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New York State Museum

FREDERICK J. H. MERRILL Director
CHARLES H. PECK State Botanist

Bulletin 67

BOTANY 6

REPORT OF THE STATE BOTANIST 1902

BY

CHARLES H. PECK

BUREAU OF AMERICAN ETHNOLOGY. Cancelled 1903 LIBRARY.

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University of the State of New York

New York State Museum

FREDERICK J. H. MERRILL Director
CHARLES H. PECK State Botanist

Bulletin 67

BOTANY 6

REPORT OF THE STATE BOTANIST 1902

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

I have the honor of submitting to you the report of work done in the botanical department of the State Museum during the past year.

Specimens of plants for the herbarium have been collected in the counties of Albany, Columbia, Essex, Fulton, Hamilton, Herkimer, Oneida, Rensselaer, Saratoga, Suffolk, Washington and Westchester. Specimens have been received from correspondents that were collected in the counties of Albany, Cayuga, Delaware, Erie, Essex, Herkimer, Monroe, New York, Oneida, Onondaga, Ontario, Saratoga, Schenectady, Seneca, Schoharie, St Lawrence, Suffolk, Tioga, Wayne and Westchester.

The specimens collected and contributed represent 289 species, of which 235 belong to the collections of the botanist, 54 to those of correspondents; 59 are new to the herbarium, 230 are now more fully and completely represented than before. Of the 59 species, 17 are considered new species and are herein described as such. Of these, 15 are among the collections of the botanist, two belong to those of correspondents. All of the new species are fungi. The number of species added to the flora of the State is 73, but 14 of these have previously been united with other species either as forms or varieties. They have recently been published as distinct species and are now included in the additions to our flora. A list of the species of which specimens have been added to the herbarium is marked A.

Names of species added to our flora, together with notes concerning their habitats, localities, time of collection of the specimens and descriptions of new species, are contained in a part of the report marked C.

The number of persons who have contributed specimens is 52. Their names and their respective contributions are recorded in a part of the report marked B. Some of these contributions consist of specimens of extralimital species and are not included in the enumeration just given. Some of the specimens were sent for identification ; but, if for any reason their preservation seemed desirable and they were in sufficiently good condition, they have been preserved and credited to the sender as a contribution. The number of those who have sent specimens for identification is 90. The number of species identified for them is 1054. These are chiefly fungi.

Remarks and results of observations on previously reported species, new stations of rare plants, unusual habitats and descriptions of new varieties are given under D.

During summer and early autumn the weather was unusually wet and showery, a condition often supposed to be favorable to mushroom growth. Nevertheless, the result was by no means an abundant crop. Many species which in ordinarily moist seasons grow gregariously or are scattered through fields and woods in abundance were either wholly wanting or were few and far apart. Certain species of Amanita, Lepiota, Lactarius and Russula, which are usually common were noticeably scarce or not seen at all. The common mushroom crop was almost a complete failure. The prevailing low temperature combined with an excess of moisture probably prevented the development of the mycelium and caused the absence of many species. But opportunity was afforded for the trial of the edible qualities of several of our wild mushrooms. Of those tested, eight species have been found edible. Colored figures of natural size have been prepared to illustrate these, and descriptions have been written according to the plan followed in similar cases in previous reports. These descriptions constitute a part of the report marked E.

The investigation of our Crataegus flora, which was begun last year, has been continued. The close resemblance many of our

species of Crataegus have to each other and the need of a correct knowledge of all their distinguishing characters in order to identify the species satisfactorily, make it necessary to have specimens showing flowers, mature fruit, immature and mature foliage. Our species blossom in May and early in June, but do not ripen their fruit till late in August, during September and early in October. It is therefore necessary to make at least two collections of samples from each individual tree or shrub to be identified. One taken in flowering time will show the flowers and young leaves, the other taken in fruiting time should show the ripe fruit and mature leaves. It is desirable also to have samples of young and vigorous shoots with their mature leaves, which often differ somewhat from the leaves of ordinary shoots; also of twigs of the first and second year's growth and of the early growth of the season with stipules and thorns. Specimens of all the unrecognized species of Crataegus growing in the vicinity of Albany and in the Champlain valley from Fort Ann on the south to Westport on the north and in North Elba have been collected. The localities in the immediate vicinity of Albany have been visited several times; those in the Champlain valley, in North Elba and the country between it and Westport twice; once in May and early June and once in September. A large amount of material has been collected, duplicate specimens having in all cases been taken. By reason of the peculiar difficulties attending the identification of these plants, owing to the confusion of species and the omission in older descriptions of any record of characters now deemed important, it has seemed best to avail myself of the aid of Professor C. S. Sargent, the distinguished dendrologist and specialist in this branch of botany. Accordingly a set of these specimens has been sent to him for identification.

Mr F. E. Fenno, an active botanist of Tioga county, has from time to time contributed to the herbarium specimens of rare and interesting plants from his county. He has given much time to the collection and study of the plants of his region and has recently sent me a very full annotated list of the species known from his own observation to occur there. In all doubtful cases these have been identified by specialists. The *Illustrated Flora*

has chiefly been followed in the arrangement and nomenclature of the list, and the territory covered is described as the Susquehanna valley and adjacent hills of Tioga county. This territory includes the greater part of the southern half of the county. It is apparently rich in species, the list containing a remarkable number for such a limited region. It has therefore seemed to me desirable that this list should be published. It, with the *Flora of the Upper Susquehanna* by W. N. Clute, will give a very fair knowledge of what species of flowering plants and ferns occur in the southern central part of our State and will be an aid in determining the range of little known and rare species. It has therefore been added to this report as appendix F.

Respectfully submitted

CHARLES H. PECK
State Botanist

Albany, Dec. 3, 1902

A

PLANTS ADDED TO THE HERBARIUM

New to the herbarium

Delphinium ajacis *L.*
Lepidium ruderale *L.*
Hypericum boreale (*Britton*) *Bickn.*
Lactuca scariola *L.*
Hypochaeris radicata *L.*
Artemisia stelleriana *Bess.*
Xanthium commune *Britton*
Aster roscidus *Burgess*
Matricaria matricarioides (*Less.*) *Porter*
Antennaria fallax *Greene*
A. ambigens (*Greene*) *Fern.*
A. brainerdii *Fern.*
A. petaloidea *Fern.*
Pottia riparia *Aust.*
Tortula ruralis *Ehrh.*
Racomitrium heterostichum *Brid.*
Encalypta rhabdocarpa *Schwaegr.*
Hypnum lindbergii *Limpt.*
Liochlaena lanceolata *Nees*
Tricholoma radicatum *Pk.*
Clitocybe inversa (*Scop.*) *Fr.*
Mycena rugosoides *Pk.*
Hygrophorus subrufescens *Pk.*
Lactarius luteolus *Pk.*
Russula magnifica *Pk.*
R. earlei *Pk.*
Marasmius biformis *Pk.*
M. leptopus *Pk.*
M. insititius *Fr.*
M. thujinus *Pk.*
Leptonia hortensis *Pk.*
Flammula pusilla *Pk.*
Craterellus subundulatus *Pk.*
Clavaria crassipes *Pk.*
Secotium warnei *Pk.*
Licea variabilis *Schrad.*
Aecidium ligustri *Strauss*
Cintractia affinis *Pk.*
Phyllosticta grisea *Pk.*
Gloeosporium phaeosorum *Sacc.*
Sporotrichum poae *Pk.*
Penicillium digitatum (*Fr.*) *Sacc.*
P. pallidofulvum *Pk.*
Macrosporium lagenariae *Thum.*
Fusarium laxum *Pk.*
Stilbum resinariae *Pk.*
Helvella ambigua *Karst.*
Detonia fulgens (*Pers.*)*Rehm*
Geopyxis carbonaria *A. & S.*
Calloria caulophylli (*E. &E.*)*Rehm*
Lachnum inquilinum (*Karst.*) *Schroet.*
Sclerotinia smilacinae *Durand*
Ciboria americana *Durand*
C. sulphurella (*E. &E.*)*Rehm*
Caldesia sabinae (*Dellot*) *Rehm*
Peziza violacea *Pers.*
Helotium scut. vitellinum *Rehm*
Ascobolus atrofuscus *Ph. & Pl.*
Melanospora vervecina (*Desm.*) *Fckl.*

Not new to the herbarium

Actaea rubra *L.*
Agrimonia striata *Mx.*
Agrostis stolonifera *L.*
Amorpha fruticosa *L.*
Amelanchier canadensis (*L.*) *Med.*
Anthemis cotula *L.*
Antennaria canadensis *Greene*
A. neglecta *Greene*
A. plantaginea *R. Br.*
A. neodioica *Greene*
Arenaria groenlandica (*Retz.*) *Spreng.*
Arisaema pusillum (*Pk.*) *Nash*
Asclepias exaltata *Muhl.*
Aster concinnus *Willd.*
A. schreberi *Nees*
Brassica rapa *L.*
B. arvensis (*L.*) *B. S. P.*
Blephilia hirsuta (*Pursh*) *Torr.*
B. ciliata (*L.*) *Raf.*
Calamagrostis inexpansa *Gray*
Campanula rotundifolia *L.*
Cassia nictitans *L.*
Chelidonium majus *L.*
Chrysopis graminifolia (*Mx.*) *Nutt.*
Chrysanthemum leucanthemum *L.*
Convolvulus arvensis *L.*

Convolvulus spithamaeus *L.*
Cypripedium hirsutum *Mill.*
Dianthus armeria *L.*
Drosera rotundifolia *L.*
Erigeron ramosus (*Walt.*) *B. S. P.*
E. philadelphicus *L.*
Eriophorum polystachyon *L.*
Eupatorium maculatum *L.*
Fraxinus americana *L.*
Galium concinnum *T. & G.*
Gentiana andrewsii *Griseb.*
Geranium maculatum *L.*
G. carolinianum *L.*
Habenaria clavellata (*Mx.*)
Hamamelis virginiana *L.*
Helianthus giganteus *L.*
Houstonia longifolia *Gaert.*
Hypericum mutilum *L.*
Kneiffia pumila (*L.*) *Spach*
Lactuca sagittifolia *Ell.*
Lobelia cardinalis *L.*
Lepidium virginicum *L.*
L. apetalum *Willd.*
Lilium canadense *L.*
Linaria canadensis (*L.*) *Dum.*
Lycopus communis *Bickn.*
Malus malus (*L.*) *Britton*
Malva rotundifolia *L.*
Medicago sativa *L.*
Myriophyllum humile *Raf.*
Onagra oakesiana (*Gray*) *Britton*
Origanum vulgare *L.*
Panax trifolium *L.*
Panicum lanuginosum *Ell.*
Polymnia can. radiata *Gray*
Physalis het. ambigua (*Gray*) *Rydb.*
Polygonum convolvulus *L.*
P. hartwrightii *Gray*
Potentilla anserina *L.*
P. canadensis *L.*
P. pumila *Poir.*
Quercus alexanderi *Britton*
Ranunculus abortivus *L.*
Raphanus raphanistrum *L.*
Ribes rubrum *L.*
Rhynchospora macrostachya *Torr.*
Rubus hispidus *L.*
R. procumbens *Muhl.*
R. occid. pallidus *Bail.*
Sporobolus longifolius (*Torr.*) *Wood*
Sporobolus neglectus *Nash*
Salix balsamifera (*Hook.*) *Barratt*
Salsola tragus *L.*
Sanicula gregaria *Bickn.*
Saxifraga virginiensis *Mx.*
Sibbaldiopsis tridentata (*Soland.*) *Rydb.*
Taraxacum taraxacum (*L.*) *Karst.*
T. erythrospermum *Andrz.*
Tetragonanthus deflexus (*Sm.*) *Kuntze*
Viola palmata *L.*
V. pap. domestica (*Bickn.*) *Poll.*
V. arenaria *DC.*
V. rostrata *Pursh*
Woodsia ilvensis (*L.*) *R. Br.*
Xanthium canadense *Mill.*
X. echinatum *Murr.*
Xyris caroliniana *Walt.*
Polypodium vulgare *L.*
Dicranum schraderi *W. & M.*
Hypnum oakesii *Sulliv.*
H. pratense *Koch*
H. deplanatum *Schp.*
Brachythecium starkii *Brid.*
B. salebrosum (*Hoffm.*)
Porella platyphylla *Lindb.*
Anthoceros laevis *L.*
Amanita flavoconia *Atk.*
A. caesarea *Scop.*
A. onusta *Howe*
Amanitopsis strangulata *Fr.*
A. volvata (*Pk.*) *Sacc.*
A. farinosa (*Schw.*)
Armillaria mellea *Vahl*
Tricholoma vaccinum (*Pers.*) *Fr.*
T. imbricatum *Fr.*
T. equestre *L.*
T. subacutum *Pk.*
T. silvaticum *Pk.*
Clitocybe dealbata *Sow.*
C. tortilis (*Bolt.*) *Fr.*
C. amethystina (*Bolt.*) *Fr.*
Collybia platyphylla *Fr.*
C. familia *Pk.*
C. uniformis *Pk.*
C. acervata *Fr.*
Mycena subincarnata *Pk.*
M. clavicularis *Fr.*
M. pterigena *Fr.*
Omphalia campanella (*Batsch*) *Fr.*
O. umbellifera *L.*

Hygrophorus pudorinus *Fr.*
H. splendens *Pk.*
H. capreolarius *Kalchb.*
H. pratensis (*Pers.*) *Fr.*
H. nitidus *B. & C.*
H. peckii *Atk.*
Lactarius volemus *Fr.*
L. subdulcis *Fr.*
L. cinereus *Pk.*
L. griseus *Pk.*
L. parvus *Pk.*
Russula foetens (*Pers.*) *Fr.*
R. granulata *Pk.*
R. crustosa *Pk.*
R. variata *Banning*
R. olivascens *Fr.*
R. rugulosa *Pk.*
R. simillima *Pk.*
Cantharellus cibarius *Fr.*
C. minor *Pk.*
C. cinnabarinus *Schw.*
C. cinereus *Fr.*
C. infundibuliformis (*Scop.*)
Marasmius subnudus *Pk.*
M. polyphyllus *Pk.*
M. filopes *Pk.*
Lenzites sepiaria *Fr.*
Pholiota vermiflua *Pk.*
P. togularis (*Bull.*) *Fr.*
P. squarrosoides *Pk.*
P. confragosa *Fr.*
Cortinarius rimosus *Pk.*
C. berlesianus *S. & C.*
Inocybe geophylla *Sow.*
Stropharia depilata (*Pers.*) *Fr.*
S. johnsoniana *Pk.*
Hypholoma subaquilum *Banning*
Coprinus micaceus *Fr.*
Boletus auriporus *Pk.*
B. clintonianus *Pk.*
Polyporus sulphureus (*Bull.*) *Fr.*
P. resinosus (*Schrad.*) *Fr.*
P. benzoinus (*Wahl.*) *Fr.*
P. caesius (*Schrad.*) *Fr.*
Trametes variiformis *Pk.*
T. serialis *Fr.*
Fomes pinicola *Fr.*
F. fomentarius (L.) *Fr.*
F. roseus *A. & S.*
Polystictus abietinus *Fr.*
Daedalea quercina (*L.*) *Pers.*
D. unicolor (*Bull.*) *Fr.*
Merulius tenuis *Pk.*
M. fugax *Fr.*
M. niveus *Fr.*
Phlebia radiata *Fr.*
Hydnum imbricatum *L.*
H. repandum *L.*
H. albidum *Pk.*
H. caput-ursi *Fr.*
Radulum orbiculare *Fr.*
Odontia lateritia *B. & C.*
Tremellodon gelatinosum (*Scop.*) *Pers.*
Craterellus cornucopioides (*L.*) *Pers.*
Clavaria botrytis *Pers.*
C. cristata *Pers.*
C. stricta *Pers.*
C. muscoides *L.*
C. ligula *Fr.*
C. argillacea *Fr.*
C. tsugina *Pk.*
Calocera cornea *Fr.*
Lycoperdon gemmatum *Batsch*
L. subincarnatum *Pk.*
Granularia pulvinata (*Schw.*) *White*
Didymium melanospermum (*Pers.*) *Macb.*
Leocarpus fragilis (*Dicks.*) *R.*
Trichia favoginea (*Batsch*) *Pers.*
Hemitrichia clavata (*Pers.*) *R.*
Ustilago zeae (*Beckm.*) *Ung.*
Puccinia podophylli *Schw.*
Urocystis anemones (*Pers.*)
Gymnosporangium clavipes *C. & P.*
Septoria ludwigiae *Cke.*
Glomerularia corni *Pk.*
Botrytis vulgaris *Fr.*
Helvella macropus (*Pers.*) *Karst.*
Geoglossum ophioglossoides (*L.*) *Sacc.*
Mitrula vit. irregularis (*Pk.*) *Sacc.*
Leotia lubrica (*Scop.*) *Pers.*
Cudonia circinans (*Pers.*) *Fr.*
C. lutea (*Pk.*) *Sacc.*
Dasyscypha agassizii (*B. & C.*) *Sacc.*
Lachnea scutellata (*L.*) *Sow.*
L. scubalonta *C. & G.*
Sarcoscypha floccosa *Schw.*
Pezicula carpinea (*Pers.*) *Tul.*

Pezicula acericola *Pk.*
Exoascus confusus *Atk.*
Sphaerotheca humuli (*DC.*) *Burr.*
Hypomyces lactifluorum *Schw.*
Xylaria digitata (*L.*) *Grev.*
Colpoma morbidum (*Pk.*) *Sacc.*

B

CONTRIBUTORS AND THEIR CONTRIBUTIONS

Mrs A. M. Smith and Mrs C. W. Harris, Brooklyn

Amblystegium fluitans *De N.*
A. riparium *B. & S.*
Amphoridium lapponicum *Schp.*
Anomodon apiculatus *B. & S.*
A. attenuatus *Huebn.*
A. obtusifolius *B. & S.*
A. rostratus *Schp.*
Aulacomnion palustre *Schwaegr.*
Barbula caespitosa *Schwaegr.*
B. convoluta *Hedw.*
Bartramia oederiana *Swartz*
B. pomiformis *Hedw.*
Brachythecium acuminatum *Bv.*
B. laetum *Brid.*
B. populeum *B. & S.*
B. rivulare *B. & S.*
B. salebrosum *B. & S.*
B. starkii *Brid.*
B. velutinum *B. & S.*
Bryum bimum *Schreb.*
B. caespiticium *L.*
B. capillare *L.*
B. nutans *Schreb.*
B. roseum *L.*
B. torquescens *B. & S.*
Buxbaumia aphylla *L.*
Catherinea undulata *Bv.*
Ceratodon purpureus *Brid.*
Climacium dendroides *W. & M.*
Cylindrothecium cladorrhizans *Schp.*
Dicranum flagellare *Hedw.*
D. montanum *Hedw.*
D. longifolium *Hedw.*
D. schraderi *W. & M.*
D. viride *Schp.*
D. drummondi *Muell.*
Diphyscium foliosum *Mohr.*
Encalypta rhabdocarpa *Schwaegr.*
E. streptocarpa *Hedw.*
Fissidens adiantoides *Hedw.*
Fontinalis biformis *Sulliv.*
F. lescurii *Sulliv.*
Funaria hygrometrica *Sibth.*
Georgia pellucida *Rabenh.*
Grimmia apocarpa *Hedw.*
G. leucophaea *Grev.*
Gymnostomum rupestre *Schwaegr.*
Hedwigia ciliata *Ehrh.*
Hylocomium brevirostre *B. & S.*
H. squarrosum *B. & S.*
H. triquetrum *B. & S.*
Homalia jamesii *B. & S.*
H. trichomanoides *B. & S.*
Hypnum chrysophyllum *Brid.*
H. cordifolium *Hedw.*
H. cuspidatum *L.*
H. deplanatum *Schp.*
H. fertile *Sendt.*
H. haldanianum *Grev.*
H. hispidulum *Brid.*
H. imponens *Hedw.*
H. lindbergii *Limpt.*
H. recurvans *Schwaegr.*
H. rusciforme *B. & S.*
H. schreberi *Willd.*
H. serrulatum *Hedw.*
H. splendens *Hedw.*
H. stellatum *Schreb.*
H. strigosum *Hoffm.*
H. uncinatum *Hedw.*
Leptobryum pyriforme *Schp.*
Leucobryum glaucum *Schp.*
Leucodon julaceus *Sulliv.*
Myurella careyana *Sulliv.*
Mnium affine *Bland.*
M. cuspidatum *Hedw.*
M. drummondi *B. & S.*
M. medium *B. & S.*
M. orthorrhynchum *B. & S.*
M. punctatum *Hedw.*
M. rostratum *Schp.*
M. serratum *Brid.*
M. spinulosum *B. & S.*
M. stellare *Hedw.*

Neckera oligocarpa *B. & S.*
N. pennata *Hedw.*
Oncophorus wahlenbergii *Brid.*
Orthotrichum fallax *Schp.*
O. anomalum *Hedw.*
Porotrichum alleghaniense *Grout*
Philonotis fontana *Brid.*
P. muhlenbergii *Brid.*
Pottia riparia *Aust.*
Plagiothecium denticulatum *B. & S.*
P. elegans *Schp.*
P. pulchellum *B. & S.*
P. striatellum *Lindb.*
Pogonatum alpinum *Roehl.*
P. tenue *E. G. Britton*
Racomitrium heterostichum *Brid.*
R. microcarpum *Brid.*
Rhabdoweisia denticulata *B. & S.*
Seligeria doniana *C. Muell.*
Sphagnum acutifolium *Ehrh.*
S. cuspidatum *Ehrh.*
S. quinquefarium *Warnst*
S. squarrosum *Pers.*
Tortula caespitosa *H. & G.*
T. tortuosa *Ehrh.*
Thuidium delicatulum *Mitt.*
T. recognitum *Lindb.*
T. paludosum *R. & H.*
Anthoceros laevis *L.*
Asterella hemisphaerica *Bv.*
Bazzania trilobata *S. F. Gray*
Blepharistoma trichophylla *Dumort.*
Cephalozia curvifolia *Dumort.*
C. multiflora *Spruce*
Conocephalus conicus *Dumort.*
Frullania asagrayana *Mont.*
Geocalyx graveolens *Nees*
Jungermannia barbata *Schreb.*
Kantia trichomanis *S. F. Gray*
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Lejeunea serpyllifolia *Libert*
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Mrs E. G. Britton, New York

Dicranella heteromalla *Schp.*
Dicranum longifolium *Hedw.*
D. fuscescens *Turn.*
Dicranodontium longirostre *B. & S.*
Weissia ulophylla *Ehrh.*
W. americana *Lindb.*
Didymodon cylindricarpus *B. & S.*
Georgia pellucida *Rabenh.*
Tortula ruralis *Ehrh.*
Mnium affine *Bland.*
M. spinulosum *B. & S.*
Ulota crispa *Brid.*
Aulacomnion heterostichum *B. & S.*
Polytrichum juniperinum *Willd.*
Fontinalis dalecarlica *B. & S.*
Anomodon rostratus *Schp.*
A. viticulosus *H. & T.*
Webera proligera (*Lindb.*)
Drummondia clavellata *Hook.*
Bryum nutans *Schreb.*
B. concinnatum *Spruce*
Pylaisaea velutina *B. & S.*
Raphidostegium recurvans *Schwaegr.*
R. jamesii *Lesq.*
R. laxepatulum *L. & J.*
Plagiothecium denticulatum *B. & S.*
P. mullerianum *Schp.*
P. striatellum *Lindb.*
Hypnum fertile *Sendt.*
H. splendens *Hedw.*
H. umbratum *Ehrh.*
H. oakesii *Sulliv.*
H. crista-castrensis *L.*
H. pratense *Koch*
Pogonatum alpinum *Roehl*
Typhula muscicola *Fr.*

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

Agaricus abruptus *Pk.*
Armillaria mellea *Vahl*
Cantharellus cibarius *Fr.*
Hydnum cyaneotinctum *Pk.*
Panus strigosus *B. & C.*
Strobilomyces strobilaceus (*Scop.*)

Miss M. L. Overacker, Syracuse

Hepatica acuta (*Pursh*) *Britton*
Viola selkirkii *Pursh*
V. renifolia *Gray*
Claytonia virginica *L.*
C. caroliniana *Mx.*
Asclepias exaltata *Muhl.*
Ribes prostratum *L'Her.*
R. lacustre *Poir.*
Tiarella cordifolia *L.*
Trillium grandiflorum (*Mx.*) *Salisb.*
Polymnia can. radiata *Gray*
Lycoperdon gemmatum *Batsch*

Miss V. S. White, New York

Tricholoma fallax *Pk.*
Clitocybe marginata *Pk.*
Russula adusta *Fr.*
R. sordida *Pk.*
R. basifurcata *Pk.*
R. purpurina *Q. & S.*
R. fingibilis *Britz.*
Marasmius viticola *B. & C.*
Leptonia serrulata (*Pers.*) *Fr.*
Flammula granulosa *Pk.*
Galera lateritia *Fr.*
Boletus scabripes *Pk.*
B. purp. fumosus *Pk.*
Polyporus confluens (*A. & S.*) *Fr.*
P. carpineus *Sow.*

Miss Emma S. Thomas, Schoharie

Daedalea unicolor *Fr.*
Taraxacum taraxacum (*L.*) *Karst.*
Calvatia maxima (*Schaeff.*) *Morg.*

Miss Flora Zinsmeister, Syracuse

Geaster triplex *Jungh.*

Mrs A. C. Shanks, Round Lake

Polypodium vulgare *L.*

Mrs P. B. Brandreth, Ossining

Polyporus umbellatus *Fr.*

Mrs E. C. Anthony, Gouverneur

Secotium warnei *Pk.*
Cystopus tragopogonis (*Pers.*) *Schroet*

Miss Edith Wilkinson, Tannersville

Pluteus cervinus albipes *Pk.*

F. E. Fenno, Nichols

Crataegus tomentosa *L.*
Potentilla pumila *Poir.*
Taraxacum erythrospermum *Andrz.*
Ilysanthus gratioloides (*L.*) *Benth.*
Blephilia hirsuta (*Pursh*) *Torr.*
Polygonum hartwrightii *Gray*
Salsola tragus *L.*
Juncus pelocarpus *E. Meyer*
Agrostis stolonifera *L.*
Panicum lanuginosum *Ell.*

F. S. Earle, New York

Amanitopsis volvata (*Pk.*) *Sacc.*
Clitocybe tort. gracilis *Pk.*
Russula earlei *Pk.*
Hypholoma incertum *Pk.*
Stropharia sicc. radicata *Pk.*

G. F. Atkinson, Ithaca

Tricholoma acre *Pk.*
Hygrophorus peckii *Atk.*
Merulius tenuis *Pk.*
Cudonia circinans (*Pers.*) *Fr.*
Clavaria muscoides *L.*
C. pinophila *Pk.*
Helvella ambigua *Karst.*
H. elastica *Bull.*

S. Sherwood, Delhi

Agaricus placomyces *Pk.*

D. Griffiths, Takoma Park, D. C.

Ustilago aristidae *Pk.*

H. C. Magnus, Albany

Penicillium digitatum (*Fr.*) *Sacc.*

B. L. Robinson, Cambridge, Mass.

Acalypha gracilescens *Gray*
Acer rubrum *L.*
Amianthum muscaetoxicum *Gray*
Antennaria brainerdii *Fern.*
A. canadensis *Greene*
A. fallax *Greene*
A. neglecta *Greene*
A. neodioica *Greene*
A. parlinii *Fern.*
A. parl. arnoglossa *Fern.*
A. petaloidea *Fern.*
A. plantaginea *R. Br.*
A. rupicola *Fern.*
Anthoxanthum odoratum *L.*
Arenaria serpyllifolia *L.*
Aristida dichotoma *Mx.*
Aspidium crist. x marginale *Daven.*
Asplenium viride *Huds.*
Aster divaricatus *L.*
A. glomeratus *Bernh.*
A. herveyi *Gray*
A. junceus *Ait.*
A. linariifolius *L.*
A. long. villicaulis *Gray*
A. polyphyllus *Willd.*
A. schreberi *Nees*
A. subulatus *Mx.*
A. lind. comatus *Fern.*
Atriplex arenaria *Nutt.*
Bidens bipinnata *L.*
B. discoidea *Britton*
B. trichosperma *Britton*
Botrychium matricariaefolium *Braun*
B. virginianum *Sw.*
Carex albicans *Willd.*
Carex arctata *Boott*
C. backii *Boott*
C. capillaris *L.*
C. castanea *Wahl.*
C. cephalophora *Muhl.*
C. chordorrhiza *Ehrh.*
C. crawfordii *Fern.*
C. cristata *Schw.*
C. deflexa *Hornem.*
C. eburnea *Boott*
C. exilis *Dew.*
C. fernaldii *Bail.*
C. fusca *All.*
C. gynocrates *Wormsk.*
C. interior *Bail.*
C. intumescens *Rudge*
C. laxiflora *Lam.*
C. lenticularis *Mx.*
C. livida *Willd.*
C. longirostris *Torr.*
C. lurida *Wahl.*
C. oligosperma *Mx.*
C. pedunculata *Muhl.*
C. pilulifera *L.*
C. prasina *Wahl.*
C. pubescens *Muhl.*
C. seorsa *Howe*
C. stipata *Muhl.*
C. tenella *Schk.*
C. teret. ramosa *Boott*
C. tetan. woodii *Bail.*
C. tener. richii *Fern.*
C. umbel. tonsa *Fern.*
C. umbel. brevirostris *Boott*
C. vaginata *Tausch*

Carex varia *Muhl.*
C. vesicaria *L.*
Campanula americana *L.*
Chrysopsis falcata *Ell.*
Clitoria mariana *L.*
Crataegus punctata *Jacq.*
Cyperus nuttallii *Torr.*
C. diandrus *Torr.*
Discopleura capillacea *DC.*
Dirca palustris *L.*
Desmodium acuminatum *DC.*
Elatine americana Arn.
Eleocharis ovata *R. Br.*
E. intermedia *Schultes*
E. palustris *R. Br.*
Elymus striatus *Willd.*
E. virginianus *L.*
Epilobium hornemanni *Reich.*
Eriocaulon decangulare *L.*
Eriophorum alpinum *L.*
Equisetum variegatum *Schleich.*
Eupatorium hyssopifolium *L.*
Euphorbia polygonifolia *L.*
Euphrasia amer. canadensis *Robins.*
E. oakesii *Wett.*
E. williamsii *Robins.*
Frimbristylis capillaris *Gray*
Festuca elatior *L.*
F. nutans *Willd.*
Galium latifolium *Mx.*
Geum ciliatum *Pursh*
Gerardia skinneriana *Wood*
Gratiola aurea *Muhl.*
Hemicarpha subsquarrosa *Nees*
Heuchera villosa *Mx.*
Halenia deflexa *Griseb.*
Hypericum nudicaule *Walt.*
Iris virginica *L.*
Juncus brachycephalus *Buch.*
J. dudleyi *Wieg.*
J. nodosus *L.*
J. ten. williamsii *Fern.*
J. subtilis *Meyer*
Krigia virginica *Willd.*
Lobelia kalmii *L.*
Luzula vernalis *DC.*
Lycopodium clav. monostachyon *G. & H.*
L. obscurum *L.*
L. sabinaefolium *Willd.*
Lycopodium sitchense *Rup.*
L. tristachyum *Pursh*
Lycopus sessilifolius *Gray*
Lespedeza capitata *Mx.*
Muhlenbergia willdenovii *Trin.*
Oryzopsis asperifolia *Mx.*
Panicum pauciflorum *Gray*
Paronychia argyrocoma *Nutt.*
Pedicularis furbishiae *Wats.*
Pentstemon pubescens *Soland.*
Pinus contorta *Dougl.*
Pluchea camphorata *DC.*
Podostemon ceratophyllus *Mx.*
Polygola nuttallii *T. & G.*
Poa compressa *L.*
P. pratensis *L.*
P. serotina *Ehrh.*
Polygonum acre *H. B. K.*
P. maritimum *L.*
P. ram. atlanticum *Robins.*
P. viviparum *L.*
Polygonella articulata *Meisn.*
Potamogeton het. graminifolius *W. & C.*
P. lucens *L.*
P. pectinatus *L.*
P. robbinsii *Oakes*
P. vaseyi *Robbins*
P. zosteraefolius *Schum.*
Potentilla canadensis *L.*
P. norvegica *L.*
Pyrus arbutifolia *L.*
Quercus prinoides *Willd.*
Q. ilicifolia *Wang.*
Ranunculus fascicularis *Muhl.*
R. repens *L.*
R. septentrionalis *Poir.*
Rhynchospora capillacea *DC.*
Rosa nitida *Willd.*
Rotala ramosior *Koehne*
Rubus arg. randii *Bail.*
Ruppia maritima *L.*
Sabbatia stellaris *Pursh*
Salicorne mucronata *Bigel.*
Salix balsamifera *Barratt*
Salsola kali *L.*
Sanguisorba canadensis *L.*
Saxifraga leucanthemifolia *Mx.*
S. virginiensis *Mx.*
Senecio obovatus *Muhl.*
Scirpus atrocinctus *Fern.*

Scirpus caespitosus *L.*
S. deb. williamsii *Fern.*
S. pauciflorus *Light.*
S. peckii *Britton*
Sibbaldia procumbens *L.*
Silene antirrhina *L.*
Solidago humilis *Pursh*
Spartina juncea *Willd.*
Sporobolus aspericaulis *Scrib.*
Trifolium hybridum *L.*
Vaccinium corymbosum *L.*
Veronica serp. borealis *Laest.*
Vicia sativa *L.*
Viola arenaria *DC.*

Ralph E. Matteson, Grand Rapids Mich.

Polyporus obtusus *Berk.*
Irpex crassus *B. & C.*

N. L. Britton, New York

Rhexia aristosa *Britton*

C. E. Clark, Newark

Clitocybe dealbata deformata *Pk.*

J. M. Clarke, Albany

Clitocybe illudens *Schw.*

F. S. Boughton, Pittsford

Polyporus squamosus (*Huds.*) *Fr.*

W. R. Griffiths, Douglaston

Eucalyptus calophylla *R. Br.*
Schinus molle *L.*
Arbutus menziesii *Pursh*

F. J. Braendle, Washington D. C.

Clitocybe morbifera *Pk.*
Tylostoma punctatum *Pk.*
Stropharia siccipes *Karst.*
Panaeolus epimyces *Pk.*

A. M. Baker, Coeymans

Pholiota vermiflua *Pk.*

N. M. Glatfelter, St Louis Mo.

Bolbitius glatfelteri *Pk.*
Gyromitra brunnea *Underw.*
Polyporus giganteus (*Pers.*) *Fr*

C. J. Elting, Highland

Arisaema pusillum (*Pk.*) *Nash*
Hypholoma incertum *Pk.*

E. J. Durand, Ithaca

Geopyxis carbonaria *A. & S.*
Peziza violacea *Pers.*
P. fusicarpa *Ger.*
Detonia fulgens (*Pers.*) *Rehm*
Calloria caulophylli (*E. & E.*) *Rehm*
Lachnum aquilinum (*Karst.*) *Schroet.*
Sclerotinia smilacinae *Durand*
Ciboria sulphurella (*E. & E.*) *Rehm*
C. americana *Durand*
Ascobolus atrofuscus *P. & P.*
Caldesia sabinae (*Dell.*) *Rehm*

J. E. S. Heath, Waterloo Ia.

Scleroderma vulgare *Fr.*
Calvatia craniiformis (*Schw.*) *Morg.*
Geaster mammosus *Chev.*

D. R. Sumstine, Kittanning Pa.

Lactarius sumstinei *Pk.*
Boletus parasiticus *Bull.*
Russula earlei *Pk.*

W. P. Judson, Albany

Lilium canadense *L.*

C. S. Sargent, Jamaica Plain Mass.

Populus nigra elegans *Bail.*

A. R. Sweetzer, Eugene Ore.

Sparassis herbstii *Pk.*

P. M. Van Epps, Glenville

Chlorosplenium aeruginosum *(Oeder) DeN.*

M. S. Baxter, Rochester

Buxbaumia indusiata *Brid.*

H. P. Burt, New Bedford Mass.

Agaricus placomyces *Pk.*

E. M. Freeman, Minneapolis Minn.

Entoloma graveolens *Pk.*
Polyporus obtusus *Berk.*

J. C. Arthur, Lafayette Ind.

Aecidium euphorbiae *Schw.*
Puccinia xanthii *Schw.*

R. B. Mackintosh, Peabody Mass.

Lepiota rhacodes *Vitt.*
Agaricus pusillus *Pk.*
Lepiota cristata *A. & S.*

B. C. Williams, Newark

Clitocybe multiceps *Pk.*
Clitocybe dealb. deformata *Pk.*

F. C. Stewart, Geneva

Gloeosporium phaeosorum *Sacc.*
Sporotrichum poae *Pk.*

A. P. Saunders, Clinton

Morchella angusticeps gracilis *Pk.*

S. E. Jelliffe, New York

Thamnidium elegans *Lk.*

E. B. Sterling, Trenton N. J.

Agaricus tabularis *Pk.*
A. haemorrhoidarius *Schulz.*
Coprinus comatus *Fr.*
C. atramentarius *Bull.*
Phallus imperialis *Schulz.*
Secotium warnei *Pk.*
Catastoma circumscissum *B. & C.*
Calvatia pachyderma *Pk.*

Charles McIlvaine, Cambridge Md.

Merulius lacrymans *(Jacq.) Fr.*

G. B. Fessenden, Boston Mass.

Cortinarius intrusus *Pk.*

G. B. Morris, Waltham Mass.

Cortinarius squamulosus *Pk.*
Boletus spectabilis *Pk.*
Coprinus silvaticus *Pk.*
Boletinus paluster *Pk.*

J. G. Jack, Jamaica Plain Mass.

Crataegus acutiloba *Sarg.*
C. anomala *Sarg.*
C. coccineoides *Ashe*
C. collina *Chapm.*
C. canadensis *Sarg.*
C. champlainensis *Sarg.*
C. densiflora *Sarg.*
C. dilatata *Sarg.*
C. ellwangeriana *Sarg.*
C. fecunda *Sarg.*
C. flabellata (*Spach*) *Rydb.*
C. holmesiana *Ashe*
C. illinoiensis *Ashe*
C. integriloba *Sarg.*
C. intricata *Lange*
C. jonesae *Sarg.*
Crataegus laurentiana *Sarg.*
C. lucorum *Sarg.*
C. macracantha *Lodd.*
C. mollis (*T. & G.*) *Scheele*
C. peoriensis *Sarg.*
C. pedicellata *Sarg.*
C. pastorum *Sarg.*
C. praecox *Sarg.*
C. pruinosa *Wend.*
C. rotundifolia (*Ehrh.*)
C. scabrida *Sarg.*
C. submollis *Sarg.*
C. succulenta *Lk.*
C. suborbiculata *Sarg.*
C. venusta *Beadle*

R. A. Harper, Madison Wis.

Pluteus patricius *Schulz.*
P. cervinus (*Schaeff.*) *Fr.*
Irpex fuscoviolaceus *Fr.*
Polyporus aurantiacus *Pk.*
Gyromitra sphaerospora (*Pk.*) *Sacc.*
Peziza amplispora *C. & P.*
Puccinia mesomegala *B. & C.*
Septoria salliae *Ger.*

W. L. Smith, Albany

Macrosporium lagenariae *Thum.*

C. M. C. Lloyd, Gloversville

A specimen of "six-leaved" clover

New York State Agric. Society

Miscellaneous collection of dried plants, 398 numbers

C

SPECIES NOT BEFORE REPORTED

Delphinium ajacis L.

Near Niagara Falls. August. E. M. Wilcox. This is an introduced plant, which is cultivated for its flowers, but it sometimes escapes from cultivation. It resembles the closely allied D. consolida, from which it may be distinguished by its pubescent seed vessels.

Hypericum boreale (Britton) Bickn.

Shore of Piseco lake. August. Closely related to the common H. mutilum but separable from it by the stem, which is scarcely branched, except at the top, by the small bracts of the cymes being similar in shape to the leaves and specially by the seed vessels, which are decidedly longer than the sepals.

Vicia angustifolia Roth

Adams, Jefferson co. June. This is closely related to V. sativa, the common vetch, as a variety of which it is recorded in 46th Museum report, p.122. It is now considered a valid species and may be separated from its near relative by its more narrow linear or oblong, pointed leaflets.

Kneiffia longipedicellata Small

Sandy soil near Eastport, Suffolk co. August. A peculiar form having a flexuous much branched stem and leaves a little broader than in the typical form. A specimen collected near Quogue more nearly represents the typical form. The large flower and long peduncle are distinguishing characters of the species.

Lactuca virosa L.

This introduced plant is rapidly spreading and is already found growing freely in waste places about many of our cities and villages. It was formerly confused with L. scariola, a species which it closely resembles and which may be distinguished by its lower leaves being sinuate or sinuate pinnatifid and by its pale achenes. Specimens of this species were collected near Trenton Falls in August.

Hypochaeris radicata L.

Fields and roadsides. Cedarhurst, Nassau co. June. G. D. Hulst. Introduced. It has also been reported from Richmond county.

Artemisia stelleriana Bess.

Seabeach. Rockaway L. I. July. G. D. Hulst. The beach wormwood is very distinct from our other species of this genus and may easily be recognized by its dense, whitish coat of tomentum and its large, erect and crowded heads of flowers.

Xanthium commune Britton

Moist ground. Whitehall. September. In our specimens the hairs on the lower half of the beaks and prickles of the burs are whitish, instead of brown.

Aster roscidus Burgess

Roadside. Piseco, Hamilton co. August. A beautiful aster related to the large leaved aster, A. macrophyllus, but easily distinguished by the abundance of the glands on the upper part of the stem and also on the leaves.

Matricaria matricarioides (Less.) Porter

Waste places and roadsides. Lansingburg. June. This introduced plant is easily separated from our other species of the genus by the absence of ray flowers. In size and foliage it resembles the common mayweed, Anthemis cotula.

Antennaria fallax Greene

Bushy places, groves and borders of woods. Menands and Westport. May.

Antennaria ambigens (Greene) Fern.

Roadsides. Sandlake, Rensselaer co. May. Related to the preceding species but separable from it by its shorter stem, broader and closer stem leaves, which are glandular on the upper surface, and by the glandular, purplish hairs of the stolens.

Antennaria brainerdii Fern.

Pastures and shaded banks. Westport and Keene, Essex co. May. Related to A. neodioica, from which it may be sepa-

rated by the purple hairs of the stem, though these are sometimes few and scattered and easily overlooked. The plants of the Keene locality grew on a moist, partly shaded bank near the Willey house and are larger than the others.

Antennaria petaloidea Fern.

In a recent clearing. North Elba, Essex co. June.

Plantago halophila Bickn.

Sandy soil near Eastport, Suffolk co. and near Saranac lake, Franklin co. September. This plantain has generally been considered a form of P. major, but it may be distinguished by its pubescence, its smaller, thicker leaves with petioles shorter than the blades and by its curved scapes.

Lycopus communis Bickn.

Near Port Jefferson, Suffolk co., and in the Adirondack region. This is closely related to L. virginicus, with which it has been confused and from which it may be separated by the tuberous base of the stem.

Arisaema pusillum (Pk.) Nash

Fine specimens of this plant, which was formerly considered a variety of A. triphyllum, were found near Highland, Ulster co., in June, by C. J. Elting and contributed by him to the herbarium.

Limnorchis media Rydb.

Swamps and wet places near Jordanville, Herkimer co. July. This and the next species were formerly thought to be forms of Habenaria hyperborea, which they closely resemble. State Museum report 50, 1:126.

Limnorchis huronensis (Nutt.) Rydb.

Wet places and swampy ground about Jordanville. July. Also in Petersburg, Rensselaer co. A much smaller plant than the preceding. L. dilatata linearifolia Rydb. is represented in the herbarium by a specimen collected many years ago by Rev J. A. Paine near Hidden lake, Herkimer county.

Carex crawfordii Fern.

This sedge, which has long been known as C. scoparia var. minor, is common in wet places in the eastern and northern parts of the State. It has been raised to specific rank and given a new name by Mr Fernald.

Botrychium matricariae (Schrank) Spreng.

South Corinth, Saratoga co. August.

Pottia riparia Aust.

Limestone rocks. Near Chilson lake, Essex co. July. Sterile. Mrs A. M. Smith and Mrs C. W. Harris. This is a very small moss and one that is easily overlooked. It is rarely fertile.

Tortula ruralis Ehrh.

Limestone rocks. Green lake near Jamesville, Onondaga co. July. Mrs E. G. Britton. The specimens are without fruit.

Racomitrium heterostichum Brid.

Eagle rock gorge near Chilson lake. June. Mrs Smith and Mrs Harris. This is variety gracilescens, a slender moss, and these specimens are without fruit.

Encalypta rhabdocarpa Schwaegr.

Near Chilson lake. June. In fruiting condition. Mrs Smith and Mrs. Harris.

Hypnum lindbergii Limpt.

Regina swamp and Pyramid lake, near Chilson lake. September. Mrs Smith and Mrs Harris.

Liochlaena lanceolata Nees

Regina swamp near Chilson lake, growing on decaying wood. June. Mrs Smith and Mrs Harris. The specimens are fertile and in fine condition.

Amanita flavoconia Atk.

Woods and thickets. Adirondack mountains. July and August. Closely resembling A. frostiana in size and color but distinguishable by the even margin of the pileus, the floccose edge of the lamellae and the fragile character of the volva, which

easily separates from the slightly bulbous base of the stem and adheres to the soil that surrounds it. Both it and the annulus are of a beautiful, chrome yellow color.

Tricholoma radicatum n. sp.

PLATE 82, FIG. 15–19

Pileus fleshy, firm, umbraculiform or broadly convex, dry, minutely silky fibrillose or obscurely fibrillose squamulose, somewhat shining, pale grayish brown, the center usually darker and often tinged with reddish brown, the margin thin, cuticle separable, flesh white, taste disagreeable; lamellae thin, close, emarginate, adnexed, having a decurrent tooth, white; stem firm, nearly equal, hollow with a small cavity, slightly fibrillose, distinctly radicating, white; spores broadly elliptic, .0002–.00024 of an inch long, .00016–.0002 broad.

Pileus 2–3 inches broad; stem 1.5–4 inches long, 3–5 lines thick. Under coniferous trees. North Elba. September.

This mushroom loses its unpleasant flavor in cooking and is edible. A more full and popular description is given in another part of the report.

Clitocybe inversa (Scop.) Fr.

Pine groves. Near Northville, Fulton co. August. A stout form with a thick stem.

Mycena rugosoides n. sp.

PLATE M, FIG. 17–34

Pileus fleshy but thin, campanulate, usually broadly umbonate, glabrous, hygrophanous, even but striate on the margin when moist, paler and uneven when dry, with close irregular radiating rugae, variable in color; lamellae subdistant, rounded or emarginate next the stem, adnexed, whitish or smoky white; stem long, even, glabrous, hollow, radicating, villose tomentose at the base, white or pallid, often tinged with reddish brown at the base; spores elliptic, .0003 of an inch long, .0002 broad, granular.

Pileus 6–12 lines broad; stem 1.5–3 inches long, .5–1.5 lines thick. Gregarious on much decayed, mossy, prostrate trunks of coniferous trees. North Elba. September.

Three forms occur which are separable by color. One is wholly white, another has the pileus and stem cinereous or grayish

brown and the lamellae white, the third has the pileus blackish brown, the stem pallid or grayish brown and the lamellae smoky white. Reddish stains sometimes occur on any part of the plant. These are possibly due to insect injury. The umbo is often very obtuse or almost flat at the top. This species is separated from M. rugosa by its moist umbonate pileus, its long stem, its straight, not oblique, rooting base and by its habitat. The villosity at the base of the stem is grayish white.

Hygrophorus subrufescens n. sp.

PLATE M, FIG. 1–6

Pileus fleshy, but thin on the margin, convex or nearly plane, dry, minutely floccose squamulose, pale pink or grayish red, flesh whitish, faintly tinged with pink, taste mild; lamellae subdistant, decurrent, whitish; stem rather long, equal or nearly so, flexuous, glabrous, solid, white; spores elliptic, .0003 of an inch long, .0002 broad.

Pileus about 1 inch broad; stem 1.5–3 inches long, 2–4 lines thick. Among fallen leaves in woods. Port Jefferson, Suffolk co. August.

This species belongs to the section Camarophyllus, and is related to H. leporinus, from which it may be separated by its different color, thinner margin of the pileus and glabrous stem.

Hygrophorus peckii Atk.

Woods, pastures and bushy places. July and August. Ithaca. G. F. Atkinson. Gansevoort, Saratoga co., Westport, Essex co. and Piseco, Hamilton co. It is most closely related to H. psittacinus, from which it is separated by its odor and decurrent lamellae.

Lactarius luteolus Pk.

PLATE 83, FIG. 7-11

Among fallen leaves in woods. Port Jefferson. August. A very distinct species, easily known by its mild taste, copious milk, changing from white to brown on exposure to the air, and by the somewhat viscid pubescence of the pileus and stem. Milk flows readily from any part of the plant on the slightest injury, and wounds assume a dark brown color. The plant is edible; and is more fully described in another part of this report.

Russula magnifica n. sp.

PLATE N, FIG. 1–4

Pileus fleshy, firm, convex and umbilicate when young, centrally depressed or infundibuliform when mature, glabrous, viscid when young and moist, even, but the cuticle sometimes rimose squamose in the center, even on the margin, the thin pellicle subseparable, flesh white or whitish, odor and taste alkaline, strong and disagreeable; lamellae narrow, crowded, unequal, adnate or slightly decurrent, whitish with a faint pinkish reflection, becoming reddish brown where bruised and rusty brown when old; stem equal or narrowed downward, solid, becoming spongy or sometimes cavernous within when old, white; spores white, even or nearly so, subglobose, .0003–.0004 of an inch long, .00025–.0003 broad.

Pileus 4–10 inches broad; stem 2–5 inches long, 8–18 lines thick. Among fallen leaves in woods. Port Jefferson. August.

This is the largest species of Russula known to me. It is related to R. delica and R. brevipes, from which its large size, peculiar odor and viscid pileus separate it. Sometimes the surface of the pileus is irregularly spotted with small unequal depressions or cavities. The odor persists in the dried specimens.

Russula earlei n. sp.

PLATE N, FIG. 5–10

Pileus fleshy, firm, hemispheric, becoming broadly convex or nearly plane, sometimes centrally depressed, glabrous, very viscid, the margin even when young but sometimes rimose and uneven when old, stramineous, becoming paler with age, flesh whitish or yellowish, taste mild; lamellae thick, distant, adnate, with a few intermediate short ones near the margin, whitish becoming yellowish; stem short, firm, equal or nearly so, solid, becoming spongy within, white; spores white, subglobose, .0002–.00024 of an inch broad.

Pileus 1.5–2.5 inches broad; stem 1–1.5 inches long, 3–5 lines thick. Among fallen leaves in woods. Port Jefferson. August. The spores of this species are unusually small for the genus. This character, with the pale glutinous pileus and distant lamellae, marks the species as very distinct. I take pleasure in dedicating it to its discoverer, Professor F. S. Earle.

Marasmius biformis n. sp.

Pileus thin, submembranaceous, campanulate or nearly plane, generally umbilicate, glabrous, bay red or pale chestnut color and striatulate when moist, paler or grayish and rugosely striate when dry; lamellae rather close, adnate and joined together at the stem, grayish tinged with creamy yellow; stem slender, stuffed or minutely hollow, covered with a dense, downy pubescence, which is brown when moist, cinereous when dry, sometimes slightly tawny toward the base.

Pileus 4–8 lines broad; stem about 1 inch long, .5 of a line thick. Gregarious in groves of coniferous trees. Sandlake, Rensselaer co. August.

The species is closely related to M. subnudus, but the plant is much smaller, the pileus is usually umbilicate and the stem not inserted. The mycelium binds together a mass of dirt and needles which adhere to the base of the stem when the plant is taken from the ground. In some groups nearly all the pilei are campanulate, in others they are nearly plane. This feature is suggestive of the specific name.

Marasmius tomentosipes Pk.

Much decayed, mossy, prostrate trunks of trees. North Elba. September. Similar in color to Omphalia campanella, but differing in its more scattered mode of growth, its longer straight stem sprinkled with tawny mealy particles or covered with tawny tomentum and in its less distinctly umbilicate pileus. In our specimens the stem is flocculent mealy at the top, has scattered flocculent particles below and a copious tomentum at the base, all of a tawny color. The specimens revive under the influence of moisture as in the genus Marasmius, and for this reason they have been referred to this genus. The species was founded on specimens collected in Idaho.

Marasmius leptopus n. sp.

Pileus thin, broadly convex or nearly plane, glabrous, obscurely and rugosely striate on the margin, reddish brown; lamellae thin, narrow, close, adnate, white; stem slender, glabrous, hollow, inserted, whitish or pallid; spores oblong or narrowly elliptic, .0003–.00035 of an inch long, .00012–.00015 broad.

Pileus 3–5 lines broad; stem 1–1.5 inches long, about .5 of a line thick. Fallen leaves. Botanical garden, Bronx park. August.

Marasmius insititius Fr.

Fallen oak leaves. Port Jefferson. August.

Marasmius thujinus n. sp.

Pileus membranaceous, hemispheric or convex, often slightly umbilicate, subglabrous, distantly striate on the margin, cinereous tinged with lilac; lamellae few, distant, adnate, white; stem capillary, hollow, inserted, glabrous or with a few minute, scattered flocci toward the base, pallid, sometimes slightly brownish toward the base.

Pileus 1–1.5 lines broad; stem 6–12 lines long, scarcely thicker than a hair. Fallen leaves of arbor vitae, Thuja occidentalis. North Elba. September.

Under a strong lens the pileus is seen to be minutely pulverulent tomentose, and the stem adorned with a few minute, scattered flocci.

Leptonia hortensis n. sp.

Pileus thin, convex, umbilicate, hygrophanous, reddish brown and striatulate when moist, paler and silky when dry; lamellae thin, close, adnexed, whitish when young, pinkish when mature; stem short, thin, glabrous, hollow, colored like the pileus; spores angular, uninucleate, .0003–.0004 of an inch long, .0003 broad.

Pileus 5–10 lines broad; stem 8–12 lines long, about 1 line thick. Naked ground in gardens. Menands, Albany co. July.

Flammula pusilla n. sp.

PLATE M, FIG. 35–41

Pileus thin, convex becoming nearly plane, glabrous, viscid, pale buff or yellow ferruginous; lamellae narrow, close, adnate, whitish when young, brownish ferruginous when mature; stem short, equal, solid or stuffed, floccose fibrillose, whitish becoming ferruginous toward the base, which is slightly villose strigose, flocculent pulverulent at the top; spores elliptic, .0003 of an inch long, .00016 broad.

Pileus 6–12 lines broad; stem 8–15 lines long, about 1 line thick. Roots of stumps and water-soaked wood in open places. Smithtown, Suffolk co. August.

This species resembles small forms of Naucoria semiorbicularis in shape and color, but its more viscid pileus, adnate lamellae, solid or merely stuffed stem and peculiar habitat distinguish it. In very young plants a slight whitish veil is perceptible.

Craterellus subundulatus Pk.

Pileus thin, firm, subinfundibuliform, slightly floccose squamulose or fibrillose, grayish or grayish brown, wavy or lobed on the margin, the lobes often overlapping; hymenium slightly radiately rugose, creamy white; stem short, firm, solid, colored like the pileus; spores elliptic, .0003 of an inch long, .00016 broad.

Pileus 4–8 lines broad; stem 5–10 lines long, 1–1.5 thick. Gregarious or cespitose. Under beech trees. New York Botanical garden. August.

Closely related to C. sinuosus, from which it differs in its smaller size, solid, darker colored stem and slightly smaller spores. Formerly referred to the genus Thelephora.

Clavaria crassipes n. sp.

Stem thick, firm, solid or sometimes with a cavity at the base, glabrous white or whitish, repeatedly branched above, the branches very numerous, crowded, solid, terminating in obtuse or obtusely dentate tips, whitish or slightly yellowish; spores oblong, uninucleate, .0006–.0007 of an inch long, .00025–.0003 broad, with an oblique apiculus at the base.

Plant 3–6 inches high, 2–4 inches broad in the widest part, with the short stem about 1 inch thick. In woods and groves. Sandlake. August.

The flesh of the stem when cut or broken slowly assumes a smoky brown color.

Clavaria tsugina n. sp.

Stem very short, glabrous, branching from the base, solid, the branches few or many, suberect, sometimes crowded, flexible, rather tough, solid, terminating in acute tips, young plants and growing tips creamy yellow, older parts and mature plants

vinaceous cinnamon or reddish brown, spores orchraceous, elliptic, .0003 of an inch long, .00016 broad.

Plants 1–3 inches high, nearly as broad in the widest part. Prostrate, decaying trunks of hemlock, Tsuga canadensis. Adirondack mountains. July and August. Closely allied to C. abietina, from which it differs in its naked stem, in having no bitter flavor and in wounds not assuming a green color.

Secotium warnei Pk.

Near Gouverneur, St Lawrence co. October. Mrs E. C. Anthony. This is the most eastern station known to me for this western species. It has been thought by some mycologists to be the same as S. acuminatum, but it appears to me to differ constantly from the description of that species in shape and color. It is very variable in shape and is sometimes umbonate, but I have never seen any specimens that could properly be called acuminate, nor any having an ochraceous or alutaceous color. It does not seem to be wise to give up a certainty for an uncertainty and to throw together forms which are constantly diverse.

Tylostoma poculatum White

Sandy soil. Karner, Albany co. Our specimens are a little smaller than the typical form, which was collected in Nebraska.

Tylostoma punctatum Pk.

Sandy soil. West Albany. May. Formerly confused with T. fimbriatum, from which it may be distinguished by the punctate inner peridium.

Licea variabilis Schrad.

Decaying wood of spruce. Oldforge, Herkimer co. August. Very variable in form. Sometimes the spores adhere to each other in groups.

Aecidium ligustri Strauss

Living leaves of privet, Ligustrum vulgare. Menands. June. Altamont. F. J. H. Merrill.

Cintractia affinis n. sp.

Stroma continuous, usually surrounding the stem of the host plant and forming patches 6–24 lines long, at first covered by a

white crust, which at length ruptures and disappears, exposing the surface of a jet black, firm, but slightly pulverulent spore mass; spores globose or subglobose, minutely and closely papillose, involved in a thin, obscure, hyaline, gelatinous coat, black, .0006–.0008 of an inch broad.

Living stems of Rhynchospora macrostachya Torr. Smithtown, Suffolk co. August.

This interesting species is closely related to C. leucoderma, from which it differs in its longer, thinner and more intensely black spore mass, which occupies the stem instead of the sheaths and flower spikes, and by its more globose spores, which are minutely and closely but not spirally papillose. Two spore masses usually develop on one stem. These are commonly separated by a slight interval. Occasionally the lower is free from the white crust, while the upper still retains it. The thickness of the spore mass, including the inclosed stem, is usually 1–1.5 lines.

Phyllosticta grisea n. sp.

Spots suborbicular, small, 1–1.5 lines broad, arid, gray with a purplish brown margin, brown beneath, occasionally brown above; perithecia epiphyllous, minute, erumpent, black; spores elliptic, hyaline, .00025–.0003 of an inch long, .00016 broad.

Living leaves of Crataegus praecox. Crown Point. September.

Gloeosporium phaeosorum Sacc.

Dead canes of blackberry. Farmer, Seneca co. May. F. C. Stewart.

Sporotrichum poae n. sp.

Hyphae slender, .00008–.00012 of an inch thick, procumbent, branched, slightly interwoven, white; spores colorless, subglobose. .00016–.00032 of an inch broad.

Sheaths and culms of Kentucky blue grass, Poa pratensis. Geneva. June. F. C. Stewart. The fungus occurs both without and within the sheaths of culms that have died, but whether their death was due to the attack of the fungus or of insects is not clear.

Penicillium digitatum (Fr.) Sacc.

Decaying lemons. Albany. Sometimes the whole surface of the lemon is covered with a dusty, bluish green coat of this mold.

Penicillium pallidofulvum n. sp.

Sterile hyphae creeping, forming a stratum of dense, tawny tomentum; fertile hyphae erect, septate, simple or with one to three short branches or protuberances at the top; spores catenulate, elliptic, .00012–.00016 of an inch long, at first white, soon pale tawny or ochraceous.

Parasitic on Lactarius deceptivus. Round Lake. July.

Macrosporium lagenariae Thum.

On fruit of gourds, Lagenaria vulgaris. Albany. January. W. L. Smith.

Fusarium laxum n. sp.

Tufts minute, loosely gregarious, white; sporophores slender; spores narrowly fusiform, slightly curved, 3–5 septate, hyaline, .001–.002 of an inch long.

Dead stems of scouring rush, Equisetum hiemale. Delmar. July. Apparently a peculiar species belonging to the section Fusisporium but having tufted sporophores.

Stilbum resinaria n. sp.

Stem cylindric, about .25 of a line long, white; capitulum globose or depressed globose, creamy yellow; spores minute, subglobose, .00008–.00012 of an inch long, nearly as broad.

Resinous spots on bark of balsam fir, Abies balsamea. Adirondack mountains. Closely allied to S. rehmianum.

Helvella ambigua Karst.

Decaying wood. Piseco. August. G. F. Atkinson. This species may easily be confused with H. infula, from which it scarcely differs except in its pileus having a reticulated surface and in its longer, more fusiform spores.

Detonia fulgens (Pers.) Rehm

Under spruce and balsam fir trees. North Elba. May. Near Ithaca. April. E. J. Durand.

Geopyxis carbonaria A. & S.

Burnt soil. Ithaca. May. Specimens of this and the nine following species were contributed by Mr Durand.

Calloria caulophylli (E. & E.) Rehm

Dead stems of blue cohosh, Caulophyllum thalictroides. Ithaca. May.

Lachnum inquilinum (Karst.) Schroet.

Dead stems of scouring rush, Equisetum hiemale. Ithaca. May.

Sclerotinia smilacinae Durand

Dead rootstocks of wild spikenard, Smilacina racemosa. Ithaca. May.

Ciboria americana Durand

Dead chestnut burs. Ithaca. October.

Ciboria sulphurella (E. & E.) Rehm

Dead petioles of ash leaves. Farmington, Ontario co. September.

Peziza violacea Pers.

Burnt soil. Ithaca. May.

Caldesia sabinae (Dellot) Rehm

Loose bark of red cedar, Juniperus virginiana. Ithaca. November.

Helotium scutula vitellinum Rehm

Dead stems of herbs. Ithaca. October.

Ascobolus atrofuscus Ph. & Pl.

Charred wood. Canandaigua. September.

Melanospora vervecina (Desm.) Fckl.

Decaying wood of yellow birch, Betula lutea. North Elba. September.

Leptosphaeria variegata n. sp.

Perithecia numerous, minute, depressed globose, seated on indeterminate spots of a pinkish, grayish or brownish color, at first covered by the epidermis, then erumpent, black; asci cylindric;

spores oblong or subfusiform, triseptate, colored, .0[illegible] .0008 of an inch long, .00016–.00018 broad.

Dead stems of pokeweed, Phytolacca decandra. Near Trenton Falls. September.

D

REMARKS AND OBSERVATIONS

Lepidium virginicum L.

A dwarf form, 4 to 8 inches high and without branches, or nearly so, was found growing in sandy soil near Delmar. A similar form of L. apetalum Willd. was found growing from a thin coating of vegetable mold covering flat surfaces of outcropping rocks near Westport. This was in flower in May, the other in July.

Lepidium ruderale L.

Fine specimens of this species were found by the roadside near Lansingburg. May and June.

Raphanus raphanistrum L.

A form with flowers of a peculiar brownish buff color, changing to reddish brown with age, was found growing in sandy soil near Karner. It was associated with the ordinary form and with the cultivated radish, R. sativus.

Viola papilionacea domestica (Bickn.) Poll.

Waste places about Port Jefferson. August. In fruit from cleistogamous flowers.

Drosera rotundifolia L.

A form of the round leaved sundew occurs near Port Jefferson, in which the scape divides above, forming two flowering branches with a flower in the axil.

Rubus occidentalis pallidus Bail.

Near Albia, Rensselaer co. In fruit in July. This differs from the common form of the species in having pale yellowish fruit.

Kneiffia pumila (L.) Spach

A much branched form, with branches straight and erect, or nearly so, and flowering abundantly, was found near North Albany in July.

Myriophyllum humile (Raf.) Morong

Muddy shore of a small pond near Smithtown, Suffolk co. August. A small, rare and pretty little plant.

Erigeron ramosus (Walt.) B. S. P.

The variety discoideus has been unusually plentiful about Albany the past season. The peculiarly cool, wet season was probably favorable to it.

Galinsoga parviflora hispida DC.

This introduced plant is reported by Mrs M. A. B. Kelly to be acting like a pestilent weed in a garden at Gloversville.

Antennaria neglecta simplex n. var.

Stems 7–9 inches long, heads of flowers single or occasionally two, very rarely three; involucral bracts oblong or linear, acute or the outer obtusish, brownish with white tips. Sandlake. May.

These plants grew in a patch about 6 feet in diameter. They have a peculiar appearance by reason of the single heads.

Helianthus giganteus L.

Roadsides. Keene, Essex co. September. A rare plant in this part of the State.

Polymnia canadensis radiata Gray

Near Syracuse. June. Miss M. L. Overacker.

Xanthium canadense L.

A dwarf form of this species, 6–10 inches high, is plentiful on sandy and gravelly shores of Lake Champlain at Crown Point. The burs sometimes have but one beak, and the prickles are strongly curved.

Verbena hastata L.

A plant having a close resemblance to this species was collected at Trenton Falls. Its spikes are less dense, and its flowers are pink. It is probably a hybrid of V. hastata and V. urticifolia.

Origanum vulgare L.

A white flowered form occurs at Trenton Falls.

Tetragonanthus deflexus (Sm.) Kuntze

This is Halenia deflexa of the *Manual* and is a rare plant in our State. It was found many years ago near Trenton Falls by Dr J. V. Haberer. In company with him, I visited the locality in August last and found the plant still there but in small quantity. A specimen in the herbarium represents another locality for it in Sullivan county. In *New York State Flora* Dr Torrey credits it to margins of lakes in the northern part of the State on the authority of Dr Hadley. It is desirable that any one finding it within our State should guard as far as possible against its extermination.

Physalis heterophylla ambigua (Gray) Rydb.

Sandy soil. Karner, Albany co. June and July. In our specimens the anthers and their short, thick filaments are purple when young. The greenish yellow corolla has the brown central spot lobed, and from the lobes brown lines radiate, giving the spot a fringed appearance. The lower leaves are often orbicular.

Polygonum convolvulus L.

A form having a short, erect, sparingly branched stem occurs in sandy soil about Karner. It corresponds to variety breve of P. cilinode.

Lilium canadense L.

The Canada lily was found growing in great abundance in a low, wet meadow near Mount Kisco, Westchester co., by W. P. Judson. The plants were small, the stems short and slender, each bearing, in most cases, a single small flower, and the leaves were smaller than usual. In an adjoining meadow on higher and drier ground the usual form of the species was plentiful. The two forms afford a good illustration of the influence of soil and moisture on plant development. The cold, wet soil of the low meadow was evidently unfavorable to the proper development of this lily, and suggests the importance of a well drained soil for plants that do not like cold, wet feet.

Scirpus sylvaticus bissellii Fern.

Low ground. West Albany. Several years ago a single specimen of this variety, was collected by the late Rev. J. H. Wibbee and presented to the herbarium. The station has since been destroyed, and I know of no other in the State where this variety has been found.

Sporobolus longifolius (Torr.) Wood

Rocky sides of Skenes mountain, Whitehall. September. It was associated with Sporobolus neglectus and Aster concinnus. Quercus acuminata (Mx.), the eastern form of which is Q. alexanderi Britton, was growing near it. This mountain is an interesting botanical station.

Buxbaumia indusiata Brid.

Near Rochester. October. M. S. Baxter. This is the fourth and most western station for this rare moss in our State. It has been found in the Catskill mountains and in two places, Horseshoe pond and Lake Placid, in the Adirondack mountains.

Amanitopsis volvata (Pk.) Sacc.

An unusual form of this species was found in the wooded grounds of the New York botanical garden. A part of the volva was closely adherent to the center of the pileus, as in Amanita calyptrata, and the base of the stem was more closely sheathed than usual by the remains of the volva.

Amanitopsis strangulata Fr.

Piseco and North Elba. August and September. This northern form differs from the more southern one in having the pileus adorned with unequal fragments of the ruptured volva instead of nearly equal, wartlike remnants.

Clitocybe dealbata deformata n. var.

Pileus thin, very irregular, convex or centrally depressed, wavy or lobed on the margin, the upper surface sometimes partly transformed into a hymenium consisting of daedaloid pores in the center and branching and anastomosing lamellae toward the margin, snowy white where free from hymenial development,

flesh pure white, taste farinaceous; lamellae close, adnate or slightly decurrent, transversely venose, often anastomosing or connected by veins, frequently eroded on the edge and sometimes transversely split, whitish; stem irregular, sometimes compressed, more or less confluent at the base, stuffed or hollow, white, with a soft, pure white, downy tomentum below; spores subglobose .00012–.00016 of an inch long, nearly as broad.

On mushroom beds in a greenhouse. Newark, Wayne co. March. C. E. Clark and B. C. Williams. The specimens grew in mushroom beds made in a poorly lighted apartment, in which a temperature of 55°–60° was maintained. These conditions doubtless had some influence in causing the irregular, tufted mode of growth. In their pure whiteness and in the tendency of the gills to anastomose these mushrooms resemble Clitocybe similis, but the thin pileus and the farinaceous taste and odor indicate a relationship with C. dealbata so intimate that it is recorded as a variety of it. That species is also sometimes found growing in mushroom beds.

Clitocybe multiceps Pk.

A singular form of this species was found growing under a flagstone in Newark by Mr B. C. Williams. In the effort to expand the pileus in the open air, the stem was greatly elongated. In one specimen the stem was 13 inches long, in the other, 16.

Clitocybe tortilis gracilis n. var.

Pileus thin, convex and slightly umbilicate, becoming centrally depressed or infundibuliform with age, irregular, striate on the margin and reddish flesh color when moist, paler when dry; lamellae broad, distant, adnate or decurrent, pruinose when old and dry; stem slender, firm, glabrous, hollow but the cavity small.

Pileus 3–6 lines broad; stem 6–10 lines long, about .5 of a line thick. Gregarious on moist, shaded ground. New York Botanical garden. August. F. S. Earle.

This differs from the typical form of the species in its more slender stem, more distant lamellae and more funnel-form pileus.

Collybia uniformis Pk.

PLATE M, FIG. 7–16

Specimens larger than the typical form were found in North Elba, growing on decaying wood of balsam fir, Abies balsamea. After the moisture has escaped from the pileus, it has a pruinose appearance, which is due to a minute, whitish pubescence. The stem is sometimes compressed. In its general characters and tufted mode of growth it is closely allied to C. familia.

Lactarius subdulcis oculatus n. var.

PLATE 83, FIG. 20-24

Pileus moist, subhygrophanous, vinaceous buff with a small central spot or umbo persistently reddish brown or chestnut color. Otherwise like the species. Under spruce and balsam fir trees. North Elba. September.

Hygrophorus capreolarius Kalchb.

This beautiful species inhabits groves of spruce and balsam fir in North Elba, but I have seen it in no other part of the State. It is gregarious or cespitose, has an attractive appearance and an agreeable flavor when fresh, but when fried in butter it develops a bitter taste which makes it objectionable as an edible mushroom.

Russula olivascens Fr.

Port Jefferson. August. European authors in their descriptions of this species do not mention the color of the spores. In our plant they are ochraceous.

Russula granulata lepiotoides Atk. in litt.

This variety differs from the typical form in its pileus, whose upper surface soon becomes rimose squamose. It was common, in August, in the woods about Piseco, Hamilton county.

Cantharellus cibarius albipes n. var.

This differs from the usual form of the species in having the stem white.

Stropharia siccipes radicata n. var.

Differs from the species in having a long, radicating base to the stem. This probably depends on and is due to the fact that it

grows from manure buried in the earth. New York Botanical garden. June. F. S. Earle. Menands. July.

Marasmius resinosus niveus n. var.

Whole plant pure white. In other respects like the species. Port Jefferson. August.

Hypholoma sublateritium squamosum Cke.

Differs from the typical form in having the pileus spotted with brownish, fibrillose scales. In the dried specimens these scales are less distinct. Piseco. August.

Hypholoma subaquilum Banning

Decaying, prostrate trunks of trees in woods. Piseco. August. This species sometimes occurs in great abundance. The margin of the pileus is often adorned with whitish, floccose fibrils of the veil, which in the young plant may be interwoven and form a delicate membrane which conceals the lamellae. As the pileus expands, this separates from the stem and adheres to the margin of the pileus, curving under and still hiding the outer extremities of the lamellae. In the mature plant, however, all vestiges of the veil have generally disappeared. This species is most closely allied to H. appendiculatum, scarcely differing from it except in the darker color of the young lamellae and the smaller spores. Like that species it is hygrophanous, becoming paler and rugose in drying.

Coprinus micaceus Fr.

Specimens of the glistening coprinus were found growing from a stratum of its coarse, felty ozonium or mycelium, which had overspread a part of the surface of an old, prostrate tree trunk in woods near Piseco. August.

Merulius tenuis Pk.

Much decayed wood. Piseco. The type specimens of this species were collected near Ithaca by Professor W. R. Dudley. Fine specimens of it were collected at Piseco by Professor G. F. Atkinson. It is a rare species.

Odontia lateritia B. & C.

On a decorticated, prostrate pine trunk in woods. North Elba. September. The specimens on pine are thinner than those on oak, and, where the surface of the wood is smooth, the fungus is to some extent separable from it. The species is doubtless the same as Phlebia hydnoidea Schw. and should take the name Odontia hydnoidea (Schw.).

Nidularia pulvinata (Schw.) Fr.

Fine specimens were found in North Elba, growing on decorticated wood of spruce. This fungus was first described by Schweinitz under the name Cyathus pulvinatus. Fries changed the name to Nidularia pulvinata, and recently the species has been transferred to another genus, and it stands as Granularia pulvinata (Schw.) White.

E

EDIBLE FUNGI

Tricholoma subacutum Pk.

SUBACUTE TRICHOLOMA

PLATE 82, FIG. 7–14

Pileus ovate or subcampanulate, becoming broadly convex or nearly plane, usually prominently and acutely umbonate, dry, silky fibrillose or virgate with innate brown or blackish fibrils, cinereous, grayish brown or blackish brown, the umbo commonly darker, sometimes black; lamellae rather close, rounded behind, adnexed, white; stem rather long, equal, solid, silky fibrillose, white; spores broadly elliptic or subglobose, .00025–.0003 of an inch long, .0002–.00025 broad.

The subacute tricholoma is easily recognized by its prominent pointed umbo, by the minute, radiating, brown or blackish lines or fibrils on its dry cap and by the white color of its flesh and stem. It is not abundant, and has been found by me in North Elba only. It grows in woods and in groves of young spruce and balsam fir trees, appearing in September. The cap varies in color, being pale gray, grayish brown or blackish brown. The umbo is frequently darker than the rest, and in dark colored

specimens it is nearly or quite black. The cuticle is separable from the white flesh beneath. The flesh has no decided odor, and its taste is sometimes acrid and sometimes mild. The gills are rather broad but close, rounded behind and slightly attached to the stem. They are white, but are apt to become dingy or brownish in drying. The stem is rather long, equal, smooth or slightly fibrillose, solid, or hollow from the erosion of insect larvae and white.

The cap is 1.5–3 inches broad; the stem 2–4 inches long, 3–6 lines thick. The species is so closely related to the European virgate tricholoma, Tricholoma virgatum, that it is with some hesitation that I have kept it distinct. In the virgate tricholoma the taste is described as bitter, intensely bitter or bitter in the young plant and more mild in the mature one, the umbo is represented as low, broad and blunt and the cuticle on it as breaking up and forming scales. The stem is described and figured as more or less bulbous. These characters are not found in our plant, and their absence seems to justify its separation.

Tricholoma radicatum Pk.

ROOTED TRICHOLOMA

PLATE 82, FIG. 15–19

Pileus fleshy, deeply or broadly convex, dry, silky fibrillose or minutely squamulose, grayish brown, the center darker and often tinged with reddish brown, flesh white, taste disagreeable; lamellae thin, close, emarginate, adnexed, white; stem equal or nearly so, radicating, hollow, white; spores broadly elliptic or subglobose, .0002–.00024 of an inch long, .00016–.0002 broad.

The rooted tricholoma is a rare species with us. It occurs under spruce, balsam fir and other cone bearing trees in North Elba, and is solitary or scattered in its mode of growth. It was found in September and is apparently an autumnal species. Its cap is broadly convex when mature, but in immature plants it is similar in shape to an open umbrella. It is firm but flexible, and its cuticle is separable from the white flesh. The surface is dry, minutely silky and sometimes roughened with minute scales. Its color is gray or grayish brown, generally a little darker in the center, where it is tinged with reddish brown. The flesh is

white, but its taste is unpleasant. The gills are closely placed, wide in the middle, excavated at the stem end, where there is a slight prolongation running down on the stem and giving its top a striated appearance. Their color is white and unchangeable. The stem is smooth or slightly fibrillose, hollow but with a small cavity and white. There is a rootlike prolongation at the base, which tapers downward and penetrates the earth.

The cap is 2–3 inches broad; the stem 1.5–4 inches long, 3–5 lines thick. The unpleasant flavor is lost in cooking.

Tricholoma silvaticum Pk.

WOOD TRICHOLOMA

PLATE 82, FIG. 1–6

Pileus convex or nearly plane, dry, glabrous, subumbonate, whitish; lamellae broad, ventricose, subdistant, adnexed, white; stem equal or nearly so, glabrous, solid, white; spores elliptic .00045–.0005 of an inch long, .00025–.0003 broad.

The silvan tricholoma is a small, well formed mushroom, growing among mosses or fallen leaves in woods. Its cap is convex or nearly plane with decurved margin. It is generally crowned with a broad, slightly elevated umbo, and is smooth, dry and whitish. The flesh is thin and white, the taste farinaceous. The gills are broad with broad interspaces. They are deeply notched next the stem and white. The stem is equal in diameter in all its parts or sometimes slightly tapering upward. It is smooth or obscurely fibrillose, slightly mealy or pruinose at the top, solid, firm and white.

The cap is 1–1.5 inches broad; the stem 1–2 inches long, 2–4 lines thick. This species has been found by me in North Elba only. It occurs in September. It may be separated from the white cap tricholoma, T. leucocephalum, and from the disagreeable tricholoma, T. inamoenum, by the absence of any distinct odor and by the color of its cap, which is not pure white, as in these species but a creamy white or pale buff.

Hygrophorus pudorinus Fr.

BLUSHING HYGROPHORUS

PLATE 83, FIG. 1–6

Pileus fleshy, firm, convex becoming nearly plane, glabrous, viscid when moist, pinkish buff, flesh white, taste mild; lamellae

distant, adnate becoming decurrent, white; stem stout, solid, equal, white, roughened with white points at the top; spores white, elliptic, .0003–.0004 of an inch long, .00016–.00024 broad.

The blushing hygrophorus is a large and beautiful species, clean and attractive and a fine addition to our list of edible mushrooms. It is gregarious or tufted in its mode of growth and grows most frequently but not always under spruce and balsam fir trees, or where these trees have previously grown. It appears late in the season. Our plant differs in some minor features from the description of the European plant, but in essential characters the agreement is so close that there can be little doubt of its identity. Its fleshy, firm cap is convex or broadly conic when young, with the margin involute and often downy and studded with drops of moisture, though the margin in the European plant is described as naked. When mature it is broadly convex or nearly plane, but sometimes has a broad but slight central elevation or umbo. It is very smooth, viscid when moist and of a beautiful, delicate pinkish buff color, sometimes slightly tinged with brown or reddish brown in the center. The flesh is white, slightly tinted under the thin, separable pellicle with the color of the cap. The flavor is mild, and it has no very distinct odor. The gills are at first attached to the stem by the entire width of the inner extremity, but, when the cap is fully expanded, they are somewhat decurrent. They are rather wide apart, white and sometimes have a slight salmon-colored reflection. The stem is stout, nearly equal in diameter throughout but sometimes abruptly pointed at the base, solid, white and roughened with white points at the top. These points or dots are apt to become reddish in drying and they sometimes extend nearly to the base of the stem. The stem of the European plant is described as constricted at the top, but figures of it by European mycologists do not show this character, from which I conclude that it is not constant.

The cap is 2–4 inches broad; the stem is 2–5 inches long, 6–10 lines thick. Fried in butter, it has an agreeable flavor and may easily be placed among the first class mushrooms.

Lactarius luteolus Pk.

YELLOWISH LACTARIUS

PLATE 83, FIG. 7–11

Pileus fleshy, firm, convex or nearly plane, sometimes umbilicately depressed in the center, pruinose, more or less rugose, yellowish or buff color, flesh white, becoming brown where wounded, taste mild, milk copious, white or whitish, changing to brown; lamellae close, adnate or slightly rounded behind, whitish, becoming brown where wounded; stem short, equal or tapering downward, firm, solid or somewhat spongy within, white or buff color; spores white, globose, .0003 of an inch broad.

The yellowish lactarius is a very distinct species, easily known by its buff color, copious white milk, changing to brown on exposure to the air, and by its minutely velvety cap, which to the naked eye has a pruinose appearance. The cap is broadly convex or nearly flat when mature, sometimes with a slight central depression. Its surface is seen by the aid of a lens to be covered with a minute velvety pubescence, which is soft to the touch and when moist is slightly sticky. The surface is sometimes even but more often rugose. Occasionally there is a narrow encircling furrow or band near the margin. The color is whitish, buff or yellow buff, becoming more pronounced in drying. The flesh is white or whitish. Wounds of any part of the plant assume a brown color. The gills are narrow, closely placed, attached to the stem but scarcely decurrent on it, whitish. The stem is short, cylindric or rarely tapering downward, solid or somewhat spongy in the center and colored like the cap.

The cap is 1.5–3 inches broad; the stem is 1–1.5 inches long, 3–5 lines thick. The plant grows in a scattered manner among fallen leaves in woods and appears in August. Lactarius foetidus, the fetid lactarius, is closely related and may yet prove to be a mere variety having a strong disagreeable odor and less copious milk.

Lactarius subdulcis (Bull.) Fr.

SWEET LACTARIUS

PLATE 83, FIG. 12–24

Pileus thin, broadly convex becoming nearly plane or centrally depressed, usually with a small papillalike umbo, even, glabrous,

zoneless, tawny red, bay red or cinnamon red, flesh whitish, often tinged with red, taste slightly or tardily acrid, milk white, unchangeable; lamellae thin, close, adnate or slightly decurrent, whitish, pallid or rufescent; stem short, equal or tapering upward, stuffed or hollow, glabrous, colored like or a little paler than the pileus; spores white, globose, .0003–.00035 of an inch broad.

The sweet lactarius is one of our most common species. It is rather small, but it often grows in sufficient abundance to compensate for its deficiency in size. It is gregarious in its mode of growth and occurs in a great variety of soil and location. It may be found in woods and in open places, on naked soil or among fallen leaves or growing from decaying wood or among living mosses. In dry weather, when it can no longer be found in exposed dry places, it still persists in swamps, sphagnous marshes and wet, shaded places. It appears from June to October.

Its cap is generally broadly convex or nearly plane, but sometimes by the elevation of the margin it becomes centrally depressed or almost funnel-form. Usually there is a small prominence or umbo in the center, but often this is entirely absent. The surface is quite smooth and sometimes moist and shining. Its color varies from light red or yellowish red to bay red. The margin is sometimes wavy or lobed. The gills are thin, narrow, closely placed and vary in color from whitish to rufescent, resembling the cap in color. The stem may be short or long according to its place of growth. When growing among mosses, it is apt to be longer than on bare ground. Sometimes there is a coarse villosity or hairiness at the base of the stem, otherwise it is smooth. It is generally hollow and brittle. In color it is similar to or a little paler than the cap. The white milk does not change color, and the taste varies somewhat, being in some cases almost mild, in others tardily but decidedly acrid.

The cap is usually 1–2 inches broad; the stem 1–2.5 inches long, 1–3 lines thick. The acrid taste is lost in cooking, and when fried in butter it may be regarded as a fairly good though not highly flavored mushroom. Several varieties of this variable species have been described, but a well marked one, of which I

find no description, was discovered in North Elba, and is described in another place in this report, under the name Lactarius subdulcis oculatus. The varietal name is suggested by the dark colored umbo or eyelike spot in the center of the cap.

Russula crustosa Pk.

CRUSTED RUSSULA

PLATE 81, FIG. 1–7

Pileus fleshy, firm, very convex becoming nearly plane or centrally depressed, slightly viscid when moist, even or striate and rimose areolate on the margin, commonly even in the center, flesh white, taste mild or sometimes tardily acrid; lamellae moderately close, narrowed behind, some of them forked, white; stem short, stout, equal, stuffed or hollow, white; spores white, subglobose or broadly elliptic, .0003–.0004 of an inch long, .00025–.0003 broad.

The crusted russula is closely related to the greenish russula, R. virescens, and the cracked russula, R. cutefracta. From the former it differs in its slightly viscid cap of which the cuticle cracks and forms small, crustlike patches or scales on the margin but usually remains entire in the center; from the latter it is distinct by the absence of any red or purplish tints in the flesh and the stem. Even in purplish specimens the flesh and stem are wholly white.

The cap is very convex or almost hemispheric when young, nearly plane or centrally depressed when mature. The surface cracks toward the margin as in R. cutefracta, while the center nearly always remains entire. These surface chinks form small areolae or scales which appear like fragments of a crustaceous cuticle.

The color varies greatly. It may be straw yellow, pale ochraceous, brownish ochraceous, greenish with a yellowish or pale ochraceous center or a dull brownish purple. The center is sometimes paler, sometimes darker than the margin. The flesh is white, and the taste mild or sometimes slightly and tardily acrid. The acridity if present is destroyed by cooking. The gills are white, narrowed toward the stem and nearly free. They are sometimes forked, specially near the stem, and intervening

short ones occur near the margin. They are white and unchangeable. The stem also is white. This mushroom is more common with us than the greenish russula, which it resembles in size and flavor. It grows in woods and open ground and appears in July and August.

Cantharellus dichotomus Pk.

DICHOTOMOUS CHANTARELLE

PLATE 84, FIG. 8–21

Pileus fleshy, soft and flexible, subconic when young, with the margin involute and downy or flocculent, convex, nearly plane or centrally depressed when mature, even or with a small pointed umbo, dry, glabrous, variable in color, flesh white, taste mild; lamellae narrow, close, dichotomous, decurrent, white or yellowish; stem equal or tapering upward, solid, glabrous or slightly fibrillose; spores narrowly elliptic, .0003–.0004 of an inch long, .00016 broad.

The dichotomous chantarelle is a small but common species in our hilly and mountainous districts. It grows in woods among mosses or in pastures and bushy places among grasses and fallen leaves. The cap is generally broadly convex with decurved margin, but sometimes it becomes centrally depressed by the elevation of the margin. The umbo is small and usually acute, or papillalike, but it is often entirely absent. The margin is involute and minutely flocculent or downy when young, but it soon becomes naked. The surface is smooth or obscurely silky and occasionally becomes minutely rimose areolate. The color is very variable and may be grayish white, grayish brown, yellowish brown, blackish brown or bluish gray. The flesh is white or whitish, and the taste mild. The gills are narrow, thin, close, decurrent and 1–3 times forked. They are white or whitish, sometimes tinged with yellow. In moist weather wounds of them and also of the stem sometimes become reddish. The stem is equal in diameter or slightly tapering upward. It is glabrous or slightly fibrillose, solid, whitish or pallid or colored like the pileus, and when growing among mosses is clothed below with a soft, dense, white tomentum, which binds it so closely to the mosses that it is difficult to take a specimen without breaking the stem unless the mosses are taken with it.

The cap is 6–18 lines broad, the stem is 1–3 inches long, 2–4 lines thick. It is gregarious and appears from July to September. As an edible mushroom it is not as tender as some nor as highly flavored, but it is satisfactory and enjoyable.

It is related so closely to Cantharellus umbonatus that it has sometimes been regarded as a variety of it or has even been confused with it, but the gills of that species are described as straight, and in our plant they are constantly repeatedly forked as in C. aurantiacus and C. albidus. The umbo in our plant is small and pointed and often wholly wanting, but in C. umbonatus it is represented as broad and blunt. Because of these discrepancies it seems best to keep our plant distinct.

F

PLANTS OF THE SUSQUEHANNA VALLEY AND ADJACENT HILLS OF TIOGA COUNTY

BY FRANK E. FENNO

The territory included in this flora consists of a strip of land about 8 miles wide, lying on both sides of the Susquehanna river and extending nearly east and west through the county. Its surface is broken by the foothills of the Alleghany mountains. These consist of a series of ridges from 1200 to 1500 feet above tide. They are divided diagonally by the valley of the Susquehanna and separated laterally by the valleys of the Apalachin, Wapasening, Owego, Catatonk, Pipe and Cayuta creeks. These creeks have rapid currents. Their valleys are narrow in the upper part, but expand toward the river into broad and level fields.

The Susquehanna winds its way through a tortuous valley bordered on either side by banks, which generally slope gradually to the broad and rolling hilltops. Yet the valley is defined in some places by steep and rocky acclivities which rise from 300 to 400 feet above the surface of the river. These acclivities furnish congenial homes for many rock-loving species of plants. The soil in the valleys is mainly alluvial, lying on a deep drift consisting of sand, gravel and clay. This drift forms the soil of the adjacent hills. The territory contains very little

broken country, and the rock outcrops are all sandstone belonging to the Chemung group. Yet the conditions are such as are favorable to plant life and to a rich and diversified flora. A few plants of the region farther north have been brought down by the mighty torrent of the river, while others have slowly crept up from the ocean, and have found congenial homes in the alluvial soil along the river. The writer's knowledge of this flora has been acquired during his past seven years' residence in Tioga county. He has gone over the entire territory and has collected specimens of nearly every species and variety included in this list.

The *Illustrated Flora* of Britton and Brown has chiefly been followed in nomenclature and in the arrangement of orders. When the names of the species and varieties differ from those in the sixth edition of Gray's *Manual,* the names in the latter are given second place.

Cordial acknowledgment of assistance in the identification of critical species is hereby tendered to Professor F. Lamson Scribner, Edward S. Burgess, Dr John K. Small, Dr Nathaniel L. Britton and specially to Charles H. Peck and the late Dr Thomas C. Porter. They have, by their correspondence extending over several years, aided and encouraged the writer in the study of the plants of this region.

PTERIDOPHYTA

Ferns and fern-allies

OPHIOGLOSSACEAE

Botrychium obliquum Muhl.

B. ternatum var. obliquum D. C. Eaton

Oblique grape fern

On knolls in old clearings and pastures. Frequent. September.

Botrychium dissectum Spreng.

B. ternatum var. dissectum D. C. Eaton

Cut-leaved grape fern

Damp pastures. Barton. Rare. September.

Botrychium virginianum (L.) Sw.

Rattlesnake fern

Rich moist woods. Common. August.

OSMUNDACEAE

Osmunda regalis L.

Royal fern

Swamps and wet woodlands. Frequent. June-July.

Osmunda cinnamomea L.

Cinnamon fern

Low woods, thickets and swamps. Common. May-July.

Osmunda claytoniana L.

Clayton's fern

Fields and woodlands. Common. May-June.

POLYPODIACEAE

Onoclea sensibilis L.

Sensitive fern

Wet places. Common. August.

Matteuccia struthiopteris (L.) Todaro

Onoclea struthiopteris Hoffm.

Ostrich fern

Along streams in alluvial soil. Common. August.

Dennstaedtia punctilobula (Michx.) Bernh.

Dicksonia pilosiuscula Willd.

Hay-scented fern

Open woods and thickets. Common. August.

Cystopteris bulbifera (L.) Bernh.

Bulblet-bearing fern

Rocky woodlands. Rare. Near Campville. July-August.

Cystopteris fragilis (L.) Bernh.

Brittle fern

In wet, shaded soil and on cliffs. Common. May-July.

Dryopteris acrostichoides (Michx.) Kuntze

Aspidium acrostichoides Sw.

Christmas fern

Woods, specially under evergreens. Common. August.

Dryopteris noveboracensis (L.) Gray

Aspidium noveboracense Sw.

New York fern

Moist woods. Common. August.

Dryopteris thelypteris (L.) Gray

Aspidium thelypteris Sw.

Marsh shield fern

Swamps and low grounds. Common. Summer.

Dryopteris cristata (L.) Gray

Aspidium cristatum Sw.

Crested shield fern

Swamps. Common. July-August.

Dryopteris cristata clintoniana (D. C. Eaton) Underw.

Aspidium cristatum clintonianum (D. C. Eaton) Underw.

Wet woods. Rare. August.

Dryopteris marginalis (L.) Gray

Aspidium marginale Sw.

Marginal shield fern

Rocky banks in deep shade. Common. July-August.

Dryopteris spinulosa (Retz) Kuntze

Aspidium spinulosum (Sw.) Kuntze

Spinulose shield fern

Wet woods and swamps. Infrequent.

Dryopteris spinulosa intermedia (Muhl.) Underw.

Aspidium spinulosum var. intermedium D. C. Eaton

In woods wet or dry. Common. August-September.

Dryopteris boottii (Tuckm.) Underw.

Aspidium boottii Tuckm.

Boott's shield fern

Swamps. Rare. Barton. July-September.

Phegopteris phegopteris (L.) Underw.

P. polypodioides Fee

Long beech fern

Rich woods. Frequent. August.

Phegopteris hexagonoptera (Michx.) Fee

Broad beech fern

Rich woods. Frequent. August.

Phegopteris dryopteris (L.) Fee

Oak fern

Rich moist woods. Common. The three species of Phegopteris are frequently seen growing together. August.

Woodwardia virginica (L.) J. E. Smith

Virginia chain fern

Bogs north of Barton. Rare. July.

Camptosorus rhizophyllus (L.) Link

Walking fern

Found sparingly on a few rocks west of Barton. Au October.

Asplenium trichomanes L.

Maidenhair spleenwort

Rocky walls of deep ravines and on stony banks. Common. July-September.

Asplenium platyneuron (L.) Oakes

A. ebeneum Ait.

Ebony spleenwort

On rocks and banks. Infrequent. July-September.

Asplenium acrostichoides Sw.

A. thelypteroides Michx.

Silvery spleenwort

Rich moist woods. Infrequent. August-October.

Asplenium filix-foemina (L.) Bernh.

Lady fern

In woods, thickets and by walls and fences. Common. The fronds are quite variable. July-August.

Adiantum pedatum L.

Maidenhair fern

Abundant in moist woodlands. July-September.

Pteris aquilina L.

Brake. Bracken.

On shrubby hillsides, borders of fields and roads and in open woods. Common. July-September.

Polypodium vulgare L.

Common polypody

On rocks and rocky banks. Common. Found occasionally in swamps on trunks of trees. June-October.

EQUISETACEAE

Equisetum arvense L.

Field horsetail

Along railways and roadsides. Common. May.

Equisetum sylvaticum L.

Wood horsetail

Moist woods. Common. May.

Equisetum fluviatile L.

E. limosum L.

Swamp horsetail

River shores. Common. May-June.

Equisetum hyemale L.

Scouring rush

Wet places and on banks. Frequent. May-June.

LYCOPODIACEAE

Lycopodium lucidulum Michx.

Shining club moss

In damp hemlock woods. Common. August-October.

Lycopodium obscurum L.

Ground pine

Moist woods. Common. July-September.

Lycopodium annotinum L.

Stiff club moss

In a thicket near Apalachin. Rare. September-November.

Lycopodium clavatum L.

Running pine. Club moss

Found in thickets, open woods and along bushy roadsides. Common. August-October.

Lycopodium complanatum L.

Trailing Christmas green

Thickets, open woods, specially in groves of young coniferous trees. Common. Autumn.

Lycopodium chamaecyparissus A. Br.

Found with the last and generally considered a variety of that species. Professor Underwood makes it a distinct species in his work, *Our Native Ferns*. Autumn.

ISOETACEAE

Isoetes engelmanni A. Br.

Engelmann's quillwort

Frequent along the Susquehanna at Apalachin. August.

Isoetes engelmanni gracilis Engelm.

Found with the last. August.

SPERMATOPHYTA

Seed-bearing plants

PINACEAE

Pinus strobus L.

White pine

Very common. Formerly this was the principal forest tree of this region, but now it occurs chiefly as a small tree, though, scattered here and there, specimens of primeval trees are still found.

Pinus resinosa Ait.

Red pine. Canadian pine

Very rare. A single specimen was observed near Barton in 1897. According to old settlers it was formerly quite frequent. June.

Pinus rigida Mill.

Pitch pine

Common. A much smaller tree than the white pine and less valuable. May.

Tsuga canadensis (L.) Carr.

Hemlock

Common. The young trees are the most graceful of evergreens. May.

Taxus minor (Michx.) Britton

T. canadensis Willd.

Ground hemlock. American yew

Moist, shaded banks and along streams. Frequent. Abundant near Apalachin and at the Delaware, Lackawanna and Western narrows west of Owego. Sometimes mistaken for a juniper. May.

TYPHACEAE

Typha latifolia L.

Broad-leaved cattail

Swamps. Abundant. June.

SPARGANIACEAE

Sparganium eurycarpum Engelm.

Broad-fruited bur reed

Marshes and borders of streams. Common. May-August.

Sparganium simplex Huds.

Simple-stemmed bur reed

The same situations as the last, but less frequent. June-August.

NAIADACEAE

Potamogeton natans L.

Common floating pondweed

Ponds and slow streams. Common. July-August.

Potamogeton nuttallii Cham. & Sch.

P. pennsylvanicus Cham.

Nuttall's pondweed

Ponds and streams. Common. July-August.

Potamogeton lonchites Tuckerm.

P. fluitans Roth

Long-leaved pondweed

In the river. Frequent. July-October.

Potamogeton perfoliatus L.

Clasping-leaved pondweed

In the river. Frequent. July-September.

Potamogeton crispus L.

Curled-leaved pondweed

In the river. Infrequent. August.

Potamogeton zosteraefolius Schum.

Eelgrass pondweed

In the river. Frequent. July-August.

Potamogeton pectinatus L.

Fennel-leaved pondweed

In the river. Common. July-August.

Zannichellia palustris L.

Zannichellia

The Susquehanna river. Infrequent. July-September.

Naias flexilis (Willd.) Rost. & Schmidt.

Slender naias

Frequent in the river. Summer.

ALISMACEAE

Alisma plantago-aquatica L.

Water plantain

Swamps, low grounds and along streams. Common. Summer.

Sagittaria latifolia Willd.

S. variabilis Engelm.

Broad-leaved arrowhead

In wet ground or shallow water. Common. Summer.

Sagittaria rigida Pursh

S. heterophylla Pursh

Sessile-fruiting arrowhead

Along the border of the river. Frequent. Generally found in shallow water. July-September.

Sagittaria graminea Michx.

Grass-leaved arrowhead

Shallow water along the Susquehanna. Frequent. Abundant at Apalachin. July-September.

VALLISNERIACEAE

Philotria canadensis (Mich.) Britton

Elodea canadensis Michx.

Ditch moss

Ponds and streams. Common. May-August.

Vallisneria spiralis L.

Eelgrass

Common in the river. Summer.

GRAMINEAE

Andropogon scoparius Michx.

Little blue stem. Broom beard grass

Dry banks along the river. Common. August-September.

Andropogon furcatus Muhl.

Big blue stem. Forked bearded grass

Dry banks along the river. Common. This grass has a very wide range east of the Rocky mountains. It is very abundant in the Missouri region, and is highly prized for hay. August-September.

Chrysopogon avenaceus (Michx.) Benth.

Indian grass

Found with the two preceding species but less common. A grass of wide distribution and specially abundant in South Dakota, where it is highly valued as a hay-producing species. August-September.

Snytherisma sanguinalis (L.) Nash

Panicum sanguinale L.

Large crab grass

Cultivated ground. Common. A grass of no agricultural value in the north, but in the south it is frequently cut for hay. July-August.

Snytherisma linearis (Krock.) Nash

Panicum glabrum Gaud.

Small crab grass

Cultivated fields. Common. July-September.

Panicum crus-galli L.

Barnyard grass

Cultivated soil and along streams. Common. A coarse, succulent grass and valuable forage plant for the silo. Autumn.

Panicum agrostidiforme Lam.

P. agrostoides Muhl.

Agrostis-like panicum

Wet, gravelly shores along the river. Frequent. July-September.

Panicum porterianum Nash

P. latifolium L.

Porter's panicum

Open woods and thickets. Frequent. June-July.

Panicum commutatum Schultes

Variable panicum

Dry bank. Apalachin. Rare. June-July.

Panicum macrocarpon Le Conte

Large-fruited panicum

Open woods and thickets. Common. July.

Panicum clandestinum L.

Hispid panicum

On the banks of the river and along streams. Common. June-July.

Panicum xanthophysum Gray

Slender panicum

Dry bank 2 miles east of Campville. Rare. June-July.

Panicum dichotomum L.

Forked panicum

Thickets both dry and wet. Common. June-July.

Panicum pubescens Lam.

Hairy panicum

Fields and thickets. Abundant. June-August.

Panicum depauperatum Muhl.

Starved panicum

Dry banks. Frequent. June-September.

Panicum linearifolium Scribn.

Linear-leaved panicum

Dry banks. Common. This species is more plentiful than the last, which it closely resembles. June-August.

Panicum virgatum L.

Tall smooth panicum. Switch grass

Along the river. Common. August-September.

Panicum miliaceum L.

Millet

A cultivated grass which frequently escapes. July.

Panicum proliferum Lam.

Spreading panicum

River shore. Frequent. Abundant in some places. August.

Panicum capillare L.

Witch grass

Cultivated grounds, woods, fields and along streams. Common. Summer.

Ixophorus viridis (L.) Nash

Setaria viridis Beauv.

Green foxtail

Cultivated fields. Common. July-September.

Ixophorus glaucus (L.) Nash

Setaria glauca Beauv.

Yellow foxtail. Pigeon grass

Fields and roadsides. Common. July-September.

Ixophorus italicus (L.) Nash

Setaria italica Kunth

Italian millet. Hungarian grass

Waste places. Infrequent. This species together with I. germanicus is found in cultivation throughout. August.

Homalocenchrus virginicus (Willd.) Britton

Leersia virginica Willd.

White grass

Damp, shaded places. Common. August-September.

Homalocenchrus oryzoides (L.) Poll.

Leersia oryzoides Sw.

Rice cut grass

Marshes and wet places along streams. Common. August-September.

Phalaris arundinacea L.

Reed canary grass

Borders of ponds and streams. Infrequent. July-August.

Phalaris canariensis L.

Canary grass

Waste places. Infrequent. Does not persist long. August.

Anthoxanthum odoratum L.

Sweet vernal grass

Roadsides and pastures. Frequent. June-July.

Aristida dichotoma Michx.

Poverty grass

In poor, thin soil at Apalachin. September.

Oryzopsis asperifolia Michx.

White-grained mountain rice

Upland woods. Frequent. May.

Oryzopsis melanocarpa Muhl.

Black mountain rice

Rocky hillsides in woods west of Barton. Plentiful. August.

Milium effusum L.

Wild millet

Damp woods. Infrequent. June-July.

Muhlenbergia mexicana (L.) Trin.

Mexican drop seed

Low grounds. Common. August-September.

Muhlenbergia racemosa (Michx.) B. S. P.

M. glomerata Trin.

Marsh muhlenbergia

Dry, stony bank at Apalachin. Apparently not found in our swamps. September.

Muhlenbergia sylvatica Torr.

Woodland drop seed

Banks of the river and along streams. Common. September.

Muhlenbergia tenuiflora (Willd.) B. S. P.

M. willdenovii Trin.

Slender-flowered drop seed

Dry thicket near Apalachin. Plentiful. August-September.

Muhlenbergia diffusa Schreb.

Nimble will

Woods and roadsides. Frequent. Found also in shady lawns. September.

Brachyelytrum erectum (Schreb.) Beauv.

B. aristatum R. & S.

Brachyelytrum

Moist woods. Common. July-August.

Phleum pratense L.

Timothy. Herd's grass

Fields and waysides. Abundant.

Alopecurus geniculatus L.

A. geniculatus var. aristulatus Torr.

Marsh foxtail

Marshland swamp and along streams at Apalachin. Frequent. This grass is said to make a beautiful lawn, remaining green throughout the winter. July-August.

Alopecurus pratensis L.

Meadow foxtail

Meadow lands at Apalachin. Infrequent. An excellent pasture grass. June-July.

Sporobolus vaginaeflorus (Torr.) Wood

Sheathed rush grass

Roadside in poor soil. Common. September.

Cinna arundinacea L.

Wood reed grass

Borders of ponds and streams. Common. Found also in swamps. August-September.

Cinna latifolia (Trev.) Griseb.

C. pendula Trin.

Slender wood reed grass

Damp woods and borders of ponds and streams. Frequent. August-September.

Agrostis alba L.

Redtop

Grass lands. Common. July-August.

Agrostis vulgaris With.

Redtop. Herd's grass

Meadows, fields and pastures. Common. July-August.

Agrostis stolonifera L.

Creeping bent grass

Damp shores and pasture lands. Frequent. This and the preceding one are regarded by some as only varieties of Agrostis alba. July-August.

Agrostis perennans (Walt.) Tuckerm.

Thin grass

Shaded places. Common. July-August.

Agrostis hyemalis (Walt.) B. S. P.

A. scabra Willd.

Rough hair grass

Damp shaded places. Common. July-August.

Calamagrostis canadensis (Michx.) Beauv.

Blue joint grass

River banks. Common. Found at Apalachin on a hilltop. August.

Calamagrostis cinnoides (Muhl.) Scribn.

C. nuttalliana Steud.

Nuttall's reed grass

Two miles east of Campville. Rare. August.

Holcus lanatus L.

Velvet grass. Meadow soft grass

Meadows and pasture lands. Frequent. June-August.

Deschampsia caespitosa (L.) Beauv.

Tufted hair grass

River shore. Infrequent. Near Campville. August.

Deschampsia flexuosa (L.) Trin.

Wavy hair grass

River bank at Apalachin. Infrequent. July-August.

Avena striata Michx.

Purple oat

Damp woods. Infrequent. Woods at Mutton hill pond. July.

Arrhenatherum elatius (L.) Beauv.

Oat grass

Meadows and pastures at Apalachin. Frequent. Cultivated for hay. June-August.

Danthonia spicata (L.) Beauv.

Wild oat grass

Dry, sterile soil. Common. A form of this grass with the leaves and lower sheaths clothed with long, soft hairs is frequent in dry thickets. July-August.

Danthonia compressa Austin

Flattened wild oat grass

Woods and shaded places. Frequent. August.

Spartina cynosuroides (L.) Willd.

Fresh-water cord grass

River shores. Infrequent. August-September.

Eragrostis capillaris (L.) Nees

Capillary eragrostis

Dry banks and meadows. Frequent. Campville flats.

Eragrostis frankii Steud.

Frank's eragrostis

River shores. Infrequent. Abundant in an old gravel pit near Apalachin. September.

Eragrostis pilosa (L.) Beauv.

Tufted eragrostis

Roadsides in poor soil. Common. August.

Eragrostis purshii Schrad.

Pursh's eragrostis

Plentiful at a sand bank at Apalachin and along roadsides. August-September.

Eragrostis pectinacea (Michx.) Steud.

Purple eragrostis

Meadows at Apalachin. Rare. A beautiful species. August.

Eragrostis hypnoides (Lam.) B. S. P.

E. reptans Nees

Creeping eragrostis

Along the river and in wet places. Common. August.

Eatonia pennsylvanica (DC.) Gray

Eaton's grass

Moist thickets and swamps. Frequent. July.

Eatonia nitida (Spreng.) Nash

E. dudleyi Vasey.

Slender eatonia

Frequent on wooded banks at Apalachin. May-June.

Koeleria cristata (L.) Pers.

Koeleria

Dry bank near Campville. Infrequent. A western species which reaches its eastern limit with us. August.

Dactylis glomerata L.

Orchard grass

Grass lands. Common. June-July.

Cynosurus cristatus L.

Dog-tail grass

Plentiful in a pasture at Campville. Adventive from Europe. July.

Poa annua L.

Low spear grass

Dooryards, lawns and waste places. Common. May-October.

Poa compressa L.

English blue grass. Wire grass

Meadows and other grass lands. Common. A slender form is found in woods. June-July.

Poa pratensis L.

Kentucky blue grass. June grass

In all meadows and pastures. The most common of our grasses. June-July.

Poa trivialis L.

Roughish meadow grass

Plentiful in swamps and wet places at Apalachin. July.

Poa flava L.

P. serotina Ehrh.

False redtop. Fowl meadow grass

Low meadows and along streams. Common. July-August.

Poa debilis Torr.

Weak spear grass

Woods and thickets. Frequent. May-June.

Poa alsodes Gray

Grove meadow grass

Wet woods. Infrequent. May-June.

Panicularia laxa Scribn.

Northern manna grass

Swamps at Apalachin. Infrequent. August.

Panicularia canadensis (Michx.) Kuntze

Glyceria canadensis Trin.

Rattlesnake grass

Swamps. Common. July-August.

Panicularia nervata (Willd.) Kuntze

Glyceria nervata Trin.

Nerved manna grass

Swamps, woods and damp places. Common. June-September.

Panicularia americana (Torr.) MacM.

Glyceria grandis Wats.

Tall manna grass

Swamps and along streams. Frequent. July-August.

Panicularia pallida (Torr.) Kuntze

Glyceria pallida Trin.

Pale manna grass

Marshland swamp and swamp east of Campville. Frequent. July-August.

Panicularia fluitans (L.) Kuntze

Glyceria fluitans R. Br.

Floating manna grass

Marshland swamp and swamp east of Campville. Frequent July-August.

Panicularia borealis Nash

Northern manna grass

Marshland swamp. Frequent. Apparently a slender form of the preceding species. July-August.

Panicularia acutiflora (Torr.) Kuntze

Glyceria acutiflora Torr.

Sharp-scaled manna grass

Marshland swamp and swamp east of Campville. Infrequent. June-August.

Festuca ovina L.

Sheep's fescue

Plentiful in pastures and at Campville. June.

Festuca ovina duriuscula (L.) Hack.

Hard fescue

Banks of the river. Frequent. July.

Festuca elatior L.

Tall fescue

Grass lands. Common. A valuable grass either for mowing or for pasture. July-August.

Festuca nutans Willd.

Nodding fescue

Damp woods. Frequent. July.

Bromus ciliatus L.

Wood chess

Low woods and banks of streams. Common. July-August.

Bromus pubescens Muhl.

B. ciliatus purgans (L.) Gray

Soft chess

Thicket near Apalachin. July. Distinct from the last both in appearance and habitat.

Bromus kalmii Gray

Kalm's chess

In rocky woods. Frequent. July-August.

Bromus secalinus L.

Cheat. Chess

Frequent in wheat fields. June-August.

Bromus racemosus L.

Upright chess

In fields and along railways. Frequent. July-August.

Lolium perenne L.

Rye grass

Pasture land at Campville. Frequent. July.

Lolium italicum A. Br.

Italian rye grass

Meadow lands at the Marshland farm. Frequent. A much coarser grass than the last. July.

Agropyron repens (L.) Beauv.

Quack grass

Grass lands, specially around barns and dwellings. **Common.** July-September.

Agropyron caninum (L.) R. & S.

Awned wheat grass

Open woods and thickets and along their borders. **Frequent.** July.

Hordeum jubatum L.

Squirrel tail grass

Along the Delaware, Lackawanna and Western Railroad and in gardens, as a weed, at Apalachin. Infrequent. July.

Elymus striatus Willd.

Slender wild rye

River banks in shade. Common. June.

Elymus virginicus L.

Terrell grass

River banks. Common. July-August.

Elymus canadensis L.

Nodding wild rye

River banks. Abundant. July-August.

Elymus canadensis glaucifolius (Willd.) Torr.

Glaucous wild rye

With the preceding species and evidently only a glaucous form of it. July-August.

Hystrix hystrix (L.) Millsp.

Asprella hystrix Willd.

Bottle brush grass

In rocky woods and along streams. **Frequent.** Spikelets easily detached. July.

CYPERACEAE

Cyperus diandrus Torr.

Low cyperus

Along streams in wet soil. **Frequent.** August-September.

Cyperus rivularis Kunth

Shining cyperus

In wet soil, specially along Apalachin creek. Frequent. August-September.

Cyperus inflexus Muhl.

C. aristatus Rottb.

Awned cyperus

In wet soil along the river shores. Infrequent. August.

Cyperus esculentus L.

Yellow nut grass

Along streams and in damp fields. Common. In some places a troublesome weed. August-October.

Cyperus strigosus L.

Straw-colored cyperus

In moist meadows or along streams. Common. A species presenting numerous forms. August-October.

Dulichium arundinaceum (L.) Britton.

D. spathaceum Pers.

Dulichium

Swamps. Very common. August-October.

Eleocharis ovata (Roth) R. & S.

Ovoid spike rush

Swamps and in all wet soil. Common. July-September.

Eleocharis acicularis (L.) R. & S.

Needle spike rush

In wet soil. Common. July-September.

Stenophyllus capillaris (L.) Britton

Fimbristylis capillaris Gray

Hairlike stenophyllus

Campville river flats. Frequent. August.

Scirpus planifolius Muhl.

Wood club rush

In dry woods and thickets. Frequent. May-June.

Scirpus americanus Pers.

S. pungens Vahl

Chair-maker's rush

On the river shores. Frequent. Abundant at Apalachin. August.

Scirpus torreyi Olney

Torrey's bulrush

Plentiful at Mutton hill pond in the outlet. August.

Scirpus lacustris L.

Great bulrush. May rush

In shallow water along the river. Common. August.

Scirpus atrovirens Muhl.

Dark green bulrush

Swamps and wet places. Common. July.

Scirpus polyphyllus Vahl

Leafy bulrush

Wet woods and along streams. Frequent. August.

Scirpus cyperinus (L.) Kunth

Eriophorum cyperinum L.

Wool grass

In all swamps and other wet places. Abundant. August-September.

Scirpus cyperinus eriophorum (Michx.) Britton

Eriophorum cyperinum var. laxum Gray

With the type. Common. Spikelets mostly peduncled. August-September.

Eriophorum polystachyon L.

Tall cotton grass

Mutton hill pond. Rare. June-August.

Eriophorum virginicum L.

Virginia cotton grass

Common in bogs. A form is found at Barton, which approaches the var. album Gray. July-September.

Rynchospora alba (L.) Vahl

White beaked rush

On bogs at Mutton hill pond. Common. July.

Carex intumescens Rudge

Bladder sedge

In wet woods, bogs and swamps. Common. June-July.

Carex asa-grayi Bailey

C. grayi Carey

Gray's sedge

Plentiful in a small swamp at Barton. July.

Carex lupulina Muhl.

Hop sedge

Swamps. Common. July.

Carex lupulina bella-villa (Dewey) Bailey

Swamp east of Campville. Infrequent. July.

Carex utriculata Boott

Bottle sedge

Abundant at the Marshland swamp. June-July.

Carex monile Tuckerm.

Necklace sedge

Swamps. Common. July.

Carex tuckermani Dewey

Tuckerman's sedge

In swamps, bogs and wet meadows. Common. June-July.

Carex retrorsa Schwein.

Retrorse sedge

Swamps. Infrequent. June-July.

Carex lurida Wahl.

Sallow sedge

Swamps and low grounds. Abundant. June-July.

Carex baileyi Britton

C. lurida var. gracilis Bailey

Bailey's sedge

Swamp near Campville. Infrequent. July.

Carex hystricina Muhl.

Porcupine sedge

Swamps. Infrequent. June-July.

Carex pseudo-cyperus L.

Cyperuslike sedge

Swamp east of Campville. Rare. July-August.

Carex comosa Boott

C. pseudo-cyperus var. americana Hochst.

Bristly sedge

Swamps. Common. July-August.

Carex trichocarpa Muhl.

Hairy-fruited sedge

Along the river banks. Abundant. Found also in swamps. June-July.

Carex riparia Curtis

River bank sedge

Abundant at the Marshland swamp. June.

Carex scabrata Schwein.

Rough sedge

In wet, shaded places. Common. June-July.

Carex lanuginosa Michx.

C. filiformis var. latifolia Boeckl.

Woolly sedge

Mutton hill pond. Infrequent. June.

Carex filiformis L.

Slender sedge

Frequent in all swamps in the vicinity of Apalachin. June-July.

Carex stricta Lam.

Tussock sedge

Along the river and on the edges of swamps. Common. May-June.

Carex torta Boott

Twisted sedge

On banks of streams. Frequent. June.

Carex prasina Wahl.

Drooping sedge

Plentiful at Mutton hill pond. May-July.

Carex crinita Lam.

Fringed sedge

Swamps, wet places and ditches. Frequent. June-July.

Carex gynandra Schwein.

Nodding sedge

Found in the same situations as C. crinita, but much more common. June-July.

Carex virescens Muhl.

Downy green sedge

In grassy places. Infrequent. June.

Carex triceps Michx.

C. triceps var. hirsuta Bailey

Hirsute sedge

On dry knolls. Frequent. June.

Carex gracillima Schwein.

Graceful sedge

In moist woodlands. Common. June.

Carex longirostis Torr.

Long-beaked sedge

Plentiful in thickets along the river banks at Barton. May-June.

Carex arctata Boott

Drooping wood sedge

In open woods. Infrequent. May-June.

Carex tenuis Rudge

C. debilis var. rudgei Bailey

Slender-stalked sedge

Low woods. Common. June-July.

Carex grisea Wahl.

Gray sedge

In shaded places. Common. June.

Carex amphibola Steud.

Narrow-leaved sedge

River bank at Apalachin. Infrequent. Verified by Dr Thomas C. Porter. June.

Carex granularis Muhl.

Meadow sedge

Moist ground in meadows. Infrequent. June.

Carex pallescens L.

Pale sedge

In fields and along roadsides at Apalachin. June.

Carex laxiflora Lam.

Loose-flowered sedge

Woods, ravines and open places. Common. May-June.

Carex laxiflora blanda (Dewey) Boott

Woods and fields. Frequent. May-June.

Carex laxiflora varians Bailey

Found with the type. Frequent. May-June.

Carex laxiflora patulifolia (Dewey) Carey

In ravines and damp shades. Common. May-June.

Carex styloflexa Buckley

C. laxiflora var. styloflexa Boott

Bent sedge

Damp soil at Barton. Rare. June.

Carex digitalis Willd.

Slender wood sedge

Open woods and thickets. Infrequent. June.

Carex albursina Sheldon

C. laxiflora var. latifolia Boott

White bear sedge

Rich, moist soil in woods, specially in shaded ravines. Frequent. June.

Carex plantaginea Lam.

Plantain-leaved sedge

Shaded banks and open woods. Infrequent. Near Owego. May-June.

Carex laxiculmis Schwein.

Spreading sedge

In woods and coppices. Frequent. June.

Carex pedunculata Muhl.

Long-stalked sedge

Plentiful in a damp thicket at Barton. May-June.

Carex pedicellata (Dewey) Britton

C. communis Bailey

Fibrous-rooted sedge

Dry banks in open thickets. Common. May-June.

Carex pennsylvanica Lam.

Pennsylvania sedge

Dry soil in woods, thickets and open places. Very common. May-June.

Carex varia Muhl.

Emmons sedge

On hilltops in either dry or damp woods at Apalachin. Infrequent. May-June.

Carex pubescens Muhl.

Pubescent sedge

Open woods at Barton. Infrequent. June.

Carex leptalea Muhl.

C. polytrichoides Muhl.

Bristle-stalked sedge

Swamps. Common. June.

Carex stipata Muhl.

Awl-fruited sedge

Swampy fields. Very common. June.

Carex vulpinoidea Michx.

Fox sedge

Swamps, ditches and fields. Very common. June.

Carex xanthocarpa Bicknell

Yellow-fruited sedge

In dry fields at Apalachin. Common. Easily distinguished from C. vulpinoidea by its bright yellow, plano-convex perigynia. June.

Carex tenella Schk.

Soft-leaved sedge

Swamp north of Campville. June.

Carex rosea Schk.

Stellate sedge

Woods and open places. Common. June.

Carex rosea radiata Dewey

With the type. June.

Carex retroflexa Muhl.

C. rosea var. retroflexa Torr.

Reflexed sedge

Rich woods. Infrequent. June.

Carex muricata L.

Lesser prickly sedge

Dry bank at Apalachin. Introduced from Europe. June.

Carex sparganioides Muhl.

Bur reed sedge

Shaded places, wet or dry. Common. June-July.

Carex cephaloidea Dewey

Thin-leaved sedge

Moist places in woods and fields. Frequent. June-July.

Carex cephalophora Muhl.

Oval-headed sedge

Dry knolls and open woodland. Common. June.

Carex muhlenbergii Schk.

Muhlenberg's sedge

Dry bank at Apalachin. Rare. June.

Carex sterilis Willd.

C. echinata var. microstachys Boeckl.

Little prickly sedge

Bogs. Mutton hill pond. Frequent. May-June.

Carex sterilis cephalantha Bailey

C. echinata var. cephalantha Bailey

With the type at Mutton hill pond. May-June.

Carex canescens L.

Silvery sedge

Plentiful at Mutton hill pond. May-June.

Carex trisperma Dewey

Three-fruited sedge

Swamps near Barton and Campville. June-August.

Carex deweyana Schwein.

Dewey's sedge

Dry, open woods. Common. June.

Carex bromoides Schk.

Broomlike sedge

Shaded swamps and wet woodlands. Common. June.

Carex tribuloides Wahl.

Blunt broom sedge

Low moist ground, swamps and swales. Common. July.

Carex tribuloides bebbii Bailey

Wet places. Occasional. July.

Carex scoparia Schk.

Pointed broom sedge

Common in open fields and ditches. July.

Carex scoparia minor Boott

Dry woods. Barton. June.

Carex cristatella Britton

C. tribuloides var. cristata Bailey

Crested sedge

Plentiful in fields at Apalachin. July-September.

Carex foenea Willd.

Hay sedge

Dry banks at Apalachin. Rare. June-July.

Carex straminea Willd.

Straw sedge

Coppices and open fields. Frequent. June-July.

Carex festucacea Willd.

C. straminea var. brevior Dewey

Fescue sedge

In a dry thicket on a hilltop near Apalachin. **Rare. June.**

ARACEAE

Arisaema triphyllum (L.) Torr.

Indian turnip. Jack-in-the-pulpit

Rich moist woodlands and ravines. **Common.** The corm, when fresh, is very acrid. **June.**

Arisaema dracontium (L.) Schott

Green dragon

Shaded alluvial soil along the river. **Frequent. June.**

Calla palustris L.

Water arum. Wild calla

Swamps. **Common.** Generally found growing in water. **May-June.**

Spathyema foetida (L.) Raf.

Symplocarpus foetidus Nutt.

Skunk cabbage

Alluvial soil along the river and its branches. **Common.** March-April.

Acorus calamus L.

Sweet flag

Wet places, specially near dwellings. **Frequent. June.**

LEMNACEAE

Spirodela polyrhiza (L.) Schleid.

Great duckweed

Stagnant pools and water holes. **Common. Summer.**

Lemna minor L.

Small duckweed

With the last but less common. **Summer.**

PONTEDERIACEAE

Heteranthera dubia (Jacq.) MacM.

H. graminea Vahl

Water star grass

In shallow water along the river. **Common. August.**

JUNCACEAE

Juncus effusus L.

Soft rush

Wet places. Common. Summer.

Juncus bufonius L.

Toad rush

Roadsides. Common. Summer.

Juncus tenuis Willd.

Yard rush

Along paths and waysides. Common. Summer.

Juncus nodosus L.

Knotted rush

River shores and damp places. Common. Summer.

Juncus canadensis J. Gay

J. canadensis var. longicaudatus Engelm.

Canada rush

Wet places. Mutton hill pond and Marshland swamp. Summer.

Juncus canadensis brevicaudatus Engelm.

J. canadensis var. coarctatus Engelm.

Narrow-panicled rush

Juncus acuminatus Michx.

Sharp-fruited rush

Marshes and ditches. Common. Summer.

Juncoides pilosum (L.) Kuntze

Luzula vernalis DC.

Hairy wood rush

Damp woods and bushy places. Common. May.

Juncoides campestre (L.) Kuntze

Luzula campestris DC.

Common wood rush

Dry soil in pastures and clearings. Common. April-May.

MELANTHACEAE

Chamaelirium luteum (L.) Gray

C. carolinianum Willd.

Blazing star

Woods and thickets, wet or dry. Frequent. June.

Veratrum viride Ait.

Hellebore. Indian poke

Alluvial soil along the river and other streams. Common. June.

Uvularia perfoliata L.

Perfoliate bellwort

Rich woods and coppices. Common. May.

Uvularia grandiflora J. E. Smith

Large-flowered bellwort

Woods and thickets. Frequent. Plentiful at Barton. May.

Uvularia sessilifolia L.

Oakesia sessilifolia Wats.

Sessile-leaved bellwort

Low woods and ravines. Common. May.

LILIACEAE

Hemerocallis fulva L.

Day lily

Escaped from cultivation and established by roadsides. June-August.

Allium tricoccum Ait.

Wild leek

Alluvial soil along the river. Common. July.

Allium cernuum Roth

Nodding wild onion

High banks of the river and rocky places. Frequent. Barton. July.

Allium canadense L.

Meadow garlic

Thickets along the river. Frequent. May.

Lilium philadelphicum L.

Wood lily

Dry woods and thickets. Frequent. June.

Lilium canadense L.

Canada lily

River banks. Frequent. June-July.

Lilium superbum L.

Turk's cap lily

River banks. Abundant at Apalachin. July-August.

Erythronium americanum Ker

Yellow adder's-tongue

Damp woods and pastures, specially along streams. Common. April-May.

Ornithogalum umbellatum L.

Star of Bethlehem

Escapes from cultivation. Occasional. May.

Muscari botryoides (L.) Mill.

Occasionally escapes from cultivation. Roadside at Owego. April.

CONVALLARIACEAE

Asparagus officinalis L.

Asparagus

Fields and roadsides. Infrequent. May-October.

Clintonia borealis (Ait.) Raf.

Yellow clintonia

Cool, damp woods. Frequent. May-June.

Vagnera racemosa (L.) Morong

Smilacina racemosa Desf.

False Solomon's seal

Woods, ravines and river banks. Common. May.

Unifolium canadense (Desf.) Greene

Maianthemum canadense Desf.

False lily of the valley

Damp woods and thickets. Common. May-June.

Streptopus roseus Michx.

Sessile-leaved twisted stalk

Cool, damp woods. May-June.

Polygonatum biflorum (Walt.) Ell.

Hairy Solomon's seal

Woods, fence rows and river banks. Common. May.

Polygonatum commutatum (R. & S.) Dietr.

P. giganteum Dietr.

Smooth Solomon's seal

River banks. Common. June. The young shoots are used as a substitute for asparagus.

Medeola virginiana L.

Indian cucumber root

Rich, moist woods. Common. May-June.

Trillium grandiflorum (Michx.) Salisb.

Large-flowered wake-robin

Woods and river banks. Common. May.

Trillium erectum L.

Ill scented wake-robin

Rich woods, ravines and river banks. Common. May.

Trillium undulatum Willd.

T. erythrocarpum Michx.

Painted wake-robin

Cool, damp woods. Infrequent. Apalachin. June.

SMILACEAE

Smilax herbacea L.

Carrion flower

Woods, fence rows and banks of streams. Frequent. June.

Smilax hispida Muhl.

Hispid green brier

Thickets. Frequent. June.

AMARYLLIDACEAE

Hypoxis hirsuta (L.) Coville

H. erecta L.

Star grass

Dry woods. Frequent. May-October.

DIOSCOREACEAE

Dioscorea villosa L.

Wild yam root

Thickets along the river. Frequent. Apalachin. June-July.

IRIDACEAE

Iris versicolor L.

Larger blue flag

Swamps and shores. Common. May-July.

Sisyrinchium graminoides Bickn.

S. anceps Cav.

Stout blue-eyed grass

Grassy places. Frequent. June.

Sisyrinchium angustifolium Mill.

Pointed blue-eyed grass

Meadows and pastures. Common. May-August.

ORCHIDACEAE

Cypripedium acaule Ait.

Stemless lady's slipper

Woods, specially on the site of decayed logs. Frequent. May-June.

Cypripedium hirsutum Mill.

C. pubescens Willd.

Large yellow lady's slipper

Wet woods and swamps. Infrequent. June.

Cypripedium parviflorum Salisb.

Small yellow lady's slipper

Wet or dry woods. Common. June.

Orchis spectabilis L.

Showy orchis

Damp woods. Tioga Center. Rare. May.

Habenaria orbiculata (Pursh) Torr.

Large round-leaved orchis

Rich woods. Barton. Infrequent. July.

Habenaria hookeriana Gray

Hooker's orchis

Damp woods. Barton. Infrequent. June.

Habenaria clavellata (Michx.) Spreng.

H. tridentata Hook.

Small green wood orchis

Swamps near Barton. Infrequent. August.

Habenaria lacera (Michx.) R. Br.

Ragged orchis

Swamps. Apalachin. Frequent. July.

Habenaria psycodes (L.) Gray

Purple-fringed orchis

Damp woods. Common. July-August.

Pogonia ophioglossoides (L.) Ker

Rose pogonia

Mutton hill pond and bogs north of Barton. July.

Gyrostachys cernua (L.) Kuntze

Spiranthes cernua Rich.

Nodding ladies' tresses

Damp open places. Common. September.

Gyrostachys gracilis (Bigel.) Kuntze

Spiranthes gracilis Bigel.

Slender ladies' tresses

Dry thickets and specially in pine groves. Infrequent. Apalachin. August.

Peramium repens (L.) Salisb.

Goodyera repens R. Br.

Small rattlesnake plantain

Evergreen woods. Infrequent. July-August.

Peramium repens ophioides Fern.

With the type but more frequent. July-August.

Peramium pubescens (Willd.) MacM.

Goodyera pubescens R. Br.

Downy rattlesnake plantain

Woods, usually under evergreens. Frequent. July-August.

Leptorchis loeselii (L.) MacM.

Liparis loeselii Richards.

Fen orchis

Damp places. Barton and Apalachin. Rare. June.

Corallorhiza odontorhiza (Willd.) Nutt.

Small-flowered coral root

Woods and thickets. Infrequent. August-September.

Corallorhiza multiflora Nutt.

Large coral root

Woods and thickets. Frequent. August.

Limodorum tuberosum L.

Calopogon pulchellus R. Br.

Grass pink. Calopogon

Bogs north of Barton. July.

JUGLANDACEA

Juglans nigra L.

Black walnut

Banks of the river and along streams. Frequent. April-May.

Juglans cinerea L.

Butternut. White walnut

Banks of the river and along streams. Common. April-May.

Hicoria minima (Marsh.) Britton

Carya amara Nutt.

Bitternut

Borders of fields. Frequent. May-June. Nut with a thin shell and very bitter kernel.

Hicoria ovata (Mill.) Britton

Carya alba Nutt.

Shagbark. Shellbark hickory

Woods, thickets and fields. Common. May. The principal hickory nut of the market. A form with very large compressed nuts occurs near Apalachin.

Hicoria alba (L.) Britton

Carya tomentosa Nutt.

Mockernut. White-heart hickory

Fields and woods. Not common. Nut thick shelled, seed sweet.

Hicoria microcarpa (Nutt.) Britton

Carya microcarpa Nutt.

Small-fruited hickory

Frequent in fields and along their borders. May-June. Nut small, kernel sweet.

Hicoria glabra (Nutt.) Britton

Carya porcina Nutt.

Pignut

Infrequent. May-June. Nut pointed, thick shelled, kernel somewhat astringent.

MYRICACEAE

Comptonia peregrina (L.) Coulter

Myrica asplenifolia L.

Sweet fern

Thin sterile soil. Common. April-May.

SALICACEAE

Populus alba L.

White poplar

An introduced shade tree, which spreads freely by means of suckers.

Populus balsamifera candicans (Ait.) Gray

Balm of Gilead

River banks. Abundant in some places. April.

Populus grandidentata Michx.

Large-toothed aspen

Hillsides. Common. April.

Populus tremuloides Michx.

American aspen

Woods and thickets. Common. April.

Populus dilatata L.

Lombardy poplar

An introduced tree, frequent near the sites of deserted dwellings.

Salix nigra Marsh.

Black willow

Banks of the river, along streams and on the shores of ponds. Common. May.

Salix lucida Muhl.

Shining willow

Banks of streams. Frequent. May.

Salix fragilis L.

Crack willow. Brittle willow

River banks. Barton. Infrequent. May.

Salix alba vitellina (L.) Koch

White willow

Banks of streams. Common. May.

Salix fluviatilis Nutt.

S. longifolia Muhl.

Sandbar willow

Low land along the river. Frequent. April-May.

Salix bebbiana Sarg.

S. rostrata Richards.

Beaked willow

Swamps and wet places. Common. May.

Salix humilis Marsh.

Prairie willow

Dry hills. Frequent. April.

Salix tristis Ait.

Dwarf gray willow

Uplands. Frequent. March-April.

Salix discolor Muhl.

Pussy willow. Glaucous willow

Wet soil. Common. March-April.

Salix sericea Marsh.

Silky willow

Swamps. Common. May.

Salix cordata Muhl.

Heart-leaved willow

Abundant along the river and other streams and in wet places. April-May.

BETULACEAE

Carpinus caroliniana Walt.

Water beech

Damp woods and along streams. Common. May.

Ostrya virginiana (Mill.) Willd.

O. virginica Willd.

Ironwood

Woods and thickets. Frequent. May.

Quercus rubra L.

Red oak

Woods. Common. June.

Quercus coccinea Wang.

Scarlet oak

Woods and thickets. Infrequent. May-June.

Quercus velutina Lam.

Q. coccinea var. tinctoria Gray

Black oak

Woods, thickets, fields and along fences. Common. May-June.

Quercus nana (Marsh.) Sarg.

Q. ilicifolia Wang.

Scrub oak

Hillsides. Common. May. Forming thickets near Campville.

Quercus alba L.

White oak

Common. This species, Q. rubra, Q. velutina, Q. prinus and Castanea dentata constitute the principal forest trees of the region.

Quercus macrocarpa Michx.

Bur oak

Common along the river at Barton. May-June.

Quercus platanoides (Lam.) Sudw.

Q. bicolor Willd.

Swamp white oak

Damp grounds. Apalachin. Rare, but formerly quite plentiful. May-June.

Quercus prinus L.

Rock oak

Upland woods. Common. May-June.

Quercus acuminata (Michx.) Sarg.

Q. muhlenbergii Engelm.

Chestnut oak. Yellow oak

Barton. Rare. May.

Quercus prinoides Willd.

Scrub chestnut oak

Hillsides. Frequent and even abundant in some places. May.

ULMACEAE

Ulmus americana L.

White elm. American elm

Low grounds. Common. April.

Ulmus racemosa Thomas

Rock elm

Woods and thickets. Frequent. March-April.

Ulmus fulva Michx.

Slippery elm

Along the river and creeks. Frequent. March-April.

Celtis occidentalis L.

Hackberry. Sugar tree

River banks. Scarce at Apalachin but more plentiful at Barton and in the western part of our range. April.

MORACEAE

Humulus lupulus L.

Hop

Abundant along the river banks. August.

Cannabis sativa L.

Hemp

Waste places. Occasional. August.

URTICACEAE

Urtica gracilis Ait.

Slender nettle

Fence rows. Common. June-July.

Urticastrum divaricatum (L.) Kuntze

Laportea canadensis Gaud.

Wood nettle

Moist, shaded places. Common. July-August.

Adicea pumila (L.) Raf.

Pilea pumila Gray

Richweed. Clearweed

Damp, shady places. Common. July-September.

Boehmeria cylindrica (L.) Willd.

False nettle

Wet soil. Common. July-September.

SANTALACEAE

Comandra umbellata (L.) Nutt.

Bastard toad flax

Dry thickets. Common. May-July.

ARISTOLOCHIACEAE

Asarum canadense L.

Wild ginger

Abundant in thickets along the river. May.

Asarum reflexum Bickn.

Short-lobed wild ginger

Plentiful in a deep ravine near Campville. Closely resembling A. canadense, and by some regarded as a form of that species. May.

POLYGONACEAE

Rumex acetosella L.

Sheep sorrel. Field sorrel

Everywhere common. Very abundant in newly seeded land. May-September.

Rumex verticillatus L.

Swamp dock

Swamps. Common. May-July.

Rumex britannica L.

Great water dock

Swamps. Frequent. July-August.

Rumex crispus L.

Curled dock

Waste places. Common. June-August.

Rumex sanguineus L.

Red-veined dock

Waste places. Infrequent. Apalachin. May-August.

Rumex obtusifolius L.

Bitter dock

Gardens and fields. Common. June-August.

Fagopyrum fagopyrum (L.) Karst.

F. esculentum Moench

Buckwheat

Frequently persists in fields. June-September.

Polygonum amphibium L.

Water persicaria

In water and along muddy shores. Common. July-August.

Polygonum emersum (Michx.) Britton

P. muhlenbergii Wats.

Swamp persicaria

Shores of the river. Common. July-September.

Polygonum pennsylvanicum L.

Pennsylvania persicaria

In moist, rich soil. Common. July-October.

Polygonum persicaria L.

Lady's thumb

Common everywhere. June-October.

Polygonum hydropiperoides Michx.

Mild water pepper

Along the river at Apalachin. Abundant in one station. June-September.

Polygonum hydropiper L.

Smartweed

Ditches and wet places. Common. July-September.

Polygonum punctatum Ell.

P. acre H. B. K.

Water smartweed

Shores of the river. Frequent. June-October.

Polygonum virginianum L.

Virginia knotweed

Damp thickets. Frequent. July-October.

Polygonum orientale L.

Prince's feather

Waste places. Escaped from cultivation. Infrequent. August-September.

Polygonum aviculare L.

Doorweed. Knotgrass

In dooryards and along footpaths. Common. June-November.

Polygonum erectum L.

Erect knotweed

Roadsides. Common. July-September.

Polygonum convolvulus L.

Black bindweed

Cultivated and waste grounds. Common. July-September.

Polygonum cilinode Michx.

Fringed black bindweed

Infrequent. West of Owego. June-September.

Polygonum scandens L.

Climbing false buckwheat

Banks of streams. Common. August-September.

Polygonum sagittatum L.

Arrow-leaved tear-thumb

Swamps and low grounds. Common. July-September.

Polygonum arifolium L.

Halberd-leaved tear-thumb

Marshes. Frequent. July-September.

CHENOPODIACEAE

Chenopodium album L.

Pigweed

Cultivated and waste grounds. Abundant. June-September.

Chenopodium album viride (L.) Moq.

With the type. Frequent. June-September.

Chenopodium glaucum L.

Oak-leaved goosefoot

Along the railroad at Apalachin. Infrequent. June-September.

Chenopodium hybridum L.

Maple-leaved goosefoot

Waste places. Infrequent. July-September.

Chenopodium botrys L.

Jerusalem oak

Waste places. Infrequent. Apalachin. July-September.

Atriplex hastata L.

A. patulum var. hastatum Gray

Halberd-leaved orache

Waste places. Infrequent. August-October.

AMARANTHACEAE

Amaranthus retroflexus L.

Rough pigweed

Gardens and waste places. Common. August-October.

Amaranthus hybridus L.

A. hypochondriacus L.

Slender pigweed

Waste places. Infrequent. Barton. August-October.

Amaranthus hybridus paniculatus (L.) U. & B.

A. paniculatus L.

Red amaranth

Waste places. Infrequent. August-October.

Amaranthus blitoides Wats.

Prostrate amaranth

Along railroads. Infrequent. Campville. June-October.

Amaranthus graecizans L.

A. albus L.

Tumbleweed

In waste and cultivated places. Common. June-September.

PHYTOLACCACEAE

Phytolacca decandra L.

Poke. Pigeonberry. Garget

Pastures and borders of woods, specially in newly cleared land. Frequent. July.

AIZOACEAE

Mollugo verticillata L.

Carpetweed

Cultivated ground, where it often forms dense mats. Common. Summer.

PORTULACACEAE

Claytonia virginica L.

Spring beauty

Moist woods and banks. Common. April-May.

Claytonia caroliniana Michx.

Carolina spring beauty

Damp woods. Infrequent. April-May.

Portulaca oleracea L.

Purslane. Pussly

Gardens and waste places. Common. Summer.

CARYOPHYLLACEAE

Agrostemma githago L.

Lychnis githago Scop.

Corn cockle

Frequent in wheat fields. July. The seeds are said to be very poisonous.

Silene stellata (L.) Ait.

Starry campion

Dry thickets. Common. June-July.

Silene vulgaris (Moench) Garcke

S. cucubalus Wibel

Bladder campion

Waste places. Infrequent. Barton. Summer.

Silene antirrhina L.

Sleepy catchfly

Along railroads and in waste places. Frequent. Summer.

Silene armeria L.

Sweet william

Spontaneous in gardens. July.

Silene noctiflora L.

Night-flowering catchfly

Waste places. Frequent. June-September.

Saponaria officinalis L.

Soapwort. Bouncing bet

Roadsides and along streams. Common. Summer.

Vaccaria vaccaria (L.) Britton

Saponaria vaccaria L.

Cow herb

Along the railroad at Apalachin. Rare. July.

Dianthus armeria L.

Deptford pink

Roadsides. Infrequent. Apalachin. Summer.

Dianthus barbatus L.

Sweet william

Roadsides and waste places. Common. Summer.

Alsine media L.

Stellaria media Smith

Common chickweed

Very common in damp grounds. March-April.

Alsine longifolia (Muhl.) Britton

Stellaria longifolia Muhl.

Long-leaved stitchwort

Moist, grassy places. Common. May-July.

Alsine graminea (L.) Britton

Stellaria graminea L.

Lesser stitchwort

In fields and along roadsides. Frequent. May-July.

Alsine borealis (Bigel.) Britton

Stellaria borealis Bigel.

Northern stitchwort

Along Apalachin creek. Rare. Summer.

Cerastium vulgatum L.

Mouse-ear chickweed

Roadsides, fields, coppices and waste places. Common. May-October.

Cerastium longipedunculatum Muhl.

C. nutans Raf.

Nodding chickweed. Powderhorn

River flats at Barton. Abundant. May-June.

Cerastium arvense L.

Field chickweed

Dry banks at Barton. Frequent. May-June.

Cerastium arvense oblongifolium (Torr.) H. & B.

With the last but more common. May-June.

Arenaria serpyllifolia L.

Thyme-leaved sandwort

Along railroads. Common. June.

Moehringia lateriflora (L.) Fenzl

Arenaria lateriflora L.

Blunt-leaved sandwort

Shaded places along the river. Frequent. June-July.

Spergula arvensis L.

Corn spurry

Common as a weed in cultivated soil. Summer.

Anychia canadensis (L.) B. S. P.

Slender forked chickweed

Dry woods. Frequent. June-August.

NYMPHAEACEAE

Brasenia purpurea (Michx.) Casp.

B. peltata Pursh

Water target

Mutton hill pond. Summer.

Nymphaea advena Soland.

Nuphar advena Ait. f.

Large yellow pond lily

Mutton hill pond. Summer.

Nymphaea kalmiana (Michx.) Sims

Nuphar kalmianum Ait.

Small yellow pond lily

Marshland swamp. Summer.

Castalia odorata (Dryand.) W. & W.

Nymphaea odorata Ait.

Sweet-scented white water lily

Mutton hill pond. Summer.

CERATOPHYLLACEAE

Ceratophyllum demersum L.

Hornwort

In the river. Frequent. June-July.

MAGNOLIACEAE

Magnolia acuminata L.

Cucumber tree

Frequent throughout the valley as a small tree, the larger trees having been cut for lumber. June.

Liriodendron tulipifera L.

Tulip tree. Whitewood

Rare. June. This tree has been nearly exterminated by the ax of the lumberman.

RANUNCULACEAE

Caltha palustris L.

Cowslip. Marsh marigold

Swamps and wet woodlands. Infrequent. May.

Coptis trifolia (L.) Salisb.

Gold thread

Damp, mossy woods. Common. May.

Actaea rubra (Ait.) Willd.

A. spicata var. rubra Ait.

Red baneberry

Woodlands. Frequent. May-June.

Actaea alba (L.) Mill.

White baneberry

Rich woods. Common. May.

Cimicifuga racemosa (L.) Nutt.

Black cohosh. Black snakeroot

Along the banks of the river, in thickets and borders of woods. Common. June-July.

Aquilegia canadensis L.

Wild columbine

Rocky woods and in meadows. Common. May-June.

Aquilegia vulgaris L.

European columbine

Escapes from cultivation and is frequent along roadsides. May-July.

Delphinium consolida L.

Field larkspur

Waste places about Apalachin. Summer. Naturalized from Europe.

Anemone virginiana L.

Tall anemone

River banks and borders of woods. Common. June-August.

Anemone cylindrica Gray.

Long-fruited anemone

Rare. Barton. June.

Anemone canadensis L.

A. pennsylvanica L.

Canada anemone

Along the river. Common. May-August.

Anemone quinquefolia L.

A. nemorosa L.

Windflower

Moist thickets and woods. Common. May.

Hepatica hepatica (L.) Karst.

H. triloba Chaix

Round-lobed liverleaf

In thickets and woods. Common. March-May.

Hepatica acuta (Pursh) Britton

H. acutiloba DC.

Sharp-lobed liverleaf

In the same situations as the former but less common. March-May.

Clematis virginiana L.

Virgin's bower

Fence rows, banks of streams and thickets. Common. July. A plant more beautiful in fruit than in flower.

Atragene americana Sims

Clematis verticillaris DC.

Purple virgin's bower

Rocky hillsides. Rare. Owego. May.

Ranunculus reptans L.

R. flammula var. reptans E. Meyer

Creeping spearwort

Shores of the Susquehanna. Infrequent. Apalachin. Summer.

Ranunculus abortivus L.

Kidney-leaved crowfoot

Woods and moist ground. Common. May-June.

Ranunculus sceleratus L.

Ditch crowfoot

Ditches. Infrequent. Apalachin and Barton. May-August.

Ranunculus recurvatus Poir.

Hooked crowfoot

Damp woods. Common. May-June.

Ranunculus acris L.

Meadow buttercup

Fields and meadows. Common. May-September.

Ranunculus pennsylvanicus L. f.

Bristly buttercup

Swamps. Frequent. July-August.

Ranunculus septentrionalis Poir.

Swamp buttercup

Along the river and streams and in swamps. Common. May-July.

Ranunculus hispidus Michx.

Hispid buttercup

Dry woods and thickets. Common. April-May.

Ranunculus fascicularis Muhl.

Early buttercup

In the same places as the last species but less common. April-May.

Thalictrum dioicum L.

Early meadow rue

In shaded stony soil. Common. April-May.

Thalictrum polygamum Muhl.

Tall meadow rue

In wet meadows and along streams. Common. July.

BERBERIDACEAE

Berberis vulgaris L.

European barberry

In yards and occasionally as an escape. May-June.

Caulophyllum thalictroides (L.) Michx.

Blue cohosh

Rich woods and thickets. Frequent. May.

Podophyllum peltatum L.

Mandrake. May apple

Low woods, thickets and fence rows. Common. May.

MENISPERMACEAE

Menispermum canadense L.

Canada moonseed

Along the river banks. Frequent. June.

LAURACEAE

Sassafras sassafras (L.) Karst.

S. officinale Nees

Sassafras

Woods, thickets and fence rows. Frequent. May.

Benzoin benzoin (L.) Coulter

Lindera benzoin Blume

Spice bush. Benjamin bush

In swamps and wet places. Frequent. April-May. The leaves of young shoots are much larger than those of the matured branches.

PAPAVERACEAE

Papaver somniferum L.

Garden poppy

In waste places. Occasional. Summer.

Sanguinaria canadensis L.

Bloodroot

Thickets along the river. Common. April-May.

Chelidonium majus L.

Celandine

Roadsides and waste places. Frequent. May-September.

Bicuculla cucullaria (L.) Millsp.

Dicentra cucullaria DC.

Dutchman's breeches

Rich woods and thickets, specially along the river. Common. April-May.

Bicuculla canadensis (Goldie) Millsp.

Dicentra canadensis DC.

Squirrel corn

In the same places as the last but much less frequent. May.

Adlumia fungosa (Ait.) Greene

A. cirrhosa Raf.

Climbing fumitory. Alleghany vine

Moist woods and thickets. Infrequent. Tioga Center. Abundant along the Delaware, Lackawanna and Western railroad in the narrows west of Owego. A very beautiful vine. June-October.

CRUCIFERAE

Lepidium campestre (L.) R. Br.

Cow cress

Fields, waste places and along railroads. Common. May-July.

Lepidium virginicum L.

Wild peppergrass

Roadsides. Common. May-November.

Lepidium apetalum Willd.

Apetalous peppergrass

Roadsides in dry soil. Common. June-July.

Lepidium sativum L.

Peppergrass

Roadsides at Apalachin. Escaped from gardens. Infrequent. June-August.

Sisymbrium officinale (L.) Scop.

Hedge mustard

Waste places. Common. May-November.

Sisymbrium altissimum L.

Tall sisymbrium

Waste places, specially along railroads. Owego. Summer. This is a bad weed of recent introduction, but it is now established in many parts of the State.

Brassica nigra (L.) Koch

Black mustard

Fields and waste places. Common. June-November.

Brassica arvensis (L.) B. S. P.

B. sinapistrum Boiss.

Charlock. Wild mustard

Fields and waste places. Common. May-November.

Brassica campestris L.

Turnip

Occurs occasionally in waste places, but does not persist long. Summer.

Brassica napus L.

Rape

This is cultivated for sheep pasture, but sometimes escapes and persists for a short time.

Raphanus sativus L.

Garden radish

This occasionally escapes from cultivation and is spontaneous for a year or two.

Barbarea barbarea (L.) MacM.

B. vulgaris var. arcuata Gray

Yellow rocket

Fields. Common. May-June. Young plants are sometimes used for a pot herb.

Barbarea stricta Andrz.

B. vulgaris var. stricta Gray

Erect-fruited winter cress

Fields and waste places. Frequent. May-June.

Roripa sylvestris (L.) Bess.

Nasturtium sylvestre R. Br.

Creeping yellow water cress

Shores of the Susquehanna at Apalachin. Rare. Summer.

Roripa palustris (L.) Bess.

Nasturtium palustre DC.

Marsh water cress

Wet places, specially along the river. Common. Summer.

Roripa hispida (Desv.) Britton

Nasturtium palustre var. hispidum Gray

With the last but less common. Summer.

Roripa nasturtium (L.) Rusby

Nasturtium officinale R. Br.

Water cress

In brooks and small streams. Frequent. May-November.

Roripa armoracia (L.) A. S. Hitchcock

Nasturtium armoracia Fries

Horse radish

Waste places and along streams. Common. Summer.

Cardamine pennsylvanica Muhl.

Pennsylvania bitter cress

Swamps and wet places. Common. May-June.

Cardamine bulbosa (Schreb.) B. S. P.

C. rhomboidea DC.

Bulbous cress

Damp fields and thickets. Common. May-June.

Dentaria laciniata Muhl.

Cut-leaved toothwort

Moist soil in rich woods, specially along the river. Common. May.

Dentaria diphylla Michx.

Two-leaved toothwort

Rich woods and along small streams. Frequent. May.

Bursa bursa-pastoris (L.) Britton

Capsella bursa-pastoris Medic

Shepherd's purse

Fields and waste places. Abundant. March-January. Frequently used as a pot herb.

Arabis lyrata L.

Lyre-leaved rock cress

Along the river at Apalachin, growing on stony banks, upturned roots of trees and even on their trunks. Infrequent. May-August.

Arabis dentata T. & G.

Toothed rock cress

River shores. Infrequent. Barton. May-June.

Arabis hirsuta (L.) Scop.

Hairy rock cress

Thickets in stony soil. Infrequent. Apalachin and Campville. May-August.

Arabis laevigata (Muhl.) Poir.

Smooth rock cress

River banks. Frequent. May.

Arabis canadensis L.

Sickle pod

Woods and thickets, specially those along the river. Common. June-August.

Arabis glabra (L.) Bernh.

A. perfoliata Lam.

Tower mustard

Stony soil in a thicket near Apalachin. Infrequent. May-August.

Erysimum cheiranthoides L.

Treacle mustard

Fields and along streams. Common. Summer.

Hesperis matronalis L.

Dames rocket. Dames violet

Fields and thickets along the river. Common. May-August.

RESEDACEAE

Reseda odorata L.

Mignonette

Roadsides and waste places. Tioga Center.

SARRACENIACEAE

Sarracenia purpurea L.

Pitcher plant

Plentiful in peat bogs in the vicinity of Barton. June.

DROSERACEAE

Drosera rotundifolia L.

Round-leaved sundew

Bogs and specially on partly decayed logs. Mutton hill pond. Barton. July.

CRASSULACEAE

Sedum telephium L.

Live forever

In fields and along roadsides. Common. July.

Sedum acre L.

Mossy stonecrop

Occasionally escapes from cultivation. July.

Penthorum sedoides L.

Ditch stonecrop

Swamps, ditches and along streams. July-August.

SAXIFRAGACEAE

Saxifraga pennsylvanica L.

Swamp saxifrage

Swamps. Frequent. May.

Saxifraga virginiensis Michx.

Early saxifrage

Stony banks of the river and in thickets. Common. April-May.

Tiarella cordifolia L.

Coolwort. False miterwort

Rich, moist woods and shaded ravines. Common. May.

Mitella diphylla L.

Miterwort

In rich woods with the preceding. Common. May.

Chrysoplenium americanum Schwein.

Golden saxifrage. Water carpet

Wet, shaded places. Common. May.

GROSSULARIACEAE

Ribes cynosbati L.

Wild gooseberry

Old fields, thickets and fence rows. Frequent. May.

Ribes rotundifolium Michx.

Round-leaved gooseberry

Rocky woods in the vicinity of Barton. Infrequent. May.

Ribes prostratum L'Her.

Fetid currant

Cold, wet places near Barton. Occasional. May.

Ribes floridanum L'Her.

Wild black currant

Woods and thickets. Rather common. May.

Ribes rubrum L.

Red currant

Cultivated for its fruit, but sometimes it escapes to roadsides. May.

Ribes aureum Pursh

Golden currant

This also is cultivated for its fruit and its fragrant flowers, but it occasionally escapes and grows spontaneously. May.

HAMAMELIDACEAE

Hamamelis virginiana L.

Witch hazel

A common shrub in woods and thickets and along fence rows. Autumn.

PLATANACEAE

Platanus occidentalis L.

Buttonwood. Sycamore

Along the river and streams. Common. May.

ROSACEAE

Opulaster opulifolius (L.) Kuntze

Physocarpus opulifolius Maxim

Ninebark

River banks. Common. June.

Spiraea salicifolia L.

Meadowsweet

Swamps and moist ground. Common. July.

Spiraea tomentosa L.

Hardhack. Steeple bush

Swamp east of Campville. Rare. August.

Porteranthus trifoliatus (L.) Britton

Gillenia trifoliata Moench

Indian physic. Bowman's root

Open upland woods. Frequent. June-July.

Rubus odoratus L.

Purple-flowering raspberry

Rocky woods and ravines. Frequent.

Rubus strigosus Michx.

Wild red raspberry

Neglected fields and along roadsides and fences. Common. June. It frequently flowers and fruits in late summer and autumn.

Rubus neglectus Pk.

Purple wild raspberry

In the same localities as the last, but infrequent. June. It has dark red or purple fruit, long recurved stems and much resembles R. occidentalis.

Rubus americanus (Pers.) Britton

R. triflorus Richards.

Dwarf raspberry

Swamps and low woods. Frequent. June.

Rubus nigrobaccus Bailey

R. villosus Ait.

High bush blackberry

Woods, fields and thickets. Abundant. June. The white-fruited form occurs near Barton.

Rubus villosus frondosus Bigel.

This variety occurs with the typical form.

Rubus allegheniensis Porter

Mountain blackberry

Thickets and fields. Common. June.

Rubus hispidus L.

Running swamp blackberry

Plentiful in swamps and low grounds. June.

Rubus procumbens Muhl.

R. canadensis T. & G.

Dewberry

Fields and railroad banks. Common. This is our earliest fruiting blackberry. May.

Dalibarda repens L.

Dalibarda. False violet

Moist woods. Infrequent. Apalachin. June-August.

Fragaria virginiana Duchesne

Strawberry

Fields and pastures. Common. May-June.

Fragaria vesca L.

European wood strawberry

Fields and roadsides. Frequent. May-June. An escape from cultivation.

Fragaria americana (Porter) Britton

American wood strawberry

Rocky woods. Common. May-June.

Potentilla arguta Pursh

Tall cinquefoil

Along roadsides at Barton. Common. June.

Potentilla argentea L.

Silvery cinquefoil

Dry fields and roadsides. Common. June-August.

Potentilla monspeliensis L.

P. norvegica L.

Rough cinquefoil

Fields and waste places. Common. June-September.

Potentilla canadensis L.

Fivefinger

Abundant in dry fields. May-August.

Potentilla pumila Poir.

Dwarf fivefinger

Dry fields and banks. Common. April-June.

Comarium palustre L.

Potentilla palustris Scop.

Marsh cinquefoil

Plentiful about Mutton hill pond and in Marshland swamp. June-August.

Waldsteinia fragarioides (Michx.) Tratt.

Barren strawberry

Woods and thickets in dry or moist soil. Common. May.

Geum rivale L.

Purple avens. Water avens

Swamps and low grounds. Frequent. May-June.

Geum canadense Jacq.

G. album Gmelin

White avens

Shaded places. Common. June.

Geum virginianum L.

Rough avens

Low ground. Frequent. June.

Geum strictum Ait.

Yellow avens

Fields, thickets and borders of woods. Common. June.

Agrimonia hirsuta (Muhl.) Bicknell

Tall hairy agrimony

Woods and thickets. Frequent. June-August.

Agrimonia striata Michx.

Woodland agrimony

Dry woods. Common. July-September.

Rosa blanda Ait.

Smooth rose

Rocky places. Common. June.

Rosa carolina L.

Swamp rose

Swamps and low grounds. Common. Sometimes forming dense thickets. June-July.

Rosa humilis Marsh.

Dwarf rose

Dry or rocky soil. Common. June.

Rosa humilis lucida (Ehrh.) Best

R. lucida Ehrh.

Shining wild rose

Rocky soil. Occasional. June.

Rosa rubiginosa L.

Sweetbrier

Fields and roadsides. Occasional. June-July.

Rosa cinnamomea L.

Cinnamon rose

Roadsides in the vicinity of dwellings.

POMACEAE

Sorbus americana Marsh.

Pyrus americana DC.

American mountain ash

Swamps. Rare. Barton. June-July.

Pyrus communis L.

Choke pear

Near dwellings and occasionally in fields. Fruit very astringent. May.

Malus coronaria (L.) Mill.

Pyrus coronaria L.

American crab apple

Scattered throughout our territory. Flowers rose-colored, fragrant; fruit greenish yellow, fragrant and very acid. May.

Malus malus (L.) Britton

Pyrus malus L.

Apple

Woods, thickets and fence rows. Fruit sweet or sour. Frequent. May.

Aronia arbutifolia (L.) Ell.

Pyrus arbutifolia L.f.

Red chokeberry

Marshland swamp. This is the only station observed. May.

Aronia nigra (Wild.) Britton

Pyrus arbutifolia var. melanocarpa Hook.

Black chokeberry

Swamps and bogs. Common. May-June.

Amelanchier canadensis (L.) Medic

Juneberry

Woods, thickets and fence rows. Common. May.

Amelanchier botryapium (L.) DC.

A. canadensis var. oblongifolia T. & G.

Shad bush

Woods and thickets. Common. May.

Amelanchier spicata (Lam.) DC.

Low Juneberry

Rocky banks. Infrequent. Barton and Apalachin. A shrub 2 to 3 feet high, which fruits very abundantly.

Crataegus crus-galli L.

Cockspur thorn

Woods and thickets. Frequent. May.

Crataegus punctata Jacq.

Large-fruited thorn

Thickets and fields. Common. May.

Crataegus oxyacantha L.

Hawthorn

Yards and their borders. Frequent. May.

Crataegus coccinea L.

Scarlet thorn

Woods, thickets and pastures. Common. May.

Crataegus macracantha Lodd.

C. coccinea var. macracantha Dudley

Long-spined thorn

Woods at Apalachin. Occasional. May.

Crataegus tomentosa L.

Pear thorn

Roadsides near Barton. Rare. It flowers later than our other species of thorns. June.

Prunus americana Marsh.

Wild red plum

Along streams and in moist woods, often forming thickets. Frequent. May.

Prunus cerasus L.

Sour cherry

Escaped from cultivation to roadsides and thickets. May.

Prunus avium L.

Sweet cherry

Escaped from cultivation to roadsides. May.

Prunus pennsylvanica L.f.

Wild red cherry. Pin cherry

In thickets and along fences. Common. May-June.

Prunus virginiana L.

Choke cherry

Fence rows, roadsides, banks of the river and along streams. Common. Fruit dark red or almost black, astringent. May.

Prunus serotina Ehrh.

Wild black cherry

Along fence rows and in woods and clearings. Sometimes growing to a large size. May.

Amygdalus persica L.

Prunus persica L.

Peach

Roadsides and neglected fields. April-May.

CAESALPINACEAE

Cassia nictitans L.

Sensitive pea

River shore west of Campville. August.

Gleditsia triacanthos L.

Honey locust

Abundant in hedges on the river flats at Campville. May-June.

PAPILIONACEAE

Lupinus perennis L.

Wild lupine

Banks, specially along railroads. Abundant in some places. May-June.

Medicago sativa L.

Alfalfa. Lucerne

In fields and along railroads. Frequent. Summer.

Medicago lupulina L.

Black medic. Nonesuch

Fields, waste places and specially along railroads. May-November.

Melilotus alba Desv.

White sweet clover

Waste places and along railroads. Common. June-October.

Melilotus officinalis (L.) Lam.

Yellow sweet clover

Waste places. Infrequent. Apalachin and Campville. Summer.

Trifolium agrarium L.

Yellow clover. Hop clover

Fields and roadsides. Frequent. May-September.

Trifolium procumbens L.

Low hop clover

Fields in the vicinity of Campville. Infrequent. May-September.

Trifolium incarnatum L.

Crimson clover

Meadows. Frequent. A beautiful species with conspicuous, bright crimson flowers. Often cultivated. Summer.

Trifolium arvense L.

Rabbit foot. Stone clover

Along roadsides at Apalachin and Barton. Common. Summer.

Trifolium pratense L.

Red clover

Fields and meadows. Abundant. May-October.

Trifolium hybridum L.

Alsike clover

Grass lands. Common. June-October.

Trifolium repens L.

White clover

Fields, open and waste places. Very common. May-December.

Robinia pseudacacia L.

Locust tree

Naturalized along the banks of the Susquehanna and often forming almost impenetrable thickets. June.

Robinia viscosa Vent.

Clammy locust

Roadside near Waverly. June.

Meibomia nudiflora (L.) Kuntze

Desmodium nudiflorum DC.

Naked-flowered tick trefoil

Dry woods and thickets. Common. July-August.

Meibomia grandiflora (Walt.) Kuntze

Desmodium acuminatum DC.

Pointed-leaved tick trefoil

Woods. Common. Summer.

Meibomia michauxii Vail

Prostrate tick trefoil

Dry woods in various places near Campville. July-September.

Meibomia paniculata (L.) Kuntze

Desmodium paniculatum DC.

Panicled tick trefoil

Dry soil in coppices. Common. July-September.

Meibomia dillenii (Darl.) Kuntze

Desmodium dillenii Darl.

Dillen's tick trefoil

Dry woods and fields. Common. Summer.

Meibomia canadensis (L.) Kuntze

Desmodium canadense DC.

Showy tick trefoil

Abundant along the river shores and railroad embankments. July-September.

Meibomia marylandica (L.) Kuntze

Desmodium marylandicum Boott.

Smooth, small-leaved tick trefoil

Dry soil. Frequent. July-September.

Lespedeza procumbens Michx.

Trailing bush clover

Dry soil at the base of a hill near Apalachin. The only station. August-September.

Lespedeza violacea (L.) Pers.

Bush clover

Dry banks of the river at Apalachin and Barton. Infrequent. August-September.

Lespedeza frutescens (L.) Britton

L. stuvei var. intermedia Wats.

Wandlike bush clover

Dry open coppices along the river. August-September.

Lespedeza hirta (L.) Ell.

L. polystachya Michx.

Hairy bush clover

Dry thickets. Common. August-October.

Lespedeza capitata Michx.

Round-headed bush clover

Dry banks in the river valley. Abundant. August-September.

Vicia cracca L.

Tufted vetch

Along roadsides and in dry fields. Frequent. May-August.

Vicia americana Muhl.

American vetch

Damp soil along the river. Common. May-August.

Vicia caroliniana Walt.

Carolina vetch

River valley. Common. May-July.

Lathyrus ochroleucus Hook.

Cream-colored vetchling

Infrequent at Apalachin but common in the western part of our range. May-July.

Falcata comosa (L.) Kuntze

Amphicarpa monoica Nutt.

Wild peanut

Moist thickets. Common. August-September.

Apios apios (L.) MacM.

A. tuberosa Moench

Ground nut

Damp grounds, specially along the river. Common. July-September.

GERANIACEAE

Geranium maculatum L.

Spotted crane's-bill. Alum root

Woods, thickets and moist meadows. Common. **May-July.**

Geranium robertianum L.

Herb robert. Red robin

Rocky woods. Infrequent. May-September.

Geranium carolinianum L.

Carolina cranesbill

River valley. Frequent. May-August.

Geranium bicknellii Britton

Bicknell's cranesbill

With the last but more common. May-September.

OXALIDACEAE

Oxalis acetosella L.

White wood sorrel

Cold, damp woods, specially under hemlocks. It bears cleistogamous flowers and yields the so called " salt of lemons." Common. June-July.

Oxalis violacea L.

Violet wood sorrel

Open woods at Campville and in alluvial soil along Apalachin creek and along the river at Apalachin. May-June.

Oxalis stricta L.

O. corniculata var. stricta Sav.

Yellow wood sorrel

Woods and fields. Common. May-October.

Oxalis cymosa Small

Tall yellow wood sorrel

Woods, cultivated and waste ground. Frequent. May-October.

LINACEAE

Linum usitatissimum L.

Flax

Along railroads. Frequent. Summer.

Linum virginianum L.

Wild yellow flax

In an old field near Campville. The only station. June.

RUTACEAE

Xanthoxylum americanum Mill.

Prickly ash

Roadsides at Apalachin and Barton. May.

SIMARUBACEAE

Ailanthus glandulosus Desf.

Tree of heaven

Introduced from China. Escaped from cultivation at Barton. It spreads freely both by seeds and suckers.

POLYGALACEAE

Polygala verticillata L.

Whorled milkwort

Fields and roadsides in dry soil. Common. June-November.

Polygala viridescens L.

P. sanguinea L.

Purple milkwort

Hilltops near Apalachin. Infrequent. June-September.

Polygala senega L.

Seneca snakeroot

Apalachin, Owego and Barton. Infrequent. June.

Polygala paucifolia Willd.

Flowering wintergreen. Fringed milkwort

Open woods and thickets. Common. May-June.

EUPHORBIACEAE

Acalypha virginica L.

Three-seeded mercury

A weed plentiful in fields. June-October.

Euphorbia maculata L.

Spotted spurge. Milk purslane

Dry, gravelly soil, specially along railroads. Very common. June-October.

Euphorbia nutans Lag.

E. preslii Guss.

Large spotted spurge

With the last but less common. May-October.

Euphorbia corollata L.

Flowering spurge

Waste places. Occasional. May-September.

Euphorbia lucida W. & R.

E. nicaeensis All.

Nicaean spurge

About villages throughout the river valley. June-July.

Euphorbia cyparissias L.

Cypress spurge

Roadsides and waste places. Common. Abundant in old cemeteries. May-September.

CALLITRICHACEAE

Callitriche palustris L.

C. verna L.

Vernal water starwort

Slow streams. Occasional. July.

ANACARDIACEAE

Rhus hirta (L.) Sudw.

R. typhina L.

Staghorn sumac

Dry or rocky soil. Common. June.

Rhus glabra L.

Smooth sumac

Dry soil. Common. June.

Rhus vernix L.

R. venenata DC.

Poison sumac

Swamps and their borders. Frequent. Plentiful about Mutton hill pond. June.

Rhus radicans L.

R. toxicodendron L.

Poison ivy

Damp thickets, along fences and river banks. Common. June.

ILICACEAE

Ilex verticillata (L.) Gray

Black alder. Winter berry

Swamps. Common. A shrub rendered conspicuous in late autumn and winter by its bright red berries.

Ilicioides mucronata (L.) Britton

Nemopanthes fasicularis Raf.

Mountain holly

Swamps and bogs. Frequent. May.

CELASTRACEAE

Euonymus europaeus L.

Spindle tree

Escaped from cultivation. Infrequent. Apalachin. June.

Celastrus scandens L.

Climbing bittersweet

Rich soil along fences and streams. An attractive plant when in fruit. Frequent. June.

STAPHYLEACEAE

Staphylea trifolia L.

American bladder nut

Abundant along the south bank of the river at Barton. Formerly found at Apalachin. May.

ACERACEAE

Acer saccharinum L.

A. dasycarpum Ehrh.

Silver maple

Along banks of streams. The principal tree along the banks of the river. Common. March-April.

Acer rubrum L.

Soft maple. Red maple

Wet or dry soil. Common. March-April.

Acer saccharum Marsh.

A. saccharinum Wang.

Hard maple. Sugar maple. Rock maple

Woods and fields. Common. April-May. This is often planted as a shade tree. Its sap is the main source of maple sugar.

Acer nigrum Michx.

A. saccharinum var. nigrum T. & G.

Black sugar maple

Less common than the preceding species, which it closely resembles, but from which it may easily be distinguished by the bark and leaves. The sap is rich in sugar. April-May.

Acer pennsylvanicum L.

Striped maple. Moosewood

Rocky woods and ravines. Common. June.

Acer spicatum Lam.

Mountain maple

Along streams, in glens and ravines. Common. June.

HIPPOCASTANACEAE

Aesculus hippocastanum L.

Horse-chestnut

Cultivated as a shade tree, and occasionally escapes from cultivation. June.

BALSAMINACEAE

Impatiens biflora Walt.

I. fulva Nutt.

Spotted touch-me-not

Damp, shaded places. Common. July-September.

Impatiens aurea Muhl.

I. pallida Nutt.

Pale touch-me-not

With the last but more abundant along the river. July-September. The mature capsules of both species burst at the slightest touch and expel the seeds with much force; hence the name "touch-me-not."

RHAMNACEAE

Rhamnus cathartica L.

Buckthorn

Planted for hedges, but it occasionally escapes to fields and fence rows. June.

Rhamnus alnifolia L'Her.

Alder-leaved buckthorn

Swamps north of Barton. Infrequent. June.

Ceanothus americanus L.

New Jersey tea. Redroot

Dry, open woods and neglected fields. Abundant. June. The leaves are said to have been used as a substitute for tea by the American troops during the Revolutionary War.

VITACEAE

Vitis aestivalis Michx.

Summer grape

Fence rows and along the river banks. Common. June. The fruit ripens early in autumn.

Vitis vulpina L.

Sweet-scented grape

Banks of the river. Frequent. May-June. Fruit ripe in August and September.

Vitis cordifolia Michx.

Frost grape. Chicken grape

Thickets and banks of streams. Common. May-June. Fruit ripe in October and November.

Parthenocissus quinquefolia (L.) Planch.

Ampelopsis quinquefolia Michx.

Virginia creeper. American ivy

Woods, thickets and fence rows. Common. July.

TILIACEAE

Tilia americana L.

Basswood. American linden

Rich soil. Common. June-July.

MALVACEAE

Malva sylvestris L.

High mallow

Waste places and along roadsides. Infrequent. Summer.

Malva rotundifolia L.

Low mallow. Cheeses

Gardens and waste places. Abundant. May-November.

Malva moschata L.

Musk mallow

Meadows and roadsides. Frequent. Summer.

Abutilon abutilon (L.) Rusby

A. avicennae Gaertn.

Velvet leaf. Indian mallow

Gardens and waste places. Common. August-October.

Hibiscus trionum L.

Flower-of-an-hour

Waste places at Barton. Adventive from Europe. August-September.

HYPERICACEAE

Hypericum ascyron L.

Great St John's wort

Banks of the river. Common. July.

Hypericum ellipticum Hook.

Pale St John's wort

Swamps and banks of streams. Common. July-August.

Hypericum perforatum L.

Common St John's wort

Abundant in fields and waste places. June-September.

Hypericum maculatum Walt.

Corymbed St John's wort

Fields, roadsides and open woods. Common. July-September.

Hypericum mutilum L.

Dwarf St John's wort

Common in damp, sterile soil. July-August.

Hypericum canadense L.

Canadian St John's wort

Wet sandy soil. Frequent. July-September.

Triadenum virginicum (L.) Raf.

Elodes campanulata Pursh

Marsh St John's wort

Swamps and along streams. Common. July-September.

CISTACEAE

Helianthemum canadense (L.) Michx.

Frostweed

Plentiful along both banks of the river at Apalachin. May-July.

VIOLACEAE

Viola palmata L.

Early blue violet

Dry, open thickets, specially along roadsides. **Frequent. May.** The leaves of this species are very variable, and some forms of the plant closely resemble V. atlantica Britton.

Viola obliqua Hill

V. palmata var. cucullata Gray

Hooded violet

Damp woods, meadows and swamps. May-June.

Viola papilionacea Pursh

Common blue violet

About dwellings and in grass lands. Our most common species. May-June.

Viola domestica Bicknell

Yard violet

Yards and cultivated ground. Frequent. April-May. Sometimes considered a variety of the preceding species.

Viola cucullata Ait.

Marsh blue violet

Near the mouth of Apalachin creek. Infrequent. May-June.

Viola villosa Walt.

Southern wood violet

Dry, shaded soil. The "hogback" near Apalachin, the only station for it in our range. Its leaves are closely pressed to the ground, and it much resembles the false violet, Dalibarda repens. April-May.

Viola sororia Willd.

Woolly blue violet

Fields and roadsides. Common. Plentiful along the Mutton hill road. May-June.

Viola sagittata Ait.

Arrow-leaved violet

Meadows near Apalachin. Rare. May.

Viola ovata Nutt.

Ovate-leaved violet

Fields and roadsides in dry soil. Common. April-May.

Viola rotundifolia Michx.

Round-leaved violet

Cold, damp woods. Frequent. April-May. Its leaves are small at flowering time, but they are 3-5 inches broad in summer and appressed to the ground.

Viola blanda Willd.

Sweet white violet

Swamps, wet woods and along streams. Common. April-May.

Viola blanda amoena (Le Conte) B. S. P.

V. blanda var. palustriformis Gray

Wet woods. Not common.

Viola pubescens Ait.

Hairy yellow violet

Woods in dry soil. Common. May.

Viola scabriuscula (T. & G.) Schwein.

V. pubescens var. scabriuscula T. & G.

Smooth yellow violet

Damp woods and thickets along the river. Common. April-May.

Viola canadensis L.

Canada violet

Woods. Infrequent. May-July.

Viola striata Ait.

Pale violet. Striped violet

Low woods and thickets in the river valley. Very common. May.

Viola labradorica Schrank.

V. canina var. muhlenbergii Gray

Dog violet

Moist woods and fields. Our most abundant caulescent violet. April-May.

Viola rostrata Pursh

Long-spurred violet

Moist, rocky places. Scarce. June.

THYMELEACEAE

Dirca palustris L.

Moosewood

Cold, damp woods, specially along mountain streams. Infrequent. April-May.

ONAGRACEAE

Isnardia palustris L.

Ludwigia palustris Ell.

Marsh purslane

Swamps and muddy places along brooks. Common. June-October.

Chamaenerion angustifolium (L.) Scop.

Epilobium angustifolium L.

Great willow herb. Fireweed

Wet or dry soil. Often abundant in woodlands recently overrun by fire. June-August.

Epilobium lineare Muhl.

Linear-leaved willow-herb

Swamps. Common. July-August.

Epilobium coloratum Muhl.

Purple-leaved willow-herb

Low grounds. Infrequent. July-September.

Epilobium adenocaulon Haussk.

Northern willow-herb

Moist ground. Common. July-September.

Onagra biennis (L.) Scop.

Oenothera biennis L.

Evening primrose

Roadsides and fields. Common. June-September.

Kneiffia pumila (L.) Spach

Oenothera pumila L.

Small sundrops

Fields in wet or dry soil. Common. June-July.

Kneiffia fruticosa (L.) Raimann

Oenothera fruticosa L.

Common sundrops

Dry soil. Frequent. June-July.

Gaura biennis L.

Biennial gaura

Meadows and pastures along the river. July-August.

Circaea lutetiana L.

Enchanter's nightshade

Rich, moist woods. Common. June-July.

Circaea alpina L.

Smaller enchanter's nightshade

Cold, moist woods. July-August. This plant seems to prefer the sites of old logs.

HALORAGIDACEAE

Myriophyllum spicatum L.

Spiked water milfoil

Susquehanna river in deep water. Infrequent. Summer.

ARALIACEAE

Aralia nudicaulis L.

Wild sarsaparilla

Woods and thickets. Common. May-June.

Aralia racemosa L.

Spikenard

Damp, shaded places. Frequent. July.

Aralia hispida Vent.

Bristly sarsaparilla. Dwarf elder

Swamps and openings on dry hemlock knolls. Infrequent. June.

Panax quinquefolium L.

Aralia quinquefolia D. & P.

Ginseng

Rich woods. Rare. July. Formerly more common but now fast disappearing, because of the high price paid for its roots.

Panax trifolium L.

Aralia trifolia D. & P.

Ground nut

Moist woods and thickets. Common. May.

UMBELLIFERAE

Daucus carota L.

Wild carrot

Fields and roadsides. Very common. June-September.

Angelica atropurpurea L.

Purple-stemmed angelica

Along streams. Common. June-July.

Angelica villosa (Walt.) B. S. P.

A. hirsuta Muhl.

Hairy angelica

Dry, open woods. Common. July.

Heracleum lanatum Michx.

Cow parsnip

Low ground along the river and its branches. Common. June.

Pastinaca sativa L.

Wild parsnip

Roadsides and waste places. Common. Summer.

Thaspium trifoliatum aureum (Nutt.) Britton

T. aureum Nutt.

Golden alexanders

Woods, thickets and meadows. Common. June.

Thaspium barbinode (Michx.) Nutt.

Meadow parsnip

Alluvial soil. Frequent. May-June.

Sanicula marylandica L.

Sanicle. Black snakeroot

Rich woods. Common. May-June.

Pimpinella integerrima (L.) Gray

Yellow pimpernel

Rocky soil. Common. May.

Washingtonia claytoni (Michx.) Britton

Osmorrhiza brevistylis DC.

Hairy sweet cicely

Woods. Common. May-June.

Washingtonia longistylis (Torr.) Britton

Osmorrhiza longistylis DC.

Smooth sweet cicely

Woods and shaded places in fields and by roadsides. Common. May-June.

Conium maculatum L.

Poison hemlock

Waste places. Frequent. June. The root is very poisonous.

Sium cicutaefolium Gmel.

Water parsnip

Swamps. Common. July-September.

Zizia aurea (L.) Koch

Golden meadow parsnip

Fields and meadows. Common. May.

Zizia cordata (Walt.) DC.

Heart-leaved alexanders

Open woods and thickets. Frequent. May.

Carum carui L.

Caraway

Dooryards and waste places. Common. May-June.

Cicuta maculata L.

Water hemlock. Musquash root

Swamps. Common. June-July.

Cicuta bulbifera L.

Bulb-bearing water hemlock

Swamps, ponds and along streams. Frequent. Plentiful about Mutton hill pond. July-August.

Deringa canadensis (L.) Kuntze

Cryptotaenia canadensis DC.

Honewort

Woods. Common. June.

Hydrocotyle americana L.

Marsh pennywort

Wet, shaded places. Common. June-September.

CORNACEAE

Cornus canadensis L.

Dwarf cornel. Bunchberry

Low woods and damp, shaded places. Abundant. May-June.

Cornus florida L.

Flowering dogwood

Upland woods. Common. April-May. This shrub or small tree is conspicuous in early spring by reason of its large, white, bracted flowers and again in autumn by its bright red leaves. Its wood is hard and used in the manufacture of toys.

Cornus circinata L'Her.

Round-leaved cornel

Thickets. Frequent. June.

Cornus amomum Mill.

C. sericea L.

Silky cornel. Kinnikinick

Low woods, borders of swamps and along streams. June.

Cornus stolonifera Michx.

Red osier

Borders of swamps. Common. June.

Cornus candidissima Marsh.

C. paniculata L'Her.

Panicled cornel

Thickets and fence rows. Common. June.

Cornus alternifolia L. f.

Alternate-leaved cornel

Open woods. Common. June.

Nyssa sylvatica Marsh.

Pepperidge. Sour gum

Moist soil, specially along the borders of swamps. Frequent. May. This tree is conspicuous in autumn by its bright crimson leaves. Its wood is soft but hard to split, and at an early day was much used for ox yokes.

PYROLACEAE

Pyrola rotundifolia L.

Round-leaved wintergreen

Rich woods. Common. July.

Pyrola chlorantha Sw.

Greenish-flowered wintergreen

Pyrola elliptica Nutt.

Shin leaf

Rich woods. Common. July.

Pyrola secunda L.

One-sided wintergreen

Woods and thickets. Common. July.

Chimaphila maculata L.

Spotted wintergreen

Dry woods west of Barton. Rare. June-July.

Chimaphila umbellata (L.) Nutt.

Prince's pine. Pipsissewa

Dry, rich woods. Common. June-July.

MONOTROPACEAE

Monotropa uniflora L.

Indian pipe

Moist, rich woods. Frequent. July.

ERICACEAE

Azalea nudiflora L.

Rhododendron nudiflorum Torr.

Azalea. Mayflower

Woods and thickets. Common. May.

Azalea canescens Michx.

Mountain azalea

Brush lots and borders of swamps. Common. May.

Kalmia latifolia L.

Mountain laurel

Rocky woods, specially on the sides of rocky ravines. Near Campville, in the Delaware, Lackawanna and Western narrows near Owego, and on Watch hill. June.

Kalmia glauca Ait.

Pale laurel

Bogs north of Barton. Rare. June.

Andromeda polifolia L.

Wild rosemary. Moorwort

Bogs north of Barton. Infrequent. May.

Xolisma ligustrina (L.) Britton

Andromeda ligustrina Muhl.

Andromeda

Wet or dry soil but more frequently in swamps. Common. June.

Chamaedaphne calyculata (L.) Moench

Cassandra calyculata Don

Leather leaf

Bogs and swamps, where it forms low, dense thickets. Abundant. May.

Epigaea repens L.

Trailing arbutus. Mayflower

Woods and bushy fields, preferring damp situations. April-May.

Gaultheria procumbens L.

Wintergreen

Woods and thickets in soil wet or dry. Common. June-July.

VACCINIACEAE

Gaylussacia resinosa (Ait.) T. & G.

Black huckleberry

Woods and thickets, preferring rocky soil. Common. May.

Vaccinium corymbosum L.

Swamp blueberry

Swamps and their borders. Common. May.

Vaccinium atrococcum (Gray) Heller

V. corymbosum var. atrococcum Gray

Black blueberry

Swamps. Frequent. May.

Vaccinium pennsylvanicum Lam.

Dwarf blueberry

Dry, rocky or sandy soil. Common. May.

Vaccinium nigrum (Wood) Britton

V. pennsylvanicum var. nigrum Wood

Low black blueberry

Dry, rocky soil. Frequent. May.

Vaccinium vacillans Kalm

Low blueberry

Dry soil. Common. May.

Vaccinium stamineum L.

Deerberry

Dry thickets, specially on hillsides. Common. May. The Canada blueberry, V. canadense, which is common in nearly all elevated swamps, is apparently wanting in our limits.

Chiogenes hispidula (L.) T. & G.

C. serpyllifolia Salisb.

Creeping snowberry

Bogs and cold wet woods north of Barton. May. This plant has the odor and flavor of birch. Its fruit is white.

Oxycoccus oxycoccus (L.) MacM.

Vaccinium oxycoccus L.

Small cranberry

Bogs north of Barton. June.

Oxycoccus macrocarpus (Ait.) Pers.

Vaccinium macrocarpon Ait.

Large cranberry

Mutton hill pond and bogs near Barton. June. More common than the preceding species.

PRIMULACEAE

Lysimachia quadrifolia L.

Whorled loosestrife

Thickets and neglected fields. Common. June-July.

Lysimachia terrestris (L.) B. S. P.

L. stricta Ait.

Bulb-bearing loosestrife

Swamps, moist thickets and the river shores. Common. July-September.

Lysimachia nummularia L.

Moneywort

Lawns and roadsides near houses. Common. June-August.

Steironema ciliatum (L.) Raf.

Fringed loosestrife

Moist thickets. Common. June-July.

Naumbergia thyrsiflora (L.) Duby

Lysimachia thyrsiflora L.

Tufted loosestrife

Swamps north of Barton. Infrequent. May-June.

Trientalis americana Pursh

Star flower

Damp woods. Common. May.

OLEACEAE

Syringa vulgaris L.

Lilac

Roadsides, specially near deserted dwellings, occasionally in fields. Common. May.

Fraxinus americana L.

White ash

Common in rich woods. May.

Fraxinus pennsylvanica Marsh.

F. pubescens Lam.

Red ash

Moist soil. Frequent. May.

Fraxinus nigra Marsh.

F. sambucifolia Lam.

Black ash

Swamps. Common. May.

Ligustrum vulgare L.

Privet

Escaped from cultivation to roadsides in the vicinity of Barton. July.

GENTIANACEAE

Gentiana crinita Froel.

Fringed gentian

Plentiful in a moist field near Apalachin. This is its only known station in our limits. Autumn.

Gentiana quinquefolia L.

G. quinqueflora Lam.

Stiff gentian. Ague weed

Neglected fields. Common. September.

Gentiana andrewsii Griseb.

Closed gentian

Moist soil, specially along streams. Frequent. August-September.

MENYANTHACEAE

Menyanthes trifoliata L.

Buck bean. Bog bean

Bogs. Mutton hill pond. Infrequent. May-June.

APOCYNACEAE

Vinca minor L.

Myrtle. Periwinkle

Dooryards and specially abundant about old graveyards. May.

Apocynum androsaemifolium L.

Spreading dogbane

Fields, thickets and fence rows. Common. July.

Apocynum cannabinum L.

Indian hemp

Abundant on gravelly shores of the river. July-August.

ASCLEPIADACEAE

Asclepias tuberosa L.

Butterfly weed. Pleurisy root

Dry fields and along railroads. Frequent. August. Abundant along the Erie railroad east of Campville.

Asclepias incarnata L.

Swamp milkweed

Swamps and wet places. Common. July-August.

Asclepias exaltata (L.) Muhl.

A. phytolaccoides Pursh

Tall milkweed

Open woodlands. Common. July.

Asclepias quadrifolia Jacq.

Four-leaved milkweed

Woods and thickets. Common. June-July.

Asclepias syriaca L.

A. cornuti Dec.

Common milkweed. Silkweed

Fields and waste places. Very common. July.

CONVOLVULACEAE

Ipomoea purpurea (L.) Roth

Morning-glory

Waste places. Frequent. Escapes from cultivation.

Convolvulus sepium L.

Hedge bindweed

Thickets and fields. Abundant on the river flats. Common. Summer.

Convolvulus spithamaeus L.

Upright bindweed

Rocky banks. Common. June.

Convolvulus arvensis L.

Field bindweed

Along the railroad at Apalachin. Rare. July-August.

CUSCUTACEAE

Cuscuta coryli Engelm.

C. inflexa Engelm.

Hazel dodder

River flats at Campville. Rare. August. It grows on hazel bushes.

Cuscuta gronovii Willd.

Dodder. Love vine

Damp, shaded grounds, parasitic on herbs and low shrubs. Very common. August.

POLEMONIACEAE

Phlox paniculata L.

Garden phlox

Cultivated for its flowers, but it frequently escapes from gardens. July.

Phlox maculata L.

Wild sweet william

Cultivated for its flowers, but it occasionally escapes from gardens. June-July.

Phlox divaricata L.

Wild blue phlox

Moist woods along streams, specially along Apalachin creek. Common. May.

Phlox subulata L.

Ground pink. Moss pink

Common on hillsides from Smithboro to the western limit of our range. April-May.

Polemonium reptans L.

Greek valerian. Jacob's ladder

Low woods along the river at Barton. Scarce in the eastern part of our range. May.

HYDROPHYLLACEAE

Hydrophyllum virginicum L.

Virginia waterleaf

Woods and shady places. Common. June.

Hydrophyllum canadense L.

Broad-leaved waterleaf

Plentiful in bottom woods near Barton but not observed elsewhere in our limits.

BORAGINACEAE

Cynoglossum officinale L.

Hound's-tongue

Fields and waste places. Frequent. June-July.

Cynoglossum virginicum L.

Wild comfrey

Open woods. Infrequent. May.

Lappula virginiana (L.) Greene

Echinospermum virginicum **Lehm.**

Beggar's lice. Virginia stickseed

Woods and thickets. Common. Summer.

Mertensia virginica (L.) DC.

Lungwort

Banks of the river and along streams. Abundant in some places. May.

Myosotis palustris (L.) Lam.

Forget-me-not

Occasionally escapes from cultivation. May-June.

Myosotis laxa Lehm.

Small forget-me-not

Streams and muddy places. Common. June-July.

Lithospermum arvense L.

Corn gromwell

Along railroads. Barton and Campville. Infrequent. June-July.

Symphytum officinale L.

Comfrey

Fields and waste places. Occasional. June.

Lycopsis arvensis L.

Small bugloss

Near Tioga Center. Rare. June-August.

Echium vulgare L.

Blueweed. Viper's bugloss

Along railroads and in waste places at Owego. Common. July.

VERBENACEAE

Verbena urticifolia L.

White vervain

Fields, woods and waste places. Common. July-August.

Verbena hastata L.

Blue vervain

Fields and waste places, specially along streams. Common. July-August.

LABIATAE

Teucrium canadense L.

Wood sage. Germander

Common on the river flats. July-August.

Trichostema dichotomum L.

Blue curls

Plentiful on the river flats opposite Apalachin. August-September.

Scutellaria lateriflora L.

Mad-dog skullcap

Swamps and wet places. Common. August.

Scutellaria galericulata L.

Marsh skullcap

Marshes, borders of ponds and along streams. Common. July-August.

Agastache scrophulariaefolia (Willd.) Kuntze

Lophanthus scrophulariaefolius Benth.

Giant hyssop

Thickets along the river banks. Infrequent. August-September.

Nepeta cataria L.

Catnip. Catmint

Waste places. Common. July-November.

Glecoma hederacea L.

Nepeta glechoma Benth.

Ground ivy. Gill-over-the-ground

Woods, thickets, swamps and waste places. Common. April-May.

Prunella vulgaris L.

Brunella vulgaris L.

Self-heal. Heal-all

Fields, woods and pastures. Very common. June-October.

Galeopsis tetrahit L.

Hemp nettle

Waste places. Common. July-August.

Leonurus cardiaca L.

Motherwort

Waste places about dwellings. Common. July-August.

Lamium amplexicaule L.

Henbit. Dead nettle

Thickets, waste places and cultivated ground. Infrequent. Apalachin and Barton. May-September.

Lamium maculatum L.

Spotted dead nettle

Roadsides at Barton. June-September.

Stachys aspera Michx.

Rough hedge nettle

Low grounds. Not common. July-August.

Monarda didyma L.

Oswego tea. American bee balm

Moist soil, specially along the river and creeks. Common. July-August.

Monarda clinopodia L.

Basil balm

Plentiful on the Marshland farm, in thickets along the river and in Mutton hill pond woods. July.

Monarda fistulosa L.

Wild bergamot

Dry soil in neglected fields. Common. July-August.

Monarda media Willd.

M. fistulosa var. rubra Gray

Purple bergamot

Moist thickets at Barton. Rare. June-August.

Blephilia ciliata (L.) Raf.

Downy blephilia

Thickets near Apalachin. Rare. July-August.

Hedeoma pulegioides (L.) Pers.

American pennyroyal

Dry fields, specially on hills. Abundant. August.

Clinopodium vulgare L.

Calamintha clinopodium Benth.

Wild basil

Woods, fields and thickets. Common. Summer.

Koellia flexuosa (Walt.) MacM.

Pycnanthemum linifolium Pursh

Narrow-leaved mountain mint

Fields near Campville. August.

Koellia virginiana (L.) MacM.

Pycnanthemum lanceolatum Pursh

Virginia mountain mint

Fields near Campville and Barton. August.

Koellia incana (L.) Kuntze

Pycnanthemum incanum Michx.

Hoary mountain mint

Thickets and dry hillsides. More common than the two preceding species. September-October.

Thymus serpyllum L.

Creeping thyme

Old graveyards. Naturalized. Summer.

Lycopus virginicus L.

Bugleweed

Wet soil. Common. August.

Lycopus americanus Muhl.

L. sinuatus Ell.

Cut-leaved water hoarhound

Damp grounds. Common. July-September.

Mentha spicata L.

M. viridis L.

Spearmint

Wet ground and along streams. Common. August.

Mentha piperita L.

Peppermint

Wet soil and along streams. Common. August.

Mentha citrata Ehrh.

Bergamot mint

Roadsides. Occasional. August.

Mentha canadensis L.

American wild mint

Low ground. Common. August-September.

Collinsonia canadensis L.

Horse balm. Richweed. Stoneroot

Moist woods and thickets. Common. August. Its flowers have an odor like that of lemons.

SOLANACEAE

Physalodes physalodes (L.) Britton

Nicandra physalodes Gaertn.

Apple of Peru

Waste places, specially about gardens. August-September.

Physalis philadelphica Lam.

Philadelphia ground cherry

Waste places at Apalachin. Rare. August.

Physalis heterophylla Nees

P. virginiana Mill.

Clammy ground cherry

Cultivated grounds and along railroads. Common. August-September.

Solanum nigrum L.

Black nightshade

Waste ground at Barton. Rare. August-September.

Solanum carolinense L.

Horse nettle

Plentiful in cultivated fields near Apalachin. June-September.

Solanum dulcamara L.

Nightshade. Bittersweet

Waste places, along streams and in swamps, often growing in water. Common. June-September.

Lycium vulgare (Ait.) Dunal

Matrimony vine

About old, deserted dwellings. Frequent. June-August.

Datura stramonium L.

Thorn apple. Jimson weed

Waste grounds. Infrequent. August.

SCROPHULARIACEAE

Verbascum thapsus L.

Great mullen

Dry soil in fields. Common. July.

Verbascum blattaria L.

Moth mullen

Pastures, fields and waysides. Frequent. July-October.

Cymbalaria cymbalaria (L.) Wettst.

Linaria cymbalaria Mill.

Kenilworth ivy

Introduced from Europe but well established at Owego and growing on stone abutments facing the river. June-August.

Linaria linaria (L.) Karst.

L. vulgaris Mill.

Yellow toadflax. Butter and eggs

Fields and waste places. Abundant. June-October. A troublesome weed.

Scrophularia marylandica L.

S. nodosa var. marylandica Gray

Figwort

Fields, thickets and roadsides. Frequent. August.

Scrophularia leporella Bickn.

Hare figwort

With the preceding species but more common. Abundant along the river. June-July.

Chelone glabra L.

Snakehead. Balmony

Swamps and along streams. Common. August-September.

Pentstemon hirsutus (L.) Willd.

P. pubescens Soland.

Hairy beard-tongue

Roadsides and banks in dry soil. Common. June.

Pentstemon digitalis (Sweet) Nutt.

P. laevigatus var. digitalis Gray

Foxglove beard-tongue

In a meadow at Apalachin. Rare. June.

Mimulus ringens L.

Monkey flower

Wet soil, specially along streams. Common. July-September.

Gratiola virginiana L.

Clammy hedge hyssop

Muddy places. Common. June-September.

Ilysanthes gratioloides (L.) Benth.

I. riparia Raf.

False pimpernel

Wet soil on the shores of streams and ponds. Common. August.

Veronica anagallis-aquatica L.

V. anagallis L.

Water speedwell

Plentiful in a ditch opposite Apalachin. June-August.

Veronica americana Schwein.

American brooklime

Swamps, ditches and brooks. Common. May-August.

Veronica scutellata L.

Marsh speedwell

Swamps. Common. May-September.

Veronica officinalis L.

Common speedwell

Dry soil in fields and woods. Common. June-August.

Veronica serpyllifolia L.

Thyme-leaved speedwell

Fields and thickets. Very common. May-July.

Veronica peregrina L.

Purslane speedwell

An abundant weed in cultivated ground. June-September.

Veronica arvensis L.

Corn speedwell

Woods, fields and cultivated ground. Common. May-August.

Veronica byzantina (S. & S.) B. S. P.

V. buxbaumii Tenore

Byzantine speedwell

Waste places and gardens. Frequent. May-September.

Veronica spicata L.

Spiked speedwell

Established in meadow lands near Apalachin. August.

Leptandra virginica (L.) Nutt.

Veronica virginica L.

Culver's root

River flats. Common. June-August.

Dasystoma pedicularia (L.) Benth.

Gerardia pedicularia L.

Fern-leaved false foxglove

Dry soil in woods and thickets. Frequent. August.

Dasystoma flava (L.) Wood

Gerardia flava L.

Downy false foxglove

Dry, open woods and thickets. Common. July-August.

Dasystoma virginica (L.) Britton

Gerardia quercifolia Pursh

Smooth false foxglove

Dry soil in woods and thickets. Frequent. July-August. This and the two preceding species are sometimes found growing together.

Gerardia tenuifolia Vahl

Slender gerardia

Roadsides and coppices on hillsides. Frequent. August-September.

Pedicularis canadensis L.

Wood betony. Lousewort

Dry, open thickets. Common. May-June.

Melampyrum lineare Lam.

M. americanum Michx.

Narrow-leaved cowwheat

Dry woods and thickets. Common. June-August.

LENTIBULARIACEAE

Utricularia vulgaris L.

Common Bladderwort

Still or sluggish waters. Common. July.

OROBANCHACEAE

Thalesia uniflora (L.) Britton

Aphyllon uniflorum Gray

Naked broom rape

Dry thickets near Apalachin. May.

Leptamnium virginianum (L.) Raf.

Epiphegus virginiana Bart.

Beech drops

Under beech trees. Frequent. September-October.

BIGNONIACEAE

Catalpa catalpa (L.) Karst.

C. bignonioides Walt.

Catalpa. Indian bean

Planted as a shade tree, but sometimes becomes spontaneous. July.

ACANTHACEAE

Dianthera americana L.

Water willow

Common in the river from Smithboro westward, but not found in the eastern part of our range. July-August.

PHRYMACEAE

Phryma leptostachya L.

Lopseed

Woods and thickets. Frequent. July-August.

PLANTAGINACEAE

Plantago major L.

Common plantain

Waste places. Common. Summer.

Plantago rugelii Dec.

Rugel's plantain

Waste places. Common. Summer.

Plantago lanceolata L.

English plantain. Ribgrass

Waste places and grass lands. Very common. May-October.

Plantago aristata Michx.

Recently introduced into a grain field and now spreading rapidly. June-September.

Plantago virginica L.

Dwarf plantain

Meadows 1 mile south of Barton. Plentiful. May-June.

RUBIACEAE

Houstonia coerulea L.

Bluets. Innocence

Meadows and pastures, specially in moist soil. Common. July.

Galium trifidum L.

Small bedstraw

Bogs and cold swamps. Frequent. Summer.

CAPRIFOLIACEAE

Sambucus canadensis Michx.

Sweet elder

Roadsides, fence rows and bottom lands. Common. July.

Sambucus pubens Michx.

S. racemosa L.

Red-berried elder

Moist soil in rocky woods. Common. May.

Viburnum alnifolium Marsh.

V. lantanoides Michx.

Hobblebush

Low woods. Frequent. May.

Viburnum opulus L.

High bush cranberry. Cramp bark

Swamps near Barton. Infrequent. June.

Viburnum acerifolium L.

Maple-leaved arrowwood. Dockmackie

Dry, rocky woods. Common. June.

Viburnum pubescens (Ait.) Pursh

Downy-leaved arrowwood

Rocky woods. Common. June.

Viburnum dentatum L.

Arrowwood

Borders of swamps. Common. June.

Viburnum cassinoides L.

Withe-rod. Appalachian tea

Swamps and low ground. Common. June.

Viburnum lentago L.

Nannyberry. Sheepberry

Low ground. Common. May.

Triosteum perfoliatum L.

Feverwort. Horse gentian

Borders of woods, specially along the river. Frequent. June.

Linnaea borealis L.

Twin flower

Damp, shrubby field near Apalachin. Rare. June.

Symphoricarpus racemosus Michx.

Snowberry

Plentiful along the river banks at Barton, also frequent by roadsides where it has escaped from cultivation. June-August.

Lonicera dioica L.

L. glauca Hill

Glaucous honeysuckle

Dry soil in thickets and along fences. Frequent. June.

Lonicera ciliata Muhl.

Fly honeysuckle

Moist woods. Common. May.

Lonicera tatarica L.

Tartarian bush honeysuckle

Roadsides. Escaped from cultivation. May.

Diervilla diervilla (L.) MacM.

D. trifida Moench

Bush honeysuckle

Dry, rocky, woodland roadsides and fence rows. Common. June.

VALERIANACEAE

Valerianella chenopodifolia (Pursh) DC.

Goosefoot corn salad

Moist meadows along the river. Frequent. June-July.

Valerianella radiata (L.) Dufr.

Beaked corn salad

Bottom land at Barton. Frequent. June-July.

DIPSACACEAE

Dipsacus sylvestris Huds.

Card teasel

Waste places. Common. July-August.

CUCURBITACEAE

Micrampelis lobata (Michx.) Greene

Echinocystis lobata T. & G.

Wild balsam apple

River banks and waste places. Common. July-August.

Sicyos angulatas L.

Star cucumber

River banks and waste places. Common. July-September.

CAMPANULACEAE

Campanula rotundifolia L.

Harebell

Rocks near Barton. Rare. July-August.

Campanula rapunculoides L.

European bellflower

Roadsides and about old dwellings. Common. July-September.

Campanula aparinoides Pursh

Marsh bellflower

Wet, grassy places. Common. July-August.

Legouzia perfoliata (L.) Britton

Specularia perfoliata A. DC.

Venus looking-glass

Fields, roadsides and in cultivated soil. Common. June.

Lobelia cardinalis L.

Cardinal flower

Shores of streams. Common. July-August.

Lobelia syphilitica L.

Great lobelia

Wet meadows and borders of swamps. Frequent. August.

Lobelia spicata Lam.

Spiked lobelia

Meadows and pastures. Common. July.

Lobelia inflata L.

Indian tobacco

Fields and thickets. Common. July.

CICHORIACEAE

Cichorium intybus L.

Chicory

Fields and roadsides. Frequent. August.

Tragopogon pratensis L.

Goat's beard

Frequent along railroads. Summer.

Tragopogon porrifolius L.

Oyster plant. Salsify

Escapes from cultivation. Summer.

Taraxacum taraxacum (L.) Karst.

T. officinale Weber

Dandelion

Fields and waste places. Very common. April-December.

Taraxacum erythrospermum Andrz.

Red-seeded dandelion

Fields and waste places. Common. Easily distinguished from the last by its brownish red seeds.

Sonchus oleraceus L.

Annual sow thistle

Waste places, specially along railroads. Common. June-October.

Sonchus asper (L.) All.

Spiny sow thistle

With the last. Common. June-October.

Lactuca virosa L.

Prickly lettuce

Waste places. Common. August-September. A very troublesome weed, which is fast spreading.

Lactuca canadensis L.

Tall lettuce

Thickets and fence rows. Common. July-September.

Lactuca villosa Jacq.

L. acuminata Gray

Blue lettuce

Thickets. Frequent. August.

Lactuca spicata (Lam.) Hitch.

L. leucophaea Gray

Tall blue lettuce

Moist soil. Common. August-September.

Hieracium aurantiacum L.

Orange hawkweed. Paint brush

Fields. It often forms dense patches. Common. June-September.

Hieracium praealtum Vill.

King devil

In a meadow near Apalachin. Rare. June-August.

Hieracium venosum L.

Rattlesnake weed

Dry woods and thickets. Common. June-August.

Hieracium canadense Michx.

Canada hawkweed

Dry woods and thickets. Frequent. August.

Hieracium paniculatum L.

Panicled hawkweed

Dry, open woods. Common. August.

Hieracium scabrum Michx.

Rough hawkweed

Dry soil in woods and clearings. Common. August.

Nabalus altissimus (L.) Hook.

Prenanthes altissima L.

Tall white lettuce

Woods and thickets. Common. August-October.

Nabalus albus (L.) Hook.

Prenanthes alba L.

White lettuce. Rattlesnake root

Thickets and borders of woods. Common. August-September.

Nabalus serpentarius (Pursh) Hook.

Prenanthes serpentaria Pursh

Lion's foot. Gall-of-the-earth

Thickets and open woods. Common. August-September.

AMBROSIACEAE

Ambrosia trifida L.

Great ragweed

Abundant along the river banks. August-September.

Ambrosia trifida integrifolia (Muhl.) T. & G.

With the type. Frequent.

Ambrosia artemisiaefolia L.

Ragweed. Hogweed

Cultivated soil and waste places. A very common weed. August-September.

Xanthium canadense Mill.

American cocklebur

River banks, along streams and in waste places. Common. August-September.

Xanthium strumarium L.

Bur weed

Waste places. Occasional. August-September.

COMPOSITAE

Eupatorium purpureum L.

Trumpetweed. Gravelroot

Moist soil. Common. August-September.

Eupatorium purpureum falcatum (Michx.) Britton

With the type, specially along the river.

Eupatorium perfoliatum L.

Boneset. Thoroughwort

Wet places. Common. August-September.

Eupatorium perfoliatum truncatum (Muhl.) Gray

Vicinity of Apalachin. Infrequent.

Eupatorium ageratoides L.f.

White snakeroot

Woods and thickets. Common. Occasional in shaded places near dwellings. August-September.

Solidago squarrosa Muhl.

Stout ragged goldenrod

Dry, rocky soil on hilltops and along roadsides. Common. September.

Solidago caesia L.

Blue-stemmed goldenrod

Woods and thickets. Common. August-September.

Solidago caesia axillaris (Pursh) Gray

Woods and thickets. Common.

Solidago flexicaulis L.

S. latifolia L.

Broad-leaved goldenrod

Rich, moist woods and thickets. Common. August-September.

Solidago bicolor L.

White goldenrod

Thickets and roadsides. Common. August-September.

Solidago hispida Muhl.

S. bicolor var. concolor T. & G.

Hairy goldenrod

Dry soil in thickets. Frequent. August-September.

Solidago rugosa Mill.

Rough goldenrod

Fields, fence rows and roadsides. Very common. August-September.

Solidago patula Muhl.

Rough-leaved goldenrod

Swamps at Apalachin and Barton. Infrequent. September.

Solidago ulmifolia Muhl.

Elm-leaved goldenrod

Woods, coppices and dry slopes. Infrequent. August-September.

Solidago juncea Ait.

Early goldenrod

Dry, rocky soil of fields and banks. Common. July. This is our earliest blooming species and is sometimes found in flower late in June.

Solidago arguta Ait.

Cut-leaved goldenrod

Moist thickets. Frequent. July-September.

Solidago serotina Ait.

Smooth goldenrod

Moist soil. Common. August-September.

Solidago serotina gigantea (Ait.) Gray

With the type and nearly as common. August-September.

Solidago canadensis L.

Canada goldenrod

Old fields, fence rows and roadsides. Abundant. August-September.

Solidago nemoralis Ait.

Field goldenrod

Poor, rocky soil in old fields. Very common. August-September.

Euthamia graminifolia (L.) Nutt.

Solidago lanceolata L.

Narrow-leaved goldenrod

Fields and roadsides. Very common. August.

Sericocarpus asteroides (L.) B. S. P.

S. conyzoides Nees

White-topped aster

Dry woods. Frequent. August.

Aster divaricatus L.

A. corymbosus Ait.

White wood aster

Open woodland and thickets. Common. September.

Aster curvescens Burgess

Dome-topped aster

Moist, shaded soil. Common. September.

Aster macrophyllus L.

Large-leaved aster

Woods and thickets. Common. August. A species having many different forms.

Aster ianthinus Burgess

Violet wood aster

Wooded banks and paths. Frequent. August-September.

Aster cordifolius L.

Common blue wood aster

Open woods, fence rows, thickets and specially along woodland roads. Common. September-November.

Aster cordifolius polycephalus Porter

With the type. Occasional.

Aster lowrieanus Porter

Lowrie's aster

Woods. Common. September-October.

Aster lowrieanus lancifolius Porter

With the type.

Aster undulatus L.

Wavy-leaf aster

Dry soil. Common. September.

Aster undulatus loriformis Burgess

With the type. Common. September.

Aster patens Ait.

Late purple aster

Dry, open places. Frequent. September.

Aster novae-angliae L.

New England aster

Fields and fence rows. Common. August-September. A splendid species.

Aster puniceus L.

Purple-stem aster

Swamps and wet places. Common. September.

Aster puniceus firmus (Nees) T. & G.

Aster puniceus var. laevicaulis Gray

With the type. Frequent. September.

Aster prenanthoides Muhl.

Crooked-stem aster

Moist soil. Common. September-October.

Aster laevis L.

Smooth aster

Borders of woods and thickets. Common. September. A beautiful species.

Aster acuminatus Michx.

Mountain aster

Moist woods. Common. August-September.

Aster paniculatus Lam.

Tall white aster

Moist soil. Common. September.

Aster ericoides L.

White heath aster

Dry soil. Common. September-November.

Aster lateriflorus (L.) Britton

A. diffusus Ait.

Starved aster

Fields, roadsides and thickets. Common. September.

Aster vimineus Lam.

Small white aster

Borders of thickets. Frequent. September.

Erigeron pulchellus Michx.

E. bellidifolius Muhl.

Robin's plantain

Banks. Common. May.

Erigeron philadelphicus L.

Philadelphia fleabane

Moist, grassy fields and woods. Common. May-June.

Erigeron annuus (L.) Pers.

Sweet scabious

Fields and roadsides. Common. May-October.

Erigeron ramosus (Walt.) B. S. P.

E. strigosus Muhl.

Daisy fleabane

A common weed in meadows. June-September.

Leptilon canadense (L.) Britton

Erigeron canadensis L.

Canada fleabane. Horseweed

A very common weed in fields and waste places. July-September.

Doellingeria umbellata (Mill.) Nees

Aster umbellatus Mill.

Tall flat-top white aster

Moist soil near Apalachin. August.

Doellingeria infirma (Michx.) Greene

Aster infirmus Michx.

Cornel-leaved aster

Dry, rocky soil in woods and thickets. Frequent. August-September.

Antennaria neglecta Greene

Field cat's-foot

Pastures. Common. April-May.

Antennaria plantaginifolia (L.) Richards.

Plantain-leaf everlasting

Woods and old fields. Common. April-May.

Anaphalis margaritacea (L.) B. & H.

Pearly everlasting

Old fields. Common. August.

Gnaphalium obtusifolium L.

G. polycephalum Michx.

White balsam

Dry, open places. Common. August.

Gnaphalium decurrens Ives

Clammy everlasting

Dry, open places. Common. August.

Gnaphalium uliginosum L.

Low cudweed

Damp soil, specially along roadsides. Common. August.

Inula helenium L.

Elecampane

Fields, roadsides and along streams in woods. Common. August.

Polymnia canadensis L.

Small-flowered leafcup

"Hog back" near Apalachin. Rare. August.

Heliopsis helianthoides (L.) B. S. P.

H. laevis Pers.

Oxeye

Common on the banks of the river and along streams. August.

Rudbeckia hirta L.

Black-eyed susan. Yellow daisy

Meadows and pastures. Common. June-August.

Rudbeckia laciniata L.

Tall coneflower

Damp soil in thickets. Common. July-August.

Helianthus annuus L.

Common sunflower

Waste places. Frequent. August.

Helianthus divaricatus L.

Rough sunflower

Dry thickets. Common. July-August.

Helianthus decapetalus L.

Thin-leaved sunflower

Along the river and in moist woods. Common. August-September.

Helianthus strumosus L.

Wood sunflower

Plentiful in a thicket near Apalachin. August-September.

Helianthus tuberosus L.

Jerusalem artichoke

River banks and waste places. Common. September. Apparently indigenous in the river valley.

Bidens laevis (L.) B. S. P.

B. chrysanthemoides Michx.

Larger bur marigold

Swamps, ditches and wet meadows. Common. August-September.

Bidens cernua L.

Smaller bur marigold

Wet soil. Common. August-September.

Bidens connata Muhl.

Swamp beggar ticks

Swamps and moist soil. Common. August-September.

Bidens frondosa L.

Beggar ticks. Stick-tight

Damp soil in fields. Very common. August-September.

Galinsoga parviflora Cav.

Galinsoga

Dooryards and waste places at Owego and Waverly. Plentiful. August-September.

Helenium autumnale L.

Sneezeweed

Banks of the river, along streams and in swamps. Common. September-October.

Achillea millefolium L.

Yarrow. Milfoil

Fields, pastures and roadsides. Common. June-September.

Anthemis cotula L.

Mayweed

Fields, waste places and roadsides. Common. June-September.

Anthemis arvensis L.

Corn camomile

Fields, specially on the river flats. Common. May-June.

Chrysanthemum leucanthemum L.

White daisy

Meadows and fields. Abundant. May-August.

Chrysanthemum parthenium (L.) Pers.

Common feverfew

Frequent in waste places at Apalachin. Summer. Escapes from cultivation in gardens.

Tanacetum vulgare L.

Tansy

Fields, roadsides and along streams. Common. August-September.

Artemisia absinthium L.

Wormwood

Waste places at Barton. July-September.

Artemisia vulgaris L.

Common mugwort

Waste places at Barton. July-September.

Tussilago farfara L.

Coltsfoot

Moist soil by roadsides. Infrequent. April-May.

Erechtites hieracifolia (L.) Raf.

Fireweed

Woodland and thickets, specially in recent clearings and burnt districts. Common. August-September.

Synosma suaveolens (L.) Raf.

Cacalia suaveolens L.

Sweet-scented Indian plantain

Alluvial soil and woods along the river. Frequent. September.

Senecio aureus L.

Golden ragwort. Liferoot

Swamps, wet meadows and along streams. Common. May-June.

Arctium lappa L.

Burdock

Waste places. Frequent. July-September.

Arctium minus Schk.

Common burdock

Waste places, specially about dwellings. Common. July-October.

Carduus lanceolatus L.

Cnicus lanceolatus Hoffm.

Common bur thistle

Fields and waste places. Common. July-October.

Carduus discolor (Muhl.) Nutt.

Cnicus altissimus var. discolor Gray

Field thistle

Plentiful in fields along the river. July-October.

Carduus odoratus (Muhl.) Porter

Cnicus pumilus Torr.

Pasture thistle. Fragrant thistle

Fields. Frequent. July-August.

Carduus muticus (Michx.) Pers.

Cnicus muticus Pursh

Swamp thistle

Swamps and along streams. Common. August.

Carduus arvensis (L.) Robs.

Cnicus arvensis Hoffm.

Canada thistle

Abundant in fields and waste places. July-September.

EXPLANATION OF PLATES

PLATE M

Hygrophorus subrufescens Pk.

Reddish Hygrophorus

1, 2 Two plants with convex cap
3, 4 Two plants with margin of cap curved upward
5 Vertical section of the upper part of a mature plant
6 Four spores × 400

Collybia uniformis Pk.

Uniform Collybia

7 Cluster of four plants growing from the upper surface of a piece of wood, two of them young, two mature
8 Cluster of three mature plants growing from the lateral surface of a piece of wood
9-11 Three mature plants, one with curved stem
12 Vertical section of the upper part of a mature plant with fully expanded cap
13 Transverse section of a stem
14 Vertical section of the upper part of a plant with convex cap
15 Transverse section of a compressed stem
16 Four spores × 400

Mycena rugosoides Pk.

WRINKLED MYCENA

17-19 Three plants with dark brown caps, two moist, one dry, two with caps umbonate
20 Vertical section of the upper part of a plant
21 Transverse section of a stem
22 Four spores × 400
23-25 Three plants with grayish brown caps, one moist, two dry, two with caps umbonate
26 Vertical section of the upper part of a plant
27 Transverse section of a stem
28 Four spores × 400
29-31 Three plants with whitish caps, one moist, two dry, two with caps umbonate
32 Vertical section of the upper part of a plant
33 Transverse section of a stem
34 Four spores × 400

Flammula pusilla Pk.

SMALL FLAMMULA

35, 36 Two immature plants
37 Mature plant with convex cap
38 Mature plant with plane cap
39 Vertical section of the upper part of an immature plant
40 Vertical section of the upper part of a mature plant
41 Four spores × 400

PLATE N

Russula magnifica Pk.

MAGNIFICENT RUSSULA

1 Small immature plant
2 Mature plant of medium size
3 Vertical section of the upper part of a mature plant
4 Four spores × 400

Russula earlei Pk.

EARLE'S RUSSULA

5 Immature plant
6, 7 Mature plants with convex caps
8 Mature plant with cap nearly plane
9 Vertical section of the upper part of a plant
10 Four spores × 400

PLATE 82

Tricholoma silvaticum Pk.

WOOD TRICHOLOMA

1, 2 Two plants with umbonate caps
3 Plant with convex cap
4 Plant with plane cap
5 Vertical section of the upper part of a plant
6 Four spores × 400

Tricholoma subacutum Pk.

SUBACUTE TRICHOLOMA

7 Immature plant with grayish brown cap
8 Mature plant with grayish brown cap
9-11 Three plants with blackish brown fibrillose caps
12 Vertical section of the upper part of an immature plant
13 Vertical section of the upper part of a mature plant
14 Four spores × 400

Tricholoma radicatum Pk.

ROOTED TRICHOLOMA

15, 16 Two plants with smoothish caps
17 Plant with minutely scaly cap
18 Vertical section of the upper part of a plant
19 Four spores × 400

PLATE 83

Hygrophorus pudorinus Fr.

BLUSHING HYGROPHORUS

1 Cluster of four young plants
2 Mature plant with convex cap
3 Mature plant with slightly umbonate cap
4 Vertical section of the upper part of a young plant
5 Vertical section of the upper part of a mature plant
6 Four spores × 400

Lactarius luteolus Pk.

YELLOWISH LACTARIUS

7 Immature plant
8 Mature plant with even cap
9 Mature plant with cap rugose
10 Vertical section of the upper part of a plant
11 Four spores × 400

Lactarius subdulcis Fr.

SWEET LACTARIUS

12 Immature plant
13-15 Mature plants, two having caps with a small umbo
16 Mature plant with margin of cap wavy
17 Vertical section of the upper part of a plant
18 Transverse section of a stem
19 Four spores × 400

Lactarius subdulcis oculatus Pk.

EYE-SPOT LACTARIUS

20 Immature plant
21, 22 Mature plants
23 Vertical section of the upper part of a plant
24 Four spores × 400

PLATE 84

Russula crustosa Pk.

CRUSTED RUSSULA

1 Immature plant
2 Mature plant with striated margin of cap
3 Mature plant with even margin of cap tinged with green
4 Mature plant with plane cap
5 Vertical section of the upper part of a young plant
6 Vertical section of the upper part of a mature plant
7 Four spores × 400

Cantharellus dichotomus Pk.

FORKED CHANTARELLE

8-10 Three plants with dark gray umbonate caps, two of them with reddish stains on the stems
11, 12 Two plants with pale gray caps, one with a small umbo
13 Plant with a grayish brown, wavy, margined cap
14, 15 Vertical sections of the upper part of two plants
16 Four spores × 400
17-20 Four plants with short stems
21 Diagrammatic representation of the forking of the gills

FUNGI

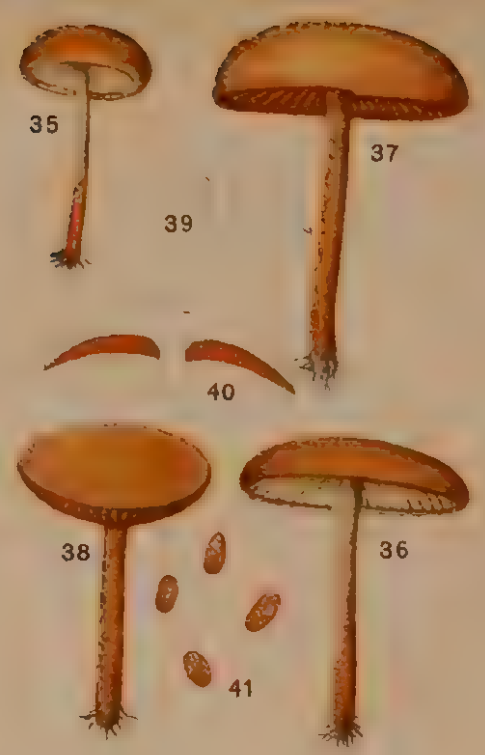
FIG. 1-6 HYGROPHORUS SUBRUFESCENS PK.
REDDISH HYGROPHORUS

FIG. 17-34 MYCENA RUGOSOIDES PK.
WRINKLED MYCENA

FIG. 7-16 COLLYBIA UNIFORMIS PK.
UNIFORM COLLYBIA

FIG. 35-41 FLAMMULA PUSILLA PK.
SMALL FLAMMULA

THE ARGUS CO., STATE PRINTERS



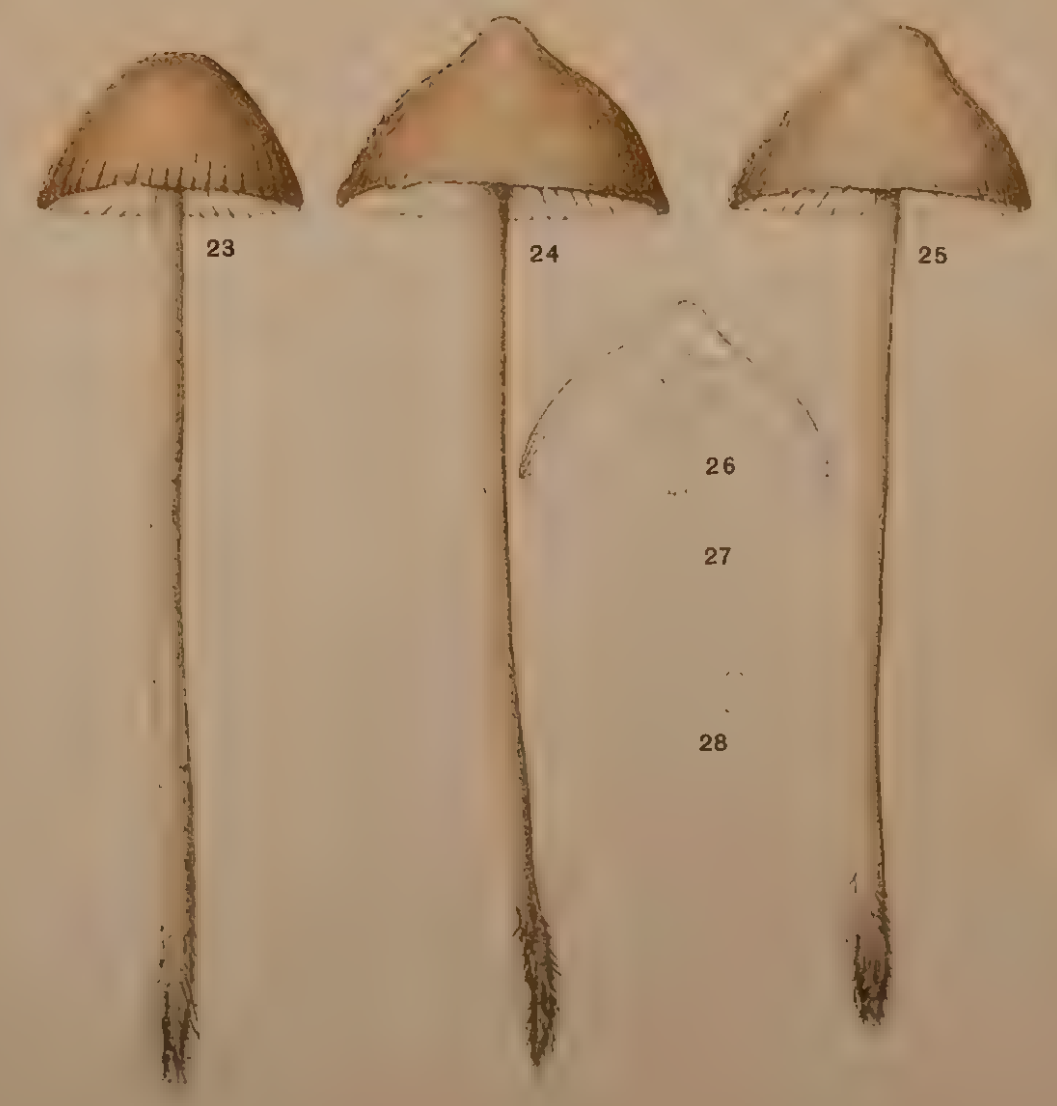


FIG. 1-6 HYGROPHORUS SUBRUFESCENS PK.
REDDISH HYGROPHORUS

FIG. 17-34 MYCENA RUGOSOIDES PK.
WRINKLED MYCENA

FIG. 7-16 COLLYBIA UNIFORMIS PK.
UNIFORM COLLYBIA

FIG. 35-41 FLAMMULA PUSILLA PK.
SMALL FLAMMULA

THE ARGUS CO., STATE PRINTERS

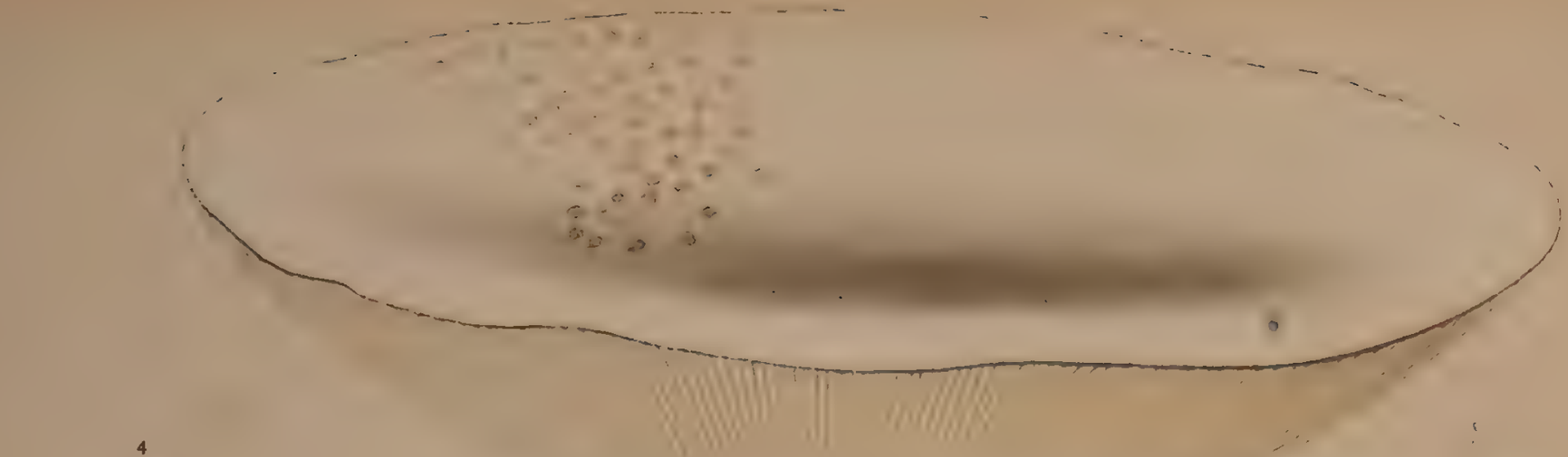


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FIG. 1-4 RUSSULA MAGNIFICA PK.
MAGNIFICENT RUSSULA

FIG. 5-10 RUSSULA EARLEI PK.
EARLE'S RUSSULA

THE ARGUS CO., STATE PRINTERS

FIG. 1-4 RUSSULA MAGNIFICA PK.
MAGNIFICENT RUSSULA

FIG. 5-10 RUSSULA EARLEI PK.
EARLE'S RUSSULA

THE ARGUS CO., STATE PRINTERS

EDIBLE FUNGI

FIG. 1-6 TRICHOLOMA SILVATICUM PK.
WOOD TRICHOLOMA

FIG. 7-14 TRICHOLOMA SUBACUTUM PK.
SUBACUTE TRICHOLOMA

FIG. 15-19 TRICHOLOMA RADICATUM PK.
ROOTED TRICHOLOMA

FIG. 1-6 TRICHOLOMA SILVATICUM PK.
WOOD TRICHOLOMA

FIG. 7-14 TRICHOLOMA SUBACUTUM PK.
SUBACUTE TRICHOLOMA

FIG. 15-19 TRICHOLOMA RADICATUM PK.
ROOTED TRICHOLOMA

EDIBLE FUNGI

FIG 1-6 HYGROPHORUS PUDORINUS FR.
BLUSHING HYGROPHORUS

FIG. 12-19 LACTARIUS SUBDULCIS FR.
SWEET LACTARIUS

FIG. 7-11 LACTARIUS LUTEOLUS PK.
YELLOWISH LACTARIUS

FIG. 20-24 LACTARIUS SUBDULCIS OCULATUS PK.
EYE SPOT LACTARIUS

THE ARGUS CO., STATE PRINTERS

EDIBLE FUNGI

FIG 1-6 HYGROPHORUS PUDORINUS FR.
BLUSHING HYGROPHORUS

FIG. 12-19 LACTARIUS SUBDULCIS FR.
SWEET LACTARIUS

FIG. 7-11 LACTARIUS LUTEOLUS PK.
YELLOWISH LACTARIUS

FIG. 20-24 LACTARIUS SUBDULCIS OCULATUS PK.
EYE SPOT LACTARIUS

THE ARGUS CO., STATE PRINTERS

EDIBLE FUNGI

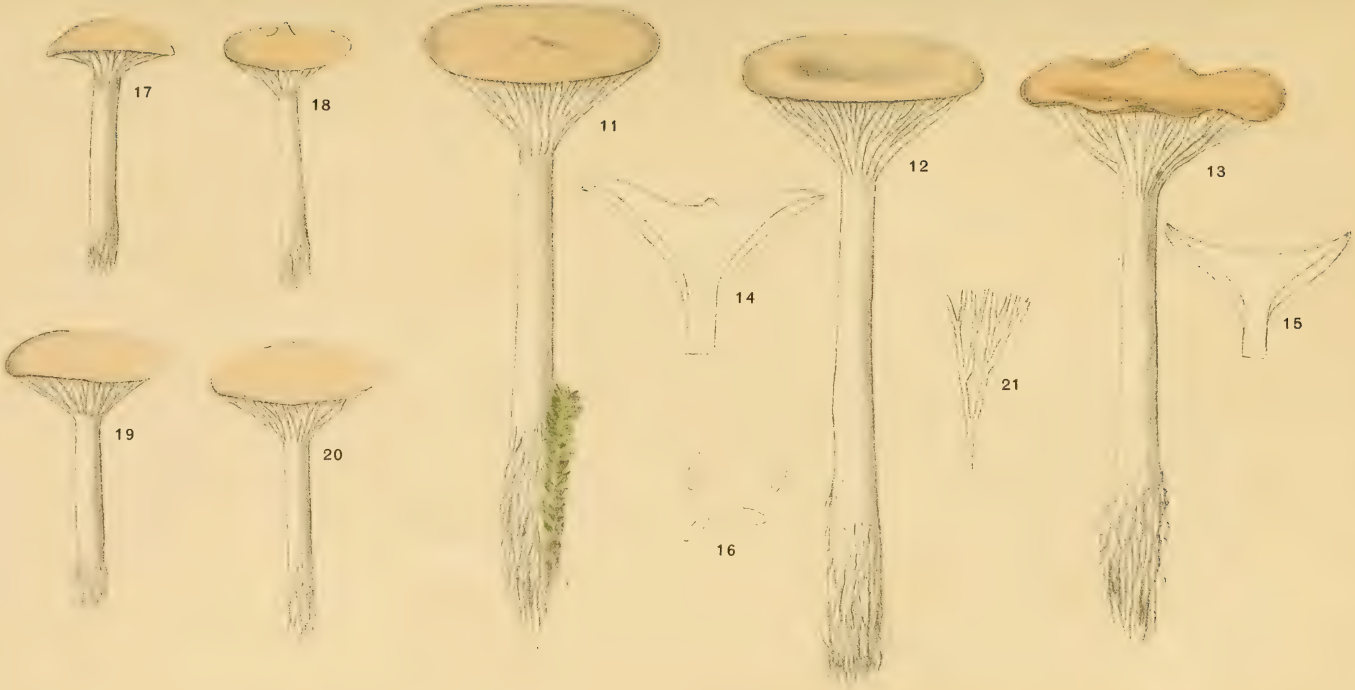

FIG. 1-7 RUSSULA CRUSTOSA PK.
CRUSTED RUSSULA

FIG. 8-21 CANTHARELLUS DICHOTOMUS PK.
FORKED CHANTARELLE

THE ARGUS CO., STATE PRINTERS

EDIBLE FUNGI

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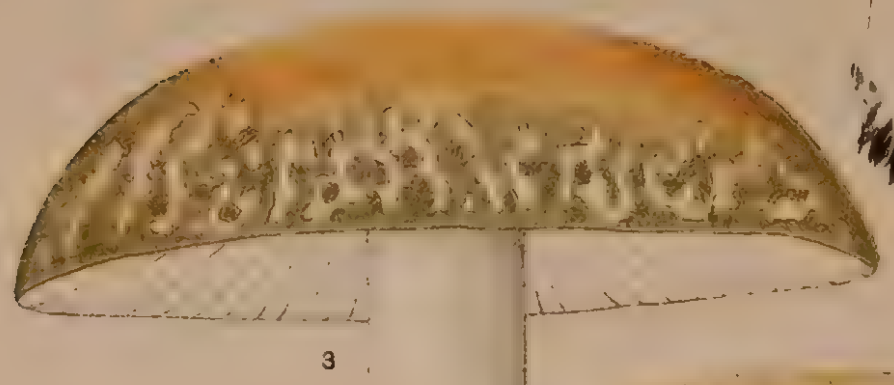
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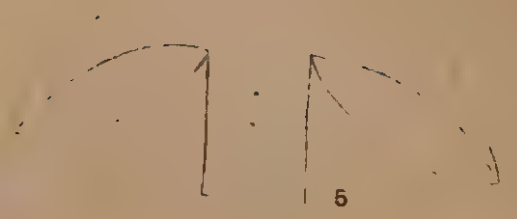
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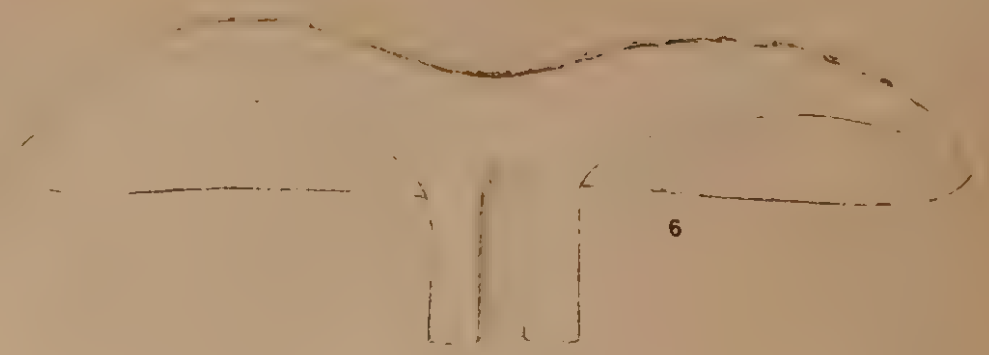
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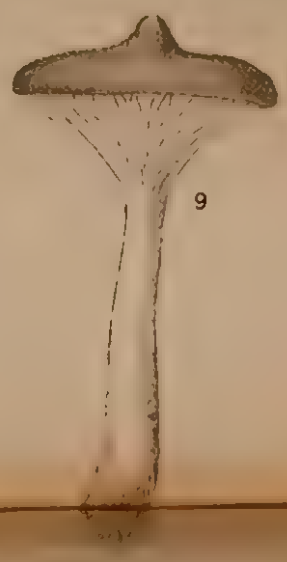
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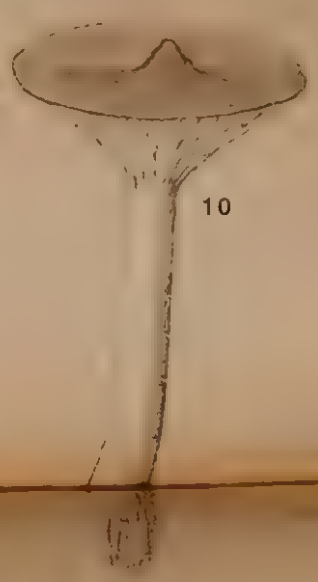
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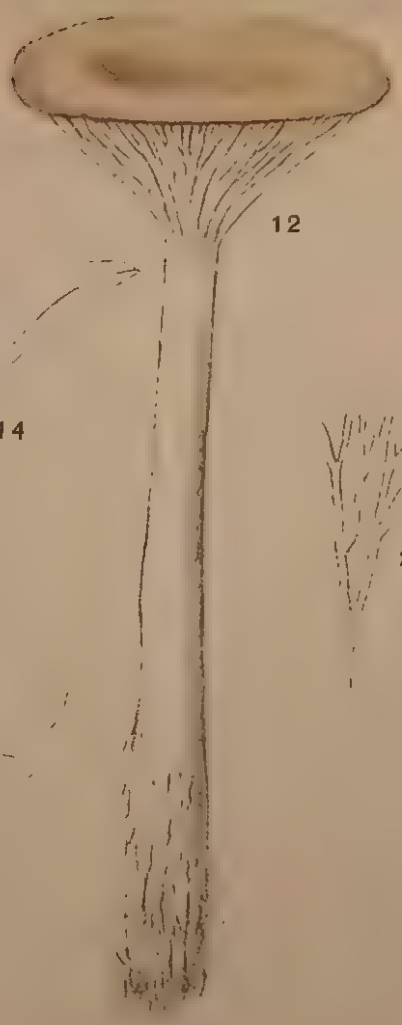
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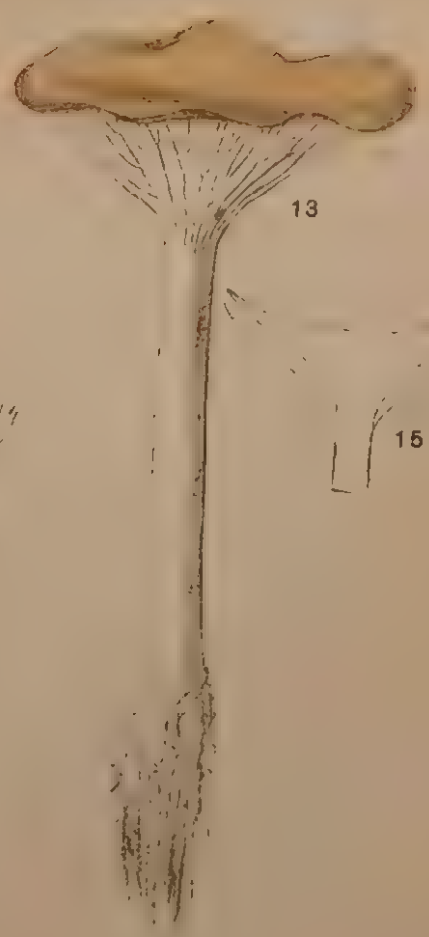
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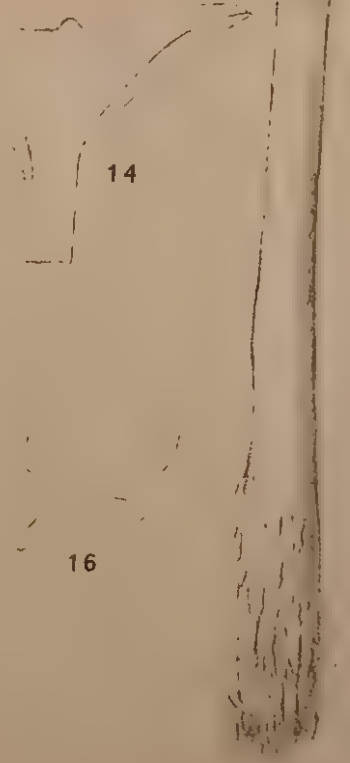
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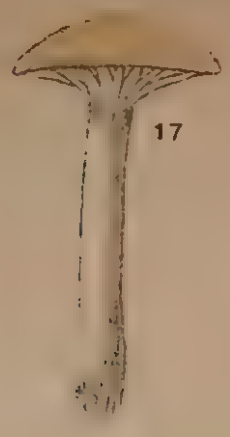
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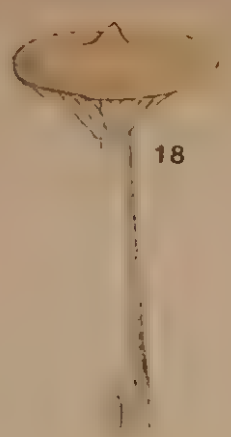
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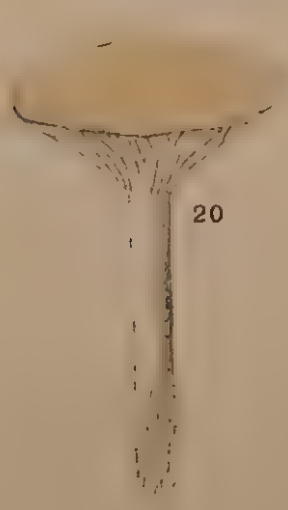
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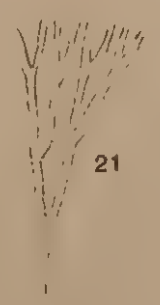
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Fig. 1-7 RUSSULA CRUSTOSA PK.
CRUSTED RUSSULA

Fig. 8-21 CANTHARELLUS DICHOTOMUS PK.
FORKED CHANTARELLE

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Separate reports 25–28, 30, 42–50 and 52 (Museum bulletin 25) are out of print. Report 51 may be had for 40c; 53 for 20c; 54 for 50c; 55 (Museum bulletin 54) for 40c. Since 1901 these reports have been issued as bulletins.

Descriptions and illustrations of edible, poisonous and unwholesome fungi of New York have been published in volumes 1 and 3 of the 48th museum report and in volume 1 of the 49th, 51st, 52d, 54th and 55th reports. The descriptions and illustrations of edible and unwholesome species contained in the 49th, 51st and 52d reports have been revised and rearranged, and combined with others more recently prepared, and constitute Museum memoir 4.

Entomologist's annual reports on the injurious and other insects of the State of New York 1882–date.

Reports 3–17 bound also with museum reports 40–46, 48–55 of which they form a part. Since 1898 these reports have been issued as bulletins. Reports 3–4 are out of print, other reports with prices are:

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Reports 2, 8–12 may also be obtained bound separately in cloth at 25c in addition to the price given above.

36 (E10) Felt, E. P. 16th Report of the State Entomologist 1900. 118p. 16pl. Mar. 1901. *25c.*

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37 (E11) —— Catalogue of Some of the More Important Injurious and Beneficial Insects of New York State. 54p. il. Sep. 1900 *10c.*

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——Value of Amnigenia as an Indicator of Fresh-water Deposits during the Devonic of New York, Ireland and the Rhineland.

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—— Geologic Map of New York. 1901. Scale 5 miles to 1 inch. *In atlas form $3; mounted on rollers $5. Lower Hudson sheet 60c.*
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