECKIA CLINTONII* Peck.

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- Fig. 6. A leaf bearing the fungus.
- Fig. 7. A perithecium and fragment of leaf enlarged.
- Fig. 8. Three strings of spores  $\times$  400.
- Fig. 9. Six spores  $\times$  400.

### *PEZIZA BRONCA* Peck.

Page 54.

- Fig. 10. A plant of ordinary size.
- Fig. 11. A paraphysis and an ascus containing spores  $\times$  400.
- Fig. 12. Three spores  $\times$  400.

### *LYCOPERDON CONSTELLATUM* Fr.

Page 46.

- Fig. 13. A small plant; part of the spines removed, to show the reticulated surface.
- Fig. 14. Five spores  $\times$  400.

### *SPHÆRELLA COLORATA* Peck.

Page 62.

- Fig. 15. A leaf bearing the fungus.
- Fig. 16. Two asci containing spores  $\times$  400.
- Fig. 17. Four spores  $\times$  400.

### *HELMINTHOSPORIUM EPISPHERICUM* Cooke & Peck.

Page 52.

- Fig. 18. Piece of a branch bearing the fungus.
- Fig. 19. Two flocci  $\times$  400.
- Fig. 20. Two spores  $\times$  400.

### *VALSA CINCIULA* Cooke & Peck.

Page 59.

- Fig. 21. Piece of a branch bearing the fungus.
- Fig. 22. A single pustule enlarged.
- Fig. 23. An ascus containing spores  $\times$  400.
- Fig. 24. Four spores  $\times$  400.

### *PUCCINIA PHYSOSTEGLÆ* Peck & Clinton.

Page 50.

- Fig. 25. A leaf bearing the fungus.
- Fig. 26. Two spores  $\times$  400.





