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## **Transactions of the Wisconsin Academy of Sciences, Arts and Letters. volume XVII, Part II, No. 2 1914**

Madison, Wis.: Wisconsin Academy of Sciences, Arts and Letters, 1914

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TRANSACTIONS  
OF THE  
WISCONSIN ACADEMY  
OF  
SCIENCES, ARTS, AND LETTERS

VOL. XVII, PART II, NO. 2

MADISON, WISCONSIN

1914

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The annual half-volume of the Transactions of the Wisconsin Academy of Sciences, Arts, and Letters is issued in six numbers, under the editorial supervision of the Secretary.

The price of this number is 50c.



A PROVISIONAL LIST OF PARASITIC FUNGI IN  
WISCONSIN.

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J. J. DAVIS.

The first enumeration of Fungi of Wisconsin of which I have knowledge, was published in the Report of the Geological Survey of Wisconsin 1873-9. It was prepared by A. F. Bundy, M. D., and about thirty of the species there listed are parasitic. As Dr. Bundy's collections were afterwards destroyed by fire this list has not been taken into account in subsequent enumerations. In the Transactions of the Wisconsin Academy of Science, Arts and Letters, vol. 6, 106-144 (1884) a Preliminary List of Parasitic Fungi of Wisconsin appeared which was prepared by William Trelease, S. D., at that time Professor of Botany in the University of Wisconsin. Lists supplementary to this, prepared by the writer, were published through the same medium in vols. 9, 153-188 (1893) 11, 165-178 (1897) 14, 83-106 (1903) and 16, 739-772 (1909). A demand having arisen for the replacement of these lists, some of which are now unobtainable, by a single list with a single host index, which should embody the present knowledge of the parasitic fungus flora of the state, the following enumeration has been made. It is a compilation of the Preliminary List of Dr. Trelease and the lists supplementary thereto with some changes that seem necessary to bring it more nearly into accord with present knowledge and practise. The opportunity has been used for additions founded upon material collected since the last supplementary list was issued.

The specimens upon which the previous lists were founded are in part in the herbarium of Dr. Trelease at the Missouri

Botanical Garden, St. Louis, Mo., and in part in my own herbarium which is now at the University of Wisconsin, with a few exceptions noted in the original entries. The more recent additions are based on specimens in the herbarium of the University of Wisconsin or in that of the Wisconsin Agricultural Experiment Station, or in both. The nomenclature of the hosts is that of Gray's New Manual of Botany, 7th edition and emendations made by the authors of the Manual in *Rhodora* 11, 33-61, (March, 1909). The authorities for the host names have been omitted as they can readily be found, if desired, in these publications. The arrangement of the species under the genera is in the order in which the hosts appear in the classification and under each species its hosts are enumerated in the same order.

As some time may elapse before another general list is attempted this one has been made as concise as possible; all extraneous matter in the way of notes and comments, which might later become superfluous, being rigidly excluded.

It is hoped that this list will be of service both to those to whom the parasitic fungi are interesting forms of life with peculiar vital relations and to those who view them more especially as disease-producing organisms and that with this new point of departure the acquisition of knowledge of the parasitic fungus flora of Wisconsin will be accelerated.

Corrections and additions will be gratefully received with a view to future publication. I wish to thank Dr. J. C. Arthur and Dr. F. D. Kern of Purdue University for expert assistance in the *Uredinales*.

University of Wisconsin Herbarium,

Madison, Wisconsin.

March, 1912.

PHYCOMYCETES

CHYTRIDIACEAE

SYNCHYTRIUM SCIRPI Davis

On *Scirpus atrovirens*

SYNCHYTRIUM ASARI Arth. & Hol.

On *Asarum canadense*

SYNCHYTRIUM AUREUM Schroet.

On *Ranunculus recurvatus*

*Viola pubescens*

*Geum virginianum*

*canadense*

*Pedicularis canadensis*

*Prenanthes alba*

SYNCHYTRIUM ANEMONES (DC.) Wor.

On *Anemone quinquefolia*

SYNCHYTRIUM DECIPIENS Farl.

On *Amphicarpa monoica*

PHYSODERMA MENYANTHIS DBY.

On *Menyanthes trifoliata*

CLADOCHYTRIUM MACULARE (Wallr.)

On *Alisma Plantago-aquatica*

UROPHLYCTIS MAJOR Schroet.

On *Rumex verticillatus*

UROPHLYCTIS PLURIANNULATA (B. & C.) Farl.

On *Sanicula marylandica*

*gregaria*

*Zizia aurea*

OLPIDIOPSIS SAPROLEGNIAE (Cornu) A. Fisch.

On *Saprolegnia thuretii*

ENTOMOPHTHORACEAE

EMPUSA AMERICANA Thaxt.

On a blue bottle fly.

**EMPUSA APHIDIS** Hoffman

On various aphides

**EMPUSA CULICIS** A. Braun

On *Chironomus*

**EMPUSA MUSCAE** Cohn.

On house flies

**EMPUSA RHIZOPHORA** Thaxt.

On caddis flies

**EMPUSA SCIARAE** Olive

On *Sciara*

**EMPUSA GRILLI** Fres.

On *Caloptenus*

SAPROLEGNIACEAE

**SAPROLEGNIA THURETII** DBy.

On dead flies

PERONOSPORACEAE

**ALBUGO BLITI** (Biv.) O. Kuntze

On *Amaranthus retroflexus*

*hybridus*

*blitoides*

*Acnida tuberculata*

**ALBUGO PORTULACAE** (DC.) O. Kuntze

On *Portulaca oleracea*

**ALBUGO CANDIDA** (Pers.) O. Kuntze

On *Lepidium virginicum*

*Capsella Bursa-pastoris*

*Cakile edentula*

*Raphanus sativus* (cult.)

*caudatus* (cult.)

*Brassica alba* (cult.)

*nigra*

*Sisymbrium officinale*

*Radicula palustris*

*Cardamine douglassii*



**ALBUGO TRAGOPOGONIS (DC.) S. F. Gray**

- On *Iva xanthifolia*  
*Ambrosia artemisiaefolia*  
*Artemisia biennis*  
*Helianthus annuus*  
*Senecio aureus*  
*Cirsium muticum*  
*arvense*  
*Tragopogon pratensis*  
*porrifolius* (cult.)

**PHYTOPHTHORA THALICTRI Wilson & Davis**

- On *Thalictrum revolutum*  
*dasycarpum*

**PHYTOPHTHORA INFESTANS (Mont.) DBY.**

- On *Solanum tuberosum* (cult.)

**BREMIA LACTUCAE Regel**

- On *Lactuca sativa* (cult.)  
*canadensis*  
*spicata*

**PLASMOPARA HUMULI (Miyake & Takashashi)**

- On *Humulus Lupulus*

**PLASMOPARA PYGMAEA (Unger) Schroet.**

- On *Hepatica acutiloba*  
*Anemone canadensis*  
*quinquefolia*

**PLASMOPARA RIBICOLA Schroet.**

- On *Ribes cynosbati*  
*oxyacanthoides*  
*prostratum*  
*triste*

**PLASMOPARA GERANII (Pk.) Berl. & De Toni**

- On *Geranium maculatum*

**PLASMOPARA OBDUCENS Schroet.**

- On *Impatiens pallida*  
*biflora*

PLASMOPARA VITICOLA (B. & C.) Berl. & De Toni

On *Psedera* sp. *indet.*

*Vitis labrusca* (cult.)

*vulpina*

*spp. indet.*

PLASMOPARA AUSTRALIS (Speg.) Swingle

On *Sicyos angulatus*

PLASMOPARA HALSTEDII (Farl.) Berl. & De Toni

On *Eupatorium urticaefolium*

*Solidago riddellii*

*Erigeron annuus*

*Silphium terebinthinaceum*

*trifoliatum*

*integrifolium*

*perfoliatum*

*Ambrosia artemisiaefolia*

*trifida*

*Rudbeckia laciniata*

*Helianthus annuus*

*occidentalis*

*grosse-serratus*

*divaricatus*

*strumosus*

*tuberosus*

*Bidens frondosa*

*vulgata*

*connata*

*cernua*

*aristosa*

*Erechtites hieracifolia*

PERONOSPORA SCHLEIDENI Unger

On *Allium Cepa* (cult.)

PERONOSPORA URTICAE (Lib.) DBY.

On *Urtica gracilis*

PERONOSPORA POLYGONI Thuem.

On *Polygonum scandens*

PERONOSPORA EFFUSA (Grev.) Rabh.

On *Chenopodium hybridum*

*album*

PERONOSPORA OBOVATA Bon.

On *Spergula arvensis*

PERONOSPORA ALSINEARUM Caspary

On *Cerastium nutans*

PERONOSPORA FICARIAE Tul.

On *Ranunculus fascicularis*  
*pennsylvanicus*  
*septentrionalis*

PERONOSPORA CORYDALIS DBY.

On *Dicentra cucullaria*

PERONOSPORA PARASITICA (Pers.) Tul.

On *Draba caroliniana*  
*Lepidium virginicum*  
*Raphanus sativus* (cult.)  
*Brassica nigra*  
*arvensis*  
*Radix palustris*  
*Dentaria laciniata*  
*Cardamine douglassii*  
*Arabis laevigata*

PERONOSPORA POTENTILLAE DBY.

On *Potentilla monspeliensis*  
*Geum canadense*  
*macrophyllum*  
*strictum*  
*rivale*  
*Agrimonia parviflora*

PERONOSPORA RUBI Rabh.

On *Rubus canadensis*

PERONOSPORA TRIFOLIORUM DBY.

On *Medicago sativa* (cult.)

PERONOSPORA VICIAE (Berk.) DBY.

On *Pisum sativum* (cult.)  
*Vicia americana?*

PERONOSPORA EUPHORBIAE Fckl.

On *Acalypha virginica?*  
*Euphorbia maculata*

**PERONOSPORA FLOERKEAE** Kell.

On *Floerkea proserpinacoides*

**PERONOSPORA ARTHURI** Farl.

On *Oenothera biennis*

**PERONOSPORA HYDROPHYLLI** Waite.

On *Hydrophyllum virginianum*

**PERONOSPORA LOPHANTHI** Farl.

On *Agastache scrophulariaefolia*

**PERONOSPORA HEDEOMAE** Kell. & Sw.

On *Dracocephalum parviflorum*

**PERONOSPORA SORDIDA** B. & Br.

On *Scrophularia marilandica*

**PERONOSPORA GRISEA** Unger

On *Veronica Anagallis-aquatica*

*peregrina*

*arvensis*

**PERONOSPORA ALTA** Fckl.

On *Plantago major*

*Rugelii*

**PERONOSPORA CALOTHECA** D By.

On *Galium Aparine*

*lanceolatum*

*boreale*

*triflorum*

**PERONOSPORA LEPTOSPERMA** DBy.

On *Artemisia biennis*

**BASIDIOPHORA ENTOSPORA** Roze & Cornu

On *Aster Novae-angliae*

*Drummondii*

*puniceus*

*Solidago rigida*

**SCLEROSPORA GRAMINICOLA** (Sacc.) Schroet.

On *Setaria viridis*

*italica*

PROTOMYCETALES

PROTOMYCES FUSCUS Pk.

On *Hepatica triloba*  
*acutiloba*

PROTOMYCES ANDINUS Pat.

On *Ambrosia trifida*  
*artemisiaefolia*  
*Bidens frondosa*  
*connata*  
*cernua*

ASCOMYCETES

PYRENOMYCETALES

PERISPORIACEAE

PODOSPHAERA OXYACANTHAE (DC.) DBy.

On *Spiraea salicifolia*  
*tomentosa*  
*Pyrus coronaria*  
*Crataegus oxyacantha*  
*spp. indet.*  
*Prunus virginiana*  
*pennsylvanica*  
*pumila*  
*americana*  
*spp. indet. (cult.)*

PODOSPHAERA BIUNCINATA Cke. & Pk.

On *Hamamelis virginiana*

PODOSPHAERA LEUCOTRICHA (E. & E.) Salm.

On *Pyrus Malus*

SPHAEROTHECA MORS-UVAE (Schw.) B. & C.

On *Ribes cynosbati*  
*americanum*

SPHAEROTHECA HUMULI (DC.) Burr.

On *Mitella diphylla*

*Physocarpus opulifolius*

*Potentilla palustris*

*Geum canadense*

*virginianum*

*macrophyllum*

*Rubus idaeus aculeatissimus*

*triflorus*

*parviflorus*

*Agrimonia gryposepala*

*striata*

*sp. indet.*

*Rosa spp. indet.*

*Rhus typhina*

*glabra*

*Epilobium coloratum*

SPHAEROTHECA HUMULI (DC.) Burr. var. FULIGINEA

(Schlecht.) Salm.

On *Agastache scrophulariaefolia*

*Prunella vulgaris*

*Veronica virginica*

*serpyllifolia*

*Gerardia grandiflora*

*Pedicularis lanceolata*

*Plantago major*

*Bidens frondosa*

*connata*

*aristosa*

*Erechtites hieracifolia*

*Taraxacum officinale*

*Prenanthes alba*

UNCINULA SALICIS (DC.) Wint.

On *Salix spp. varii*

*Populus spp. varii*

UNCINULA NECATOR (Schw.) Burr.

On *Psedera sp. indet.*

*Vitis spp. varii*

UNCINULA CIRCINATA Cke. & Pk.

On *Acer Saccharum*  
*saccharinum*  
*rubrum*

UNCINULA MACROSPORA Pk.

On *Ulmus americana*

UNCINULA CLINTONII Pk.

On *Tilia americana*

MICROSPHAERA ALNI (Wallr.) Wint.

On *Corylus americana*  
*rostrata*  
*Carpinus caroliniana*  
*Betula pumila glandulifera*  
*Fagus grandifolia*  
*Quercus alba*  
*macrocarpa*  
*rubra*  
*ellipsoidalis*  
*Lathyrus palustris*  
*venosus*  
*ochroleucus*  
*Ilex verticillata*  
*Nemopanthus mucronata*  
*Ceanothus americanus*  
*Cornus alternifolia*  
*Syringa vulgaris* (cult.)  
*Cephalanthus accidentalis*  
*Lonicera tatarica* (cult.)  
*sullivantii*  
*dioica*  
*Viburnum acerifolium*  
*pubescens*  
*Lentago*

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var. EXTENSA (C. & P.) Salm.

On *Quercus rubra*

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var. VACCINII (Schw.) Salm.

On *Kalmia polifolia*  
*Epigaea repens*  
*Gaylussacia baccata*  
*Vaccinium pennsylvanicum*  
*canadense*

**MICROSPHAERA EUPHORBIAE (Pk.) B. & C.**

On *Euphorbia corollata*

**MICROSPHAERA GROSSULARIAE (Wallr.) Lev.**

On *Sambucus canadensis*  
*racemosa*

**MICROSPHAERA DIFFUSA Cke. & Pk.**

On *Desmodium canescens*  
*paniculatum*  
*canadense*  
*Lespedeza violacea*

**MICROSPHAERA RUSSELLII Clint.**

On *Oxalis "stricta"*  
*corniculata*

**ERYSIPHE GRAMINIS DC.**

On *Poa pratensis*  
*Agropyron repens*  
*Gramineae varii*

**ERYSIPHE AGGREGATA (Pk.) Parl.**

On catkins of *Alnus incana*

**ERYSIPHE POLYGONI DC.**

On *Polygonum aviculare*  
*Ranunculus delphinifolius*  
*abortivus*  
*acris*  
*Thalictrum dasycarpum*  
*Clematis virginiana*  
*Caltha palustris*  
*Aquilegia canadensis*  
*Parnassia caroliniana*  
*Lupinus perennis*  
*Astragalus canadensis*  
*Lathyrus venosus*  
*ochroleucus*  
*Amphicarpa monoica*  
*Geranium maculatum*

**ERYSIPHE GALEOPSISIDIS DC.**

*Stachys tenuifolia aspera*  
*Chelone glabra*



ERYSIPHE CICHORACEARUM DC.

- On *Parietaria pennsylvanica*  
*Phlox paniculata*  
*divaricata*  
*Drummondii*  
*Hydrophyllum virginianum*  
*Lappula virginiana*  
*Verbena urticaefolia*  
*Teucrium canadense*  
*Scutellaria lateriflora*  
*galericulata*  
*parvula*  
*Plantago major*  
*Rugelii*  
*Eupatorium purpureum*  
*perfoliatum*  
*urticaefolium*  
*Solidago canadensis*  
*Aster divaricatus*  
*drummondii*  
*laevis*  
*lateriflorus*  
*puniceus*  
*umbellatus*  
*Inula Helenium*  
*Ambrosia artemisiaefolia*  
*Xanthium sp. indet.*  
*Helopsis scabra*  
*Helianthus strumosus*  
*Dahlia sp. indet. (cult.)*  
*Helenium autumnale*  
*Oirsium discolor*

PHYLLACTINIA CORYLEA (Pers.) Karst.

- On *Carya sp. indet.*  
*Corylus americana*  
*Ostrya virginiana*  
*Carpinus caroliniana*  
*Betula alba papyrifera*  
*Alnus incana*  
*Fagus grandifolia*  
*Quercus sp. indet.*  
*Hamamelis virginiana*  
*Crataegus sp. indet.*

*Zanthoxylum americanum*  
*Celastrus scandens*  
*Acer Saccharum*  
*Cornus stolonifera*  
*Fraxinus pennsylvanica*

DIMEROSPORIUM COLLINSII (Schw.) Thuem.  
On *Amelanchier* spp. *indet.*

DIMEROSPORIUM CONGLOBATUM (B. & C.) Ell. & Evht.  
On *Arctostaphylos Uva-ursi*

PARODIELLA PERISPORIODES (B. & C.) Speg.  
On *Desmodium grandiflorum*

SPHAERIACEAE

GNOMONIELLA CORYLI (Batsch) Sacc.  
On *Corylus americana*  
*rostrata*

GNOMONIELLA FIMBRIATA (Pers.) Sacc.  
On *Carpinus caroliniana*

PHYSALOSPORA AMBROSIAE Ell. & Evht.  
On *Ambrosia trifida*  
*artemisiifolia*

CRYPTOSPORELLA ANOMALA (Pk.) Sacc.  
On *Corylus americana*

SPHAERELLA ZIZANIAE (Schw.) Ellis  
On *Leersia oryzoides*

SPHAERELLA FRAGARIAE (Tul.) Sacc.  
On *Fragaria virginiana*  
*vesca*

VENTURIA PULCHELLA  
On *Chamaedaphne calyculata*

VENTURIA DICKIEI (B. & Br.) Ces. & De Not.  
On *Linnaea borealis*

HYPOCREACEAE

HYPOMYCES LATERITIUS (Fr.) Tul.

On *Lactarius zonarius*  
*sp. indet.*

HYPOMYCES TORMINOSUS (Mont.) Tul.

On *Lactarius torminosus*

HYPOMYCES VIRIDIS (A. & S.) Sacc.

On an undetermined mushroom

HYPOMYCES LACTIFLUORUM (Schw.) Tul.

On *Russula delica* Fr.

HYPOMYCES CHRYSOSPERMUS Tul.

On *Boletus scaber*  
*chryserveron*  
*subtomentosus*

HYPOMYCES AURANTIUS (Pers.) Tul.

On *Polyporus frondosus*

HYPOMYCES POLYPORINUS

On *Polyporus versicolor*

HYPOCREA AURANTIACA Pk.

On *Polyporus chioneus*

CLAVICEPS PURPUREA (Fr.) Tul.

On *Secale cereale* (cult.)  
*Triticum vulgare* (cult.)  
(Sclerotia only)

CLAVICEPS SP. INDET.

On *Zizania palustris*  
*Phalaris arundinacea*  
*Oryzopsis racemosa*  
*Phleum pratense*  
*Agrostis hyemalis*  
*Calamagrostis canadensis*  
*Koeleria cristata*  
*Poa compressa*  
*Glyceria nervata*  
*Glyceria septentrionalis*

*Agropyron repens*  
*Elymus canadensis*  
*striatus*  
(Sclerotia only)

CLAVICEPS NIGRICANS Tul.

On *Eleocharis sp. indet.*  
(Sclerotia only)

CLAVICEPS JUNCI Adams

On *Juncus nodosus*  
(Sclerotia only)

CORDYCEPS CAPITATA (Holmsk.) Lk.

On *Elaphomyces sp. indet*

CORDYCEPS HERCULEA (Schw.) Ell. & Evht.

On larvae of *Lachnosterna?*

CORDYCEPS MILITARIS (L.) Lk.

"On pupae of small moths (?)"

EPICHLOE TYPHINA (Pers.) Tul.

On *Andropogon furcatus*  
*Calamagrostis canadensis*  
*Koeleria cristata*  
*Elymus sp. indet.*  
*Hystrix patula*

HYPOCRELLA SP. INDET.

On *Podophyllum peltatum*  
*Eupatorium urticaefolium*

DOTHIDEACEAE

BALANSIA HYPOXYLON (Pk.) Atk.

On *Calamagrostis canadensis*

PHYLLACHORA PTERIDIS (Reb.) Fckl.

On *Pteris aquilina*

PHYLLACHORA GRAMINIS (Pers.) Fckl.

On many grasses

PHYLLACHORA CYPERI Rehm

On *Cyperus Schweinitzi*

PHYLLACHORA JUNCI (Fr.) Fekl.

On *Juncus tenuis*

PHYLLACHORA TRIFOLII (Pers.) Fekl.

On *Trifolium pratense*  
*repens*

PHYLLACHORA LESPEDEZAE

On *Lespedeza capitata*

DOTHIDELLA ULMEA (Schw.) E & E

On *Ulmus americana*

PLOWRIGHTIA MORBOSA (Schw.) Sacc.

On *Prunus serotina*  
*virginiana*  
*pennsylvanica*  
*americana*

MONTAGNELLA HELIOPSISIDIS (Schw.) Sacc.

On *Aster sp. indet.*  
*Helianthus sp. indet.*

#### MICROTHYRIACEAE

ASTERINA RUBICOLA Ell. & Evht.

On *Rubus idaeus aculeatissimus*

ASTERINA GAULTHERIAE Curt.

On *Gaultheria procumbens*  
*Arctostaphylos Uva-ursi*

ASTERINA PLANTAGINIS Ellis

On *Plantago Rugelii*

#### HYSTERIACEAE

LOPHODERMIIUM PINASTRI (Schrad.) Chev.

On *Pinus Strobus*  
*Banksiana*

DISCOMYCETALES

PEZIZACEAE

SCLEROTINIA TUBEROSA Fckl.

On *Anemone quinquefolia*

MOLLISIA DEHNII (Rabh.) Karst.

On *Potentilla monspeliensis*

PHACIDIACEAE

PSEUDOPEZIZA SINGULARIA (Pk.) Pk.

On *Ranunculus sceleratus*  
*pennsylvanicus*

PSEUDOPEZIZA TRIFOLII (Biv. Bernh.) Fckl.

On *Trifolium pratense*

PSEUDOPEZIZA MEDICAGINIS (Lib.) Sacc.

On *Medicago sativa* (cult.)

PSEUDOPEZIZA REPANDA (Fr.) Karst.

On *Galium tinctorium*

FABRAEA ROUSSEAUANA Sacc. & Bomm.

On *Caltha palustris*

RHYTISMA SALICINUM (Pers.) Fr.

On *Saxix spp. varii*

RHYTISMA ILICIS-CANADENSIS Schw.

On *Ilex verticillata*  
*Nemopanthus mucronata*

RHYTISMA ACERINUM (Pers.) Fr.

On *Acer spicatum*  
*Saccharum*  
*saccharinum*  
*rubrum*

RHYTISMA PUNCTATUM (Pers.) Fr.

On *Acer spicatum*  
*Saccharum*

RHYTISMA ANDROMEDAE (Pers.) Fr.

On *Andromeda glaucophylla*

RHYTISMA SOLIDAGINIS Schw.

On *Solidago* spp. *varii*

RHYTISMA ASTERIS Schw.

On *Aster* spp. *varii*

STICTIDACEAE

KEITHIA THUJINA E. J. Durand

On *Thuja occidentalis*

EXOASCACEAE

TAPHRINA JOHANSONII Sadeb.

On fruit of *Populus tremuloides*

TAPHRINA COERULESCENS (Desm. & Mont.) Tul.

On *Quercus rubra*  
*coccinea*

TAPHRINA POTENTILLAE (Farl.) Johans.

On *Potentilla arguta*

EXOASCUS ALNI-INCANAE Kuehn

On *Alnus incana*

EXOASCUS CERASI Fckl.

On *Prunus virginiana*

EXOASCUS PRUNI Fckl.

On fruit of *Prunus*

EXOASCUS DEFORMANS (Berk.) Fckl.

On *Prunus Persica* (cult)

LABOULBENIACEAE

LABOULBENIA GYRINIDARUM Thaxt.

On ? *Gyrinus*

DEUTEROMYCETES

SPHAEROPSIDALES

SPHAERIOIDACEAE

PHYLLOSTICTA CARICIS (Fekl) Sacc.

- On *Carex trisperma*  
(?) *pennsylvanicus*  
*intumescens*

PHYLLOSTICTA RENOUANA Sacc. & Roum.

- On *Typha latifolia*

PHYLLOSTICTA CRUENTA (Fr.) Kickx var. PALLIDIOR (Pk.)

- On *Smilacina racemosa*  
*stellata*.

———var. DISCINCTA (Davis)

- On *Uvularia grandiflora*  
*Oakesia sessilifolia*

PHYLLOSTICTA TRILLII Ell. & Evht.

- On *Trillium cernuum*

PHYLLOSTICTA IRIDIS Ell. & Mart.

- On *Iris versicolor*

PHYLLOSTICTA APICALIS Davis

- On *Salix lucida*

PHYLLOSTICTA FAGICOLA Ell. & Morgan.

- On *Fagus grandifolia*

PHYLLOSTICTA QUERCUS Sacc. & Speg.

- On *Quercus alba*  
*macrocarpa*

PHYLLOSTICTA PHOMIFORMIS Sacc.

- On *Quercus alba*

PHYLLOSTICTA ATRIPLICIS Desm.

- On *Chenopodium album*

PHYLLOSTICTA NEBULOSA Sacc.

- On *Silene noctiflora*



PHYLLOSTICTA FATISCENS Pk.

On *Nymphaea advena*

PHYLLOSTICTA HAMAMELIDIS Cke.

On *Hamamelis virginiana*

PHYLLOSTICTA PYRINA Sacc.

On *Pyrus coronaria*  
*malus*

PHYLLOSTICTA SEROTINA Cke.

On *Prunus serotina*

PHYLLOSTICTA PRUNICOLA (Opiz ?) Sacc.

On *Prunus serotina*  
*nigra*

PHYLLOSTICTA DESTRUENS Desm.

On *Prunus virginiana*

PHYLLOSTICTA DESMODII Ell. & Evht.

On *Desmodium canescens*

PHYLLOSTICTA OXALIDIS Sacc.

On *Oxalis stricta*

PHYLLOSTICTA MINIMA (B. & C.) Ell. & Evht.

On *Acer spicatum*  
*saccharum*  
*rubrum*

PHYLLOSTICTA NEGUNDINIS Sacc. & Speg.

On *Acer Negundo*

PHYLLOSTICTA PAVIAE Desm.

On *Aesculus Hippocastanum*

PHYLLOSTICTA LABRUSCAE Thuem.

On *Pseodera vitacea*  
*Vitis vulpina*  
*sp. indet. (cult.)*

PHYLLOSTICTA SPERMOIDES Pk.

On *Vitis vulpina*

PHYLLOSTICTA VIOLAE Desm.

On *Viola sp. indet.*

PHYLLOSTICTA LUDWIGIAE Pk.

On *Ludvigia polycarpa*

PHYLLOSTICTA DODECATHEI Trel.

On *Dodecatheon Meadia*

PHYLLOSTICTA SYRINGAE West.

On *Syringa vulgaris*

PHYLLOSTICTA APOCYNI Trel.

On *Apocynum cannabinum*

PHYLLOSTICTA DECIDUA Ell & Kell.

On *Radicula Armoracia*

*Geum canadense*

*Aralia racemosa*

*Steironema ciliatum*

*Cynoglossum officinale*

*Lappula virginiana*

*Teucrium canadense*

*Scutellaria lateriflora*

*Nepeta hederacea*

*Leonurus cardiaca*

*Stachys palustris*

*tenuifolia*

*Monarda punctata*

*Lycopus uniflorus*

*Mentha arvensis canadensis*

*Veronica virginica*

*Eupatorium perfoliatum*

*Bidens frondosa*

*Lactuca canadensis*

PHYLLOSTICTA HORTORUM Speg.

On *Solanum melongenum* (cult.)

PHYLLOSTICTA DIERVILLAE Davis.

On *Diervilla Lonicera*

PHYLLOSTICTA TINEOLA Sacc.

On *Viburnum pubescens*

PHYLLOSTICTA SIMILISPORA Ell. & Davis.

On *Solidago rigida*

PHYLLOSTICTA ASTERICOLA Ell. & Evht.

On *Aster umbellatus*

PHYLLOSTICTA RUDBECKIAE Ell. & Evht.

On *Rudbeckia laciniata*

PHYLLOSTICTA LAPPAE Sacc.

On *Lappa minor*

PHOMA MELILOTI Allesch.

On *Melilotus alba*

PHOMA UVICOLA B. & C.

On *Vitis* (cult.)

PHOMA CRYPTICA (Nits.) Sacc.

On twigs of *Lonicera* sp. *indet.*

ASTEROMA VENULOSUM (Walk.) Fckl.

On *Iris versicolor*

AMPELOMYCES QUISQUALIS Ces.

On various *Erysiphaceae*

ASCOCHYTA SPARTINAE Trel.

On *Spartina Michauxiana*

ASCOCHYTA QUERCUS Sacc. & Spg.

On *Quercus* spp. *indet.*

ASCOCHYTA RHEI Ell. & Evht.

On *Rheum rhaponticum* (cult.)

ASCOCHYTA OXYBAPHI Trel.

On *Oxybaphus nyctagineus*

ASCOCHYTA SILENES Ell. & Evht.

On *Silene antirrhina*

ASCOCHYTA (?) INFUSCANS Ell. & Evht.

On *Ranunculus abortivus*

ASCOCHYTA CLEMATIDINA Thuem.

On *Clematis virginiana*

————— var. THALICTRI Davis.

On *Thalictrum dioicum*

ASCOCHYTA PISI Lib.

On *Pisum sativum* (cult.)

*Vicia americana*

*villosa* (cult.)

ASCOCHYTA AMPELINA Sacc.

On *Vitis vulpina*

ASCOCHYTA CORNICOLA Sacc.

On *Cornus Amomum*

ASCOCHYTA CASSANDRAE Pk.

On *Chamaedaphne calyculata*

ASCOCHYTA LOPHANTHI Davis.

On *Agastache scrophulariaefolia*

ASCOCHYTA LEONURI Ell. & Dearn.

On *Lycopus americanus*

ASCOCHYTA TRELEASEI Berl. & Vogl.

On *Vernonia noveboracensis*

*Silphium integrifolium*

ACTINONEMA ROSAE (Lib.) Fr.

On *Rosa blanda*  
*rubiginosa*

DARLUCA FILUM (Biv.) Cast.

On various *Uredinaceae*

STAGONOSPORA SMILACIS (Ell. & Mart.) Sacc.

On *Smilax herbacea*  
*hispida*

SEPTORIA AQUILINA Pass.

On *Pteris aquilina*

SEPTORIA AGROPYRI Ell. & Evht.

On *Agropyron repens*

SEPTORIA BREVISPORA Ell. & Davis.

On *Bromus ciliatus*

SEPTORIA GRAMINUM Desm.

On *Panicum depauperatum*  
*Setaria viridis*  
*Poa annua*

SEPTORIA BROMI Sacc.

On *Calamagrostis canadensis*  
*Bromus secalinus*

SEPTORIA EVERHARTII Sacc. & Syd.

On *Calamagrostis canadensis*

SEPTORIA PASSERINII Sacc.

On *Hordeum jubatum*

SEPTORIA CARICINELLA Sacc. & Roum.

On *Carex cephaloidea*  
*spp. indet.*

SEPTORIA RIPARIA Pass.

On *Carex (pennsylvanica?)*

SEPTORIA SPICULOSA Ell. & Hol.

On *Symplocarpus foetidus*

SEPTORIA VIRIDI-TINGENS Curt.

On *Allium tricoccum*

SEPTORIA SMILACINAE Ell. & Mart.

On *Smilacina racemosa*

SEPTORIA TRILLII Pk.

On *Trillium recurvatum*  
*grandiflorum*  
*cernuum*  
*declinatum*

SEPTORIA SALICINA Pk.

On *Salix lucida*

SEPTORIA MUSIVA Pk.

On *Populus tremuloides*  
*balsamifera*  
*deltoides*

SEPTORIA CORYLINA Pk.

On *Corylus rostrata*

SEPTORIA OSTRYAE Pk.

On *Ostrya virginiana*

SEPTORIA BETULAE (Lib.) West.

On *Betula alba papyrifera*  
*pumila*

SEPTORIA ALNIFOLIA Ell. & Evht.

On *Alnus sp. indet.*

SEPTORIA CANNABINA West.

On *Cannabis sativa*

SEPTORIA URTICAE Rob.

On *Laportea canadensis*

SEPTORIA PILEAE Thuem.

On *Pilea pumila*

SEPTORIA PARIETARIAE Davis

On *Parietaria pennsylvanica*

SEPTORIA RUMICIS Ellis

On *Rumex altissimus*  
*verticillatus*

SEPTORIA POLYGONORUM Desm.

On *Polygonum Hydropiper*

*orientale* (cult.)

*convolvulus*

*cilinode*

*spp. indet.*

SEPTORIA STELLARIAE Rob. & Desm.

On *Stellaria longifolia*

*media*

SEPTORIA CERASTII Rob. & Desm.

On *Cerastium viscosum*

SEPTORIA MELANDRII Pass.

On *Lychnis alba*

SEPTORIA DIMERA Sacc.

On *Silene antirrhina*

SEPTORIA NOCTIFLORA Ell. & Kell.

On *Silene noctiflora*

SEPTORIA SILENICOLA Sacc.

On *Silene stellata*

SEPTORIA COPTIDIS B. & C.

On *Coptis trifolia*

SEPTORIA AQUILEGIAE Sacc. & Penz.

On *Aquilegia canadensis*

SEPTORIA PODOPHYLLINA Pk.

On *Podophyllum peltatum*

SEPTORIA LEPIDIICOLA Ell. & Mart.

On *Lepidium virginicum*

SEPTORIA DENTARIAE Pk.

On *Dentaria laciniata*  
*Cardamine Dougllassii*

SEPTORIA ALBICANS E. & E.

On *Saxifraga pennsylvanica*

SEPTORIA RIBIS Desm.

On *Ribes Cynosbati*  
*americanum*  
*lacustre*  
*prostratum*  
*vulgare*  
*spp. indet.*

SEPTORIA GROSSULARIAE (Lib.) West.

On *Ribes sp. indet.*

SEPTORIA AUREA Ell. & Evht.

On *Ribes odoratum*

SEPTORIA SALICIFOLIAE (Trel.) Ell. & Evht.

On *Spiraea salicifolia*  
*tomentosa*

SEPTORIA CRATAEGI Kickx.

On *Crataegus sp. indet.*

SEPTORIA GEI Rob. & Desm.

On *Geum macrophyllum*

SEPTORIA RUBI West.

On *Rubus idaeus aculeatissimus*  
*occidentalis*  
*parviflorus*  
*alleghehiensis*  
*hispidus*

SEPTORIA AGRIMONIAE-EUPATORII Bomm. & Rouss.

On *Agrimonia striata*  
*sp. indet*

SEPTORIA ASTRAGALI Desm.

On *Vicia americana*

SEPTORIA PISI West.

On *Pisum sativum* (cult.)

SEPTORIA PACHYSPORA Ell. & Hol.

On *Zanthoxylum americanum*

SEPTORIA PTELEAE Ell. & Evht.

On *Ptelea trifoliata*

SEPTORIA RHOINA B. & C.

On *Rhus typhina*  
*glabra*

SEPTORIA SACCHARINA Ell. & Evht.

On *Acer Saccharum*

SEPTORIA NOLITANGERIS Gerard

On *Impatiens biflora*

SEPTORIA HETEROCHROA Desm.

On *Malva rotundifolia*

SEPTORIA SPHAERELLOIDES Ell. & Kell.

On *Hypericum punctatum*

SEPTORIA VIOLAE Desm.

On *Viola pubescens*  
*sp. indet.*

SEPTORIA HYALINA Ell. & Evht.

On *Viola spp. indet.*

SEPTORIA LYTHRINA Pk.

On *Lythrum alatum*

SEPTORIA LUDWIGIAE Cke.

On *Ludwigia palustris*

SEPTORIA EPILOBII Cke,

On *Epilobium coloratum*

SEPTORIA OENOTHERAE West.

On *Oenothera biennis*  
*pumila*



SEPTORIA OSMORHIZAE Pk.

On *Osmorhiza claytoni*  
*longistylis*

SEPTORIA UMBELLIFERARUM Kalchb.

On *Cicuta maculata*  
*Oxypolis rigidior*

SEPTORIA APII (Bri. & Car.) Chester

On *Apium graveolens* (cult.)

SEPTORIA SII Rob. & Desm.

On *Sium cicutaefolium*

SEPTORIA CRYPTOTAENIAE Ell. & Rau

On *Cryptotaenia canadensis*

SEPTORIA CORNICOLA Desm.

On *Cornus Amomum*  
*paniculata*  
*alternifolia*

SEPTORIA CONSPICUA Ell. & Mart.

On *Steironema ciliatum*  
*lanceolatum*  
*quadriflorum*

SEPTORIA INCRESCENS Pk.

On *Trientalis americana*

SEPTORIA BESSEYI Pk.

On *Fraxinus americana*

SEPTORIA MENYANTHIS Desm.

On *Menyanthes trifoliata*

SEPTORIA ASCLEPIADICOLA Ell. & Evht.

On *Asclepias incarnata*

SEPTORIA CONVULVULI Desm.

On *Convolvulus sepium*  
*Ipomoea purpurea* (cult.)

SEPTORIA DIVARICATA Ell. & Evht.

On *Phlox divaricata*

SEPTORIA VERBENAE Rob. & Desm.

On *Verbena urticaefolia*  
*hastata*

SEPTORIA SCUTELLARIAE Thuem.

On *Scutellaria lateriflora*  
*versicolor*  
*galericulata*

SEPTORIA DRACOCEPHALI Thuem.

On *Dracocephalum parviflorum*

SEPTORIA BRUNELLAE Ell. & Hol.

On *Prunella vulgaris*

SEPTORIA PHYSOSTEGIAE Ell. & Evht.

On *Physostegia virginiana*

SEPTORIA GALEOPSISIDIS West.

On *Galeopsis Tetrahit.*

SEPTORIA STACHYDIS Rob. & Desm.

On *Stachys tenuifolia aspera*

SEPTORIA LYCOPERSICI Speg.

On *Lycopersicum esculentum* (cult.)

SEPTORIA SCROPHULARIAE Pk.

On *Scrophularia marylandica*

SEPTORIA WILSONI G. W. Clinton

On *Chelone glabra*

SEPTORIA MIMULI Ell. & Kell.

On *Mimulus ringens*

SEPTORIA GRATIOLAE Sacc. & Speg.

On *Gratiola virginiana*

SEPTORIA VERONICAE Desm.

On *Veronica virginica?*  
*arvensis*

SEPTORIA LEPTOSTACHYA Ell. & Kell.

On *Phryma Leptostachya*

SEPTORIA PLANTAGINIS Pass.

On *Plantago major*

SEPTORIA PSILOSTEGA Ell. & Mart.

On *Galium circaezans*  
*tinctorium*

SEPTORIA CEPHALANTHI Ell. & Kell.

On *Cephalanthus occidentalis*

SEPTORIA DIERVILLICOLA Ell. & Evht.

On *Diervilla Lonicera*

SEPTORIA SAMBUCINA Pk.

On *Lonicera hirsuta*

*Sambucus canadensis*

SEPTORIA CUCURBITACEARUM Sacc.

On *Cucumis Melo* (cult.)

*Citrullis vulgaris* (cult.)

*Cucurbita maxima* (cult.)

SEPTORIA SICYI Pk.

On *Echinocystis lobata*

SEPTORIA SPECULARIAE B. & C.

On *Specularia perfoliata*

SEPTORIA CAMPANULAE (Lev.) Sacc.

On *Campanula americana*

*aparinoides*

SEPTORIA LOBELIAE Pk.

On *Lobelia cardinalis*

*siphilitica*

*spicata*

*inflata*

SEPTORIA LIATRIDIS Ell. & Davis

On *Liatris scariosa*

*spicata*

SEPTORIA SOLIDAGINICOLA Pk.

On *Solidago caesia*

*arguta*

*canadensis*

*serotina*

*Aster shortii*

*puniceus*

*umbellatus*

SEPTORIA DAVISII Sacc.

On *Solidago canadensis*

*serotina*

SEPTORIA INTERMEDIA Ell. & Evht.

On *Solidago* sp. *indet.*

SEPTORIA ATROPURPUREA Pk.

On *Solidago latifolia*  
*Aster macrophyllus*  
*Drummondii*  
*vinineus*

SEPTORIA ASTERICOLA Ell. & Evht.

On *Aster Drummondii*

SEPTORIA ERIGERONTIS B. & C.

On *Erigeron philadelphicus*  
*annuus*  
*ramosus*

SEPTORIA ERIGERONTIS BOLTONIAE Webber.

On *Boltonia asteroides*

SEPTORIA POLYMNIAE Ell. & Evht.

On *Polymnia canadensis*

SEPTORIA SILPHII Ell. & Evht.

On *Silphium integrifolium*  
*perfoliatum*

SEPTORIA BACILLIGERA Wint.

On *Ambrosia trifida*

SEPTORIA XANTHII Desm.

On *Xanthium* sp. *indet.*

SEPTORIA RUDBECKIAE Ell. & Hals.

On *Rudbeckia hirta*.  
*laciniata*

SEPTORIA HELIANTHI Ell. & Kell.

On *Helianthus annuus*  
*grosse-serratus*  
*hirsutus*  
*strumosus*  
*tuberosus*  
*spp. indet.*

SEPTORIA BIDENTIS Sacc.

On *Bidens frondosa*

SEPTORIA HELENII Ell. & Evht.

On *Helenium autumnale*

SEPTORIA CHRYSANTHEMI Allesch.

On *Chrysanthemum Leucanthemum*

SEPTORIA CACALIAE Ell. & Kell.

On *Cacalia atriplicifolia*

SEPTORIA LAPPARUM Sacc.

On *Lappa* sp. *indet.*

SEPTORIA CIRSII Niessl

On *Cirsium lanceolatum*  
*arvense*

SEPTORIA COMMONSII Ell. & Evht.

On *Cirsium muticum*

SEPTORIA LACTUCAE Pass.

On *Lactuca sativa* (cult.)  
*scariola*  
*pulchella*

SEPTORIA LACTUCICOLA Ell. & Mart.

On *Lactuca scariola*  
*canadensis*

SEPTORIA NABALI B. & C.

On *Prenanthes alba*

PHLEOSPORA CARICIS Ell. & Evht.

On *Carex* (*trichocarpa?*)

PHLEOSPORA ULMI (Fr.) Wallr.

On *Ulmus americana*

PHLEOSPORA RETICULATA Ell. & Evht.

On *Lathyrus venosus*  
*ochroleucus.*

PHLEOSPORA CRATAEGI (Kze. & Schm.) Wallr.

On *Crataegus* sp. *indet.*

PHLEOSPORA ACERIS (Lib.) Sacc.

On *Acer rubrum*

DILOPHOSPORA ALOPECURI Fr.

On *Calamagrostis canadensis*

LEPTOSTROMATACEAE

LEPTOTHYRIUM DRYINUM Sacc.

On *Quercus alba*  
*rubra*

LEPTOTHYRIUM GENTIANAECOLUM (DC?) Baeuml.

On *Gentiana Andrewsii*

LEPTOTHYRIUM PERICLYMENI (Desm.) Sacc.

—————var. AMERICANUM Ell. & Evht.  
On *Lonicera canadensis*  
*oblongifolia*

PIGGOTIA FRAXINI B. & C.

On *Fraxinus nigra*  
*sp. indet* (cult.)

ENTOMOSPORIUM MACULATUM Lev. var. DOMESTICUM  
Sacc.

On *Pyrus americana*  
*Amelanchier spicata*

—————var. CYDONIAE Cke. & Ell.

On *Amelanchier canadensis*  
*spicata*

ENTOMOSPORIUM THUMENII (Cke.) Sacc.

On *Crataegus spp. indet.*

MELANCONIALES

MELANCONIACEAE

GLOEOSPORIUM CONFLUENS Ell. & Dearn.

On *Sagittaria latifolia*

GLOEOSPORIUM SALICIS West.

On *Salix fragilis*  
*longifolia*

GLOEOSPORIUM CARYAE Ell. & Evht.

On *Carya ovata*

GLOEOSPORIUM CORYLI (Desm.) Sacc.

On *Corylus americana*  
*rostrata*

GLOEOSPORIUM ROBERGEI Desm.

On *Carpinus caroliniana*

GLOEOSPORIUM BETULARUM Eil. & Mart.

On *Betula nigra*  
*alba papyrifera*

GLOEOSPORIUM FAGI Desm. & Rob. var. AMERICANUM Eil.  
& Evht.

On *Fagus grandifolia*

GLOEOSPORIUM NERVESEQUUM (Fckl.) Sacc.

On *Quercus alba*  
*macrocarpa*  
*rubra*

GLOEOSPORIUM SEPTORIOIDES Sacc.

On *Quercus velutina*

GLOEOSPORIUM THALICTRI Davis

On *Thalictrum dasycarpum*

GLOEOSPORIUM BERBERIDIS Cke.

On *Berberis vulgaris*

GLOEOSPORIUM RIBIS (Lib.) Mont. & Desm.

On *Ribes americanum*  
*prostratum*  
*vulgare* (cult.)  
*triste*  
*spp. indet.*

GLOEOSPORIUM VENETUM Speg.

On *Rubus spp. varii*

GLOEOSPORIUM FRUCTIGENUM Berk.

On apples

GLOEOSPORIUM FRAGARIAE (Lib.) Mont.

On *Potentilla monspeliensis*

GLOEOSPORIUM EVERHARTII Sacc. & Syd.

On *Vicia americana*

- GLOESPORIUM DAVISII Ell. & Evht.  
On *Vicia americana*
- GLOESPORIUM LINDEMUTHIANUM Sacc. & Magn.  
On *Phaseolus sp. indet.*
- GLOESPORIUM SACCHARINUM Ell. & Evht.  
On *Acer Saccharum*
- GLOESPORIUM APOCRYPTUM Ell. & Evht.  
On *Acer Negundo*
- GLOESPORIUM ARIDUM Ell. & Hol.  
On *Fraxinus americana*
- PESTALOZZIELLA SUBSESSILIS Ell. & Evht.  
On *Geranium maculatum*
- MARSSONINA NECANS (Ell. & Evht.) P. Magn.  
On *Pteris aquilina*
- MARSSONINA APICALIS (Ell. & Evht.) P. Magn.  
On *Salix lucida*
- MARSSONINA CASTAGNEI (Desm. & Mont.) P. Magn.  
On *Populus alba*  
*tremuloides*  
*grandidentata*  
*candicans*  
*deltoides*
- MARSSONINA JUGLANDIS (Lib.) P. Magn.  
On *Juglans cinerea*  
*nigra*
- MARSSONINA MARTINI (Sacc. & Ell.) P. Magn.  
On *Quercus alba*  
*macrocarpa*  
*rubra*
- MARSSONINA DELASTREI (DeLacr.) P. Magn.  
On *Silene stellata*
- MARSSONINA CORONARIA (Ell. & Davis)  
On *Pyrus coronaria*



MARSSONINA POTENTILLAE (Desm.) P. Magn.

On *Potentilla arguta*  
*palustris*

MARSSONINA MELILOTI (Trel.) P. Magn.

On *Melilotus alba*

MARSSONINA VIOLAE (Pass.) P. Magn.

On *Viola sp. indet.*

MARSSONINA FRAXINI Ell. & Davis

On *Fraxinus nigra*

SEPTOGLOEUM SALICINUM (Pk.) Sacc.

On *Salix pedicellaris*

SEPTOGLOEUM POTENTILLAE Allesch.

On *Potentilla palustris*

SEPTOGLOEUM AMPELOPSIDIS Ell. & Evht.

On *Psedera sp. indet.*

SEPTOGLOEUM APOCYNI Pk.

On *Apocynum androsaemifolium*

CYLINDROSPORIUM SPARGANII (Pass.) Ell. & Evht.

On *Sparganium eurycarpum*

CYLINDROSPORIUM CALAMAGROSTIDIS Ell. & Evht.

On *Calamagrostis canadensis*

CYLINDROSPORIUM GLYCERIAE Ell. & Evht.

On *Glyceria nervata*

CYLINDROSPORIUM TRADESCANTIAE Ell. & Kell.

On *Tradescantia reflexa*

CYLINDROSPORIUM BETULAE Davis

On *Betula pumila*

CYLINDROSPORIUM THALICTRI (Ell. & Evht.)

On *Thalictrum dioicum*  
*dasy carpum*

CYLINDROSPORIUM HUMULI Ell. & Evht.

On *Humulus Lupulus*

- CYLINDROSPORIUM CLEMATIDIS Ell. & Evht.  
On *Clematis virginiana*
- CYLINDROSPORIUM CIRCINANS Wint.  
On *Sanguinaria canadensis*
- CYLINDROSPORIUM CAPSELLAE Ell. & Evht.  
On *Capsella Bursa-pastoris*
- CYLINDROSPORIUM RIBIS Davis  
On. *Ribes prostratum*  
*vulgare*  
*triste*  
*sp. indet.*
- CYLINDROSPORIUM RUBI Ell. & Morgan  
On *Rubus idaeus aculeatissimus*
- CYLINDROSPORIUM PADI Karst.  
On *Prunus pennsylvanica*  
*serotina*  
*virginiana*  
*sp. indet. (cult.)*
- CYLINDROSPORIUM SACCHARINUM Ell. & Evht.  
On *Acer Saccharum*
- CYLINDROSPORIUM NEGUNDINIS Ell. & Evht.  
On *Acer Negundo*
- CYLINDROSPORIUM LEPTOSPERMUM Pk.  
On *Aralia hispida*  
*nudicaulis*
- CYLINDROSPORIUM ERYNGII Ell. & Kell.  
On *Eryngium yuccifolium*
- CYLINDROSPORIUM CICUTAE Ell. & Evht.  
On *Cicuta maculata*
- CYLINDROSPORIUM ZIZIAE Ell. & Evht.  
On *Zizia cordata*
- CYLINDROSPORIUM APOCYNII Ell. & Evht.  
On *Apocynum androsaemifolium*
- CRYPTOMELA CARICIS (Corda) Sacc.  
On *Carex sp. indet.*
- PESTALLOZZIA KRIEGERIANA Bres.  
On *Epilobium angustifolium*

HYPHALES

MUCEDINACEAE

MICROSTROMA JUGLANDIS (Bereng.) Sacc.

On *Juglans cinerea*

*Carya ovata*

GLOMERULARIA CORNI Pk.

On *Cornus canadensis*

*Lonicera canadensis*

*oblongifolia*

FUSIDIUM PTERIDIS Kalkbr.

On *Pteris aquilina*

*Aspidium marginale*

MONILIA CRATAEGI Diedicke

On *Crataegus* spp. *indet.*

MONILIA FRUCTIGENA Pers.

On drupes of *Prunus americana*

MONILIA SEAVERI Reade.

On *Prunus serotina*

MONILIA ANGUSTIOR (Sacc.) Reade

On *Prunus virginiana*

OVULARIA DESTRUCTIVA (Phill. & Plowr.) Masee

On *Myrica Gale*

*asplenifolia*

OVULARIA OBLIQUA (Cke.) Oud.

On *Rumex crispus*

*obtusifolius*

OVULARIA ISARIOIDES Sacc.

On *Staphylea trifolia*

OVULARIA PYROLAE Trel.

On *Pyrola elliptica*

*americana*

SEPEDONIUM CHRYSOSPERMUM (Bull.) Fr.

On *Boletus* sp. *indet.*

## GONATOBOTRYUM MACULICOLUM (Wint.) Sacc.

On *Hamamelis virginiana*

## DIDYMARIA DIDYMA (Ung.) Schroet.

On *Anemone virginiana**canadensis**Ranunculus recurvatus**fascicularis**septentrionalis**pennsylvanicus**acris*

## SEPTOCYLINDRIUM RANUNCULI Pk.

On *Ranunculus abortivus*

## SEPTOCYLINDRIUM CONCOMITANS (Ell. &amp; Hol.) Halg.

On *Bidens frondosa*

## MASTIGOSPORIUM ALBUM Riess var. CALVUM Ell. &amp; Davis

On *Calamagrostis canadensis*

## RAMULARIA CANADENSIS Ell. &amp; Erht.

On *Carex sp. indet.*

## RAMULARIA ALISMATIS Fautrey.

On *Alisma Plantago-aquatica*

## RAMULARIA SUBRUF A Ell. &amp; Hol.

On *Smilax ecirrhata*

## RAMULARIA DIOSCOREAE E. &amp; E.

On *Dioscorea villosa*

## RAMULARIA UREDINIS (Voss) Sacc.

On *Salix fragilis**longifolia*with *Melampsora & Darluca*

## RAMULARIA ROSEA (Fckl.) Sacc.

On *Salix discolor**petiolaris*

## RAMULARIA URTICAE Ces.

On *Urtica gracilis*

## RAMULARIA OCCIDENTALIS Ell. &amp; Kell.

On *Rumex sp. indet.*

RAMULARIA DECIPIENS Ell. & Evht.

On *Rumex crispus*

RAMULARIA PRATENSIS Sacc.

On *Rumex verticillatus*

RAMULARIA RUFOMACULANS Pk.

On *Polygonum aviculare*

*amphibium*

*Muhlenbergii*

*cilinode*

RAMULARIA ACTAEAE Ell. & Hol.

On *Actaea rubra*

RAMULARIA ARMORACIAE Fekl.

On *Radicula Armoracia*

RAMULARIA BARBAREAE Pk.

On *Barbarea sp. indet.*

RAMULARIA MITELLAE Pk.

On *Mitella diphylla*

RAMULARIA HAMAMELIDIS Pk.

On *Hamamelis virginiana*

RAMULARIA TULASNEI Sacc.

On *Fragaria virginiana*

*vesca*

RAMULARIA MODESTA Sacc.

On *Fragaria virginiana*

RAMULARIA WALDSTEINIAE Ell. & Davis

On *Waldsteinia fragarioides*

RAMULARIA ARVENSIS Sacc.

On *Potentilla monspeliensis*

*anserina*

RAMULARIA DESMODII Cke.

On *Astragalus sp. indet.*

*Desmodium sp. indet.*

*Lespedeza sp. indet.*

RAMULARIA OXALIDIS Farl.

On *Oxalis sp. indet.*

RAMULARIA PRINI Pk.

On *Ilex verticillata*

RAMULARIA NEMOPANTHIS Cke. & Pk.

On *Nemopanthis mucronata*

RAMULARIA CELASTRI Eil. & Mart.

On *Celastrus scandens*

RAMULARIA IMPATIENTIS Pk.

On *Impatiens pallida*  
*biflora*

RAMULARIA PUNCTIFORMIS (Schlecht.) v. Hohn.

On *Epilobium angustifolium*  
*coloratum*

RAMULARIA RETICULATA Eil. & Evht.

On *Osmorhiza claytoni*

RAMULARIA HERACLEI (Oud.) Sacc.

On *Heracleum lanatum*

RAMULARIA STOLONIFERA Eil. & Evht.

On *Cornus stolonifera*  
*alternifolia*

RAMULARIA EFFUSA Pk.

On *Vaccinium canadense*

RAMULARIA MULTIPLEX Pk.

On *Vaccinium macrocarpon*

RAMULARIA LYSIMACHIAE Thuem.

On *Lysimachia thyrsoiflora*  
*Steironema ciliatum* (?)

RAMULARIA BRUNELLAE Eil. & Hol.

On *Prunella vulgaris*

RAMULARIA MENTHICOLA Sacc.

On *Mentha arvensis canadensis*

RAMULARIA VARIABILIS Fckl.

On *Verbascum Thapsus*

RAMULARIA VERONICAE Fckl.

On *Veronica peregrina*

**RAMULARIA PLANTAGINIS** Ell. & Mart.

On *Plantago cordata*  
*Rugelii*

**RAMULARIA VIBURNI** Ell. & Evht.

On *Viburnum Lentago*

**RAMULARIA SAMBUCINA** Sacc.

On *Sambucus racemosa*

**RAMULARIA VIRGAUREAE** Thuem.

On *Solidago latifolia*  
*ulmifolia*

**RAMULARIA SEROTINA** Ell. & Evht.

On *Solidago serotina*

**RAMULARIA ASTERIS** (Trel.) Barth.

On *Aster novae-angliae*  
*spp. indet.*

**RAMULARIA RUDBECKIAE** Pk.

On *Rudbeckia laciniata*

**RAMULARIA VARIEGATA** Ell. & Hol.

On *Petasites palmatus*

**RAMULARIA TARAXACI** Karst.

On *Taraxacum officinale*

**PIRICULARIA GRISEA** (Cke.) Sacc.

On *Panicum sanguinale*  
*Setaria italica*  
*Leersia virginica*

**PIRICULARIA PARASITICA** Ell. & Evht.

On *Elymus virginicus*  
*Hystrix patula*

**CERCOSPORELLA PYRINA** Ell. & Evht.

On *Pyrus coronaria*

**CERCOSPORELLA APOCYNI** (Ell. & Kell.) Trel.

On *Apocynum androsaemifolium*  
*cannabinum*

**CERCOSPORELLA RETICULATA** Pk.

On *Solidago serotina*

CERCOSPORELLA CANA (Pass.) Sacc.

On *Erigeron annuus*

*ramosus*

*canadensis*

*Aster puniceus*

DEMATIACEAE

DICOCCUM NEBULOSUM Ell. & Evht.

On *Fraginus americana*

CLADOSPORIUM AROMATICUM Ell. & Evht.

On *Rhus glabra*

CLADOSPORIUM TRIOSTEI Pk.

On *Triosteum perfoliatum*

POLYTHRINCIUM TRIFOLII Kze.

On *Trifolium pratense*

*repens*

PASSALORA FASCICULATA (C. & E.) Earle

On *Euphorbia corollata*

FUSICLADIUM RADIOSUM (Lib.) Lindr.

On *Populus tremuloides*

*grandidentata*

FUSICLADIUM DENDRITICUM (Wallr.) Fekl.

On *Pyrus prunifolia*

*coronaria*

*Malus*

FUSICLADIUM DEPRESSUM (B. & Br.) Sacc.

On *Angelica atropurpurea*

SCOLECOTRICHUM GRAMINIS Fekl.

On many grasses

SCOLECOTRICHUM MACULICOLUM Ell. & Kell.

On *Phragmites communis*

HELMINTHOSPORIUM TERES Sacc.

On *Hordeum vulgare* (cult.)



HELMINTHOSPORIUM GRAMINEUM

On *Hordeum vulgare* (cult.)

HELMINTHOSPORIUM SATIVUM Pammel, King & Bakke

On *Hordeum vulgare* (cult.)  
*distichon* (cult.)

HETEROSPORIUM ALLII ELL. & Mart.

On *Allium canadense*

CERCOSPORA SEQUOIAE ELL. & Evht. var. JUNIPERI ELL. & Evht.

On *Juniperus virginiana*

CERCOSPORA SAGITTARIAE ELL. & Kell.

On *Sagittaria latifolia*  
*heterophylla*

CERCOSPORA ALISMATIS ELL. & Hol.

On *Alisma Plantago-aquatica*

CERCOSPORA CARICINA ELL. & Dearn.

On *Carex rosea*  
*cephaloidea*  
*gracillima*  
*arctata*

CERCOSPORA SYMPLOCARPI Pk.

On *Symplocarpus foetidus*

CERCOSPORA CALLAE Pk. & Clint.

On *Calla palustris*

CERCOSPORA PONTERIDIAE ELL. & Dearn.

On *Pontederia cordata*

CERCOSPORA MAIANTHEMI Fckl.

On *Maianthemum canadense*

CERCOSPORA SUBSANGUINEA ELL. & Evht.

On *Maianthemum canadense*

CERCOSPORA MISSISSIPPIENSIS Tracy & Earle

On *Smilax hispida*

CERCOSPORA DIOSCOREAE ELL. & Mart.

On *Dioscorea villosa*

CERCOSPORA CYPRIPEDEII Ell. & Dearn.

On *Cyripedium parviflorum*  
*acaule*

CERCOSPORA BOEHMERIAE Pk.

On *Boehmeria cylindrica*

CERCOSPORA AVICULARIS Wint.

On *Polygonum aviculare*  
*erectum*

CERCOSPORA HYDROPIPERIS (Thuem.) Speg.

On *Polygonum Hydropiper*

CERCOSPORA DUBIA (Riess) Wint.

On *Chenopodium album*  
*Atriplex patula*

CERCOSPORA BETAECOLA Sacc.

On *Beta vulgaris*

CERCOSPORA OXYBAPHI Ell. & Hals.

On *Oxybaphus nyctagineus*

CERCOSPORA NYMPHAEACEA Cke. & Ellis

On *Castalia tuberosa*

CERCOSPORA SQUALIDULA Pk.

On *Clematis virginiana*

CERCOSPORA MERROWAE Ell. & Evht.

On *Isopyrum biternatum*

CERCOSPORA MENISPERMI Ell. & Hol.

On *Menispermum canadense*

CERCOSPORA CAULOPHYLLI Pk.

On *Caulophyllum thalictroides*

CERCOSPORA NASTURTII Pass.

On *Radicula palustris*

CERCOSPORA ARMORACIAE Sacc.

On *Radicula Armoracia*

CERCOSPORA SEDOIDES Ell. & Evht.

On *Penthorum sedoides*

CERCOSPORA HEUCHERAE Eil. & Mart.

On *Heuchera sp. indet.*

CERCOSPORA RUBIGO Cke. & Hark. (?)

On *Spiraea salicifolia*

CERCOSPORA PYRI Farl.

On *Pyrus arbutifolia*  
*melanocarpa*

CERCOSPORA COMARI Pk.

On *Potentilla palustris*

CERCOSPORA ROSAECOLA Pass.

On *Rosa carolina*

CERCOSPORA CIRCUMSCISSA Sacc.

On *Prunus serotina*

CERCOSPORA ZEBRINA Pass.

On *Trifolium pratense*  
*repens*  
*hybridum*

CERCOSPORA DAVISII Eil. & Evht.

On *Melilotus alba*

CERCOSPORA DESMODII Eil. & Kell.

On *Desmodium grandiflorum*

CERCOSPORA VICIAE Eil. & Hol.

On *Vicia caroliniana*  
*Lathyrus venosus*

CERCOSPORA TUBEROSA Eil. & Kell.

On *Apios tuberosa*

CERCOSPORA MONOICA Eil. & Hol.

On *Amphicarpa monoica*

CERCOSPORA GERANII Kell. & Swingle

On *Geranium maculatum*

CERCOSPORA ACALYPHAE Pk.

On *Acalypha virginica*

CERCOSPORA RHAMNI Fckl.

On *Rhamnus alnifolia*  
*cathartica*

CERCOSPORA CEANOETHI Kell. & Swingle

On *Ceanothus ovatus*

CERCOSPORA AMPELOPSIDIS Pk.

On *Pseodera* sp. *indet.*

CERCOSPORA VITICOLA Sacc.

On *Vitis vulpina*

CERCOSPORA MICROSORA Sacc.

On *Tilia americana*

CERCOSPORA ALTHAEINA Sacc.

On *Althaea rosea*

CERCOSPORA GRANULIFORMIS Ell. & Hol.

On *Viola* spp. *indet.*

CERCOSPORA LYTHRI (West.) Niessl

On *Lythrum alatum*

CERCOSPORA OSMORHIZAE Ell. & Evht.

On *Osmorhiza longistylis*

CERCOSPORA SII Ell. & Evht.

On *Sium cicutaeifolium*

CERCOSPORA ZIZIAE Ell. & Evht.

On *Zizia aurea*

CERCOSPORA PLATYSPORA Ell. & Hol.

On *Taenidia integerrima*

CERCOSPORA APII Fres. var. PASTINACAE Farl.

On *Pastinaca sativa*

CERCOSPORA EPIGAEINA Davis

On *Epigaea repens*

CERCOSPORA CLAVATA (Ger.) Pk.

On *Asclepias incarnata*

*syriaca*

*phytolaccoides*

CERCOSPORA OMPHACODES Ell. & Hol.

On *Phlox divaricata*

CERCOSPORA LIPPIAE Ell. & Evht.

On *Lippia lanceolata*

CERCOSPORA RACEMOSA Ell. & Mart.

On *Teucrium canadense*  
*Ambrosia trifida*

CERCOSPORA PHYSALIDIS Ellis

On *Physalis pubescens*  
*heterophylla*

CERCOSPORA DIFFUSA Ell. & Evht.

On *Physalis* sp. *indet.*

CERCOSPORA PENTSTEMONIS Ell. & Kell.

On *Pentstemon hirsutus*

CERCOSPORA GERARDIAE Ell. & Dearn.

On *Gerardia grandiflora*

CERCOSPORA GALII Ell. & Hol.

On *Galium Aparine*  
*tinctorium*

CERCOSPORA CEPHALANTHI Ell. & Kell.

On *Cephalanthus occidentalis*

CERCOSPORA ANTIPUS Ell. & Hol.

On *Lonicera glaucescens*  
*hirsuta*  
*spp. indet.*

CERCOSPORA VARIA Pk.

On *Viburnum Opulus*  
*Lentago*

CERCOSPORA VERNONIAE Ell. & Kell.

On *Vernonia fasciculata*

CERCOSPORA PERFOLIATA Ell. & Evht.

On *Eupatorium purpureum*  
*perfoliatum*

CERCOSPORA STOMATICA Ell. & Davis

On *Solidago latifolia*

CERCOSPORA GNAPHALIACEA Cke.

On *Gnaphalium polycephalum*

CERCOSPORA HELIANTHI Ell. & Evht.

On *Helianthus occidentalis*

CERCOSPORA UMBRATA Ell. & Hol.

On *Bidens connata*

CERCOSPORA MEGALOPOTAMICA Speg.

On *Bidens cernua*

FUMAGO VAGANS Pers.

On *Salix sp. indet.*

*Quercus alba*

SARCINELLA HETEROSPORA Sacc.

On *Lonicera Sullivantii*

*Corylus rostrata*

*Cornus stolonifera*

STILBACEAE

ISARIA ARACHNOPHILA Ditm.

On Spiders

GRAPHIUM GRACILE Pk.

On *Rubus idaeus* var. *aculeatissimus*

ISARIOPSIS ALBO-ROSELLA (Desm.) Sacc.

On *Cerastium vulgatum*

*viscosum*

*nutans*

TUBERCULARIACEAE

TUBERCULINA PERSICINA (Ditm.) Sacc.

On the aecia of various rusts

TUBERCULINA DAVISIANA Sacc. & Trav.

On *Salix cordata*

FUSARIUM HETEROSPORUM Nees.

On *Glyceria septentrionalis*

HEMIBASIDII

USTILAGINALES

USTILAGINACEAE

USTILAGO OSMUNDAE Pk.

On *Osmunda regalis*

USTILAGO ZEAE (Beckm.) Unger

On *Euchlaena luxurians*

*Zea mays*

USTILAGO RABENHORSTIANA Kuehn

On *Digitaria sanguinale*

USTILAGO NEGLECTA Niessl

On *Setaria glauca*

USTILAGO STRIAEFORMIS (West.) Niessl

On *Phleum pratense*

*Elymus canadensis*

USTILAGO CALAMAGROSTIDIS (Fckl.) Clinton

On *Calamagrostis canadensis*

USTILAGO AVENAE (Pers.) Jensen

On *Avena sativa* (cult.)

USTILAGO LEVIS (Kell. & Sw.) Magn.

On *Avena sativa* (cult.)

USTILAGO PERENNANS Rostr.

On *Arrhenatherum elatius*

USTILAGO LONGISSIMA (Sow.) Tul.

On *Glyceria grandis*

———var. MACROSPORA Davis

On *Glyceria septentrionalis*

USTILAGO SPERMOPHORA B. & C.

On *Eragrostis hypnoides*

*megastachya*

USTILAGO MACROSPORA Desm.

On *Agropyron repens*

- USTILAGO TRITICI (Pers.) Rostr.  
On *Triticum vulgare*
- USTILAGO HORDEI (Pers.) Kell. & Sw.  
On *Hordeum vulgare*
- USTILAGO NUDA (Jensen) Kell. & Sw.  
On *Hordeum vulgare*
- USTILAGO OLIVACEA (DC.) Tul.  
On *Carex rostrata*
- USTILAGO UTRICULOSA (Nees) Tul.  
On *Polygonum pennsylvanicum*
- USTILAGO OXALIDIS Ell. & Tracy  
On *Oxalis stricta*
- SPHACELOTHECA SORGHII (Lk.) Clinton  
On *Sorghum vulgare*
- SPHACELOTHECA HYDROPIPERIS (Schum.) D By.  
On *Polygonum sagittatum*
- CINTRACTIA CARICIS (Pers.) Magn.  
On *Carex spp. varii*
- CINTRACTIA SUBINCLUSA (Koern.) Magn.  
On *Carex lanuginosa*  
*lupulina*  
*rostrata* var. *utriculata*
- CINTRACTIA JUNCII (Schw.) Trel.  
On *Juncus tenuis*
- SCHIZONELLA MELANOGRAMMA (D C.) Schroet.  
On *Carex pennsylvanica*
- SOROSPORIUM SYNTHESISMAE (Pk.) Farl.  
On *Panicum miliaceum* (cult.)  
*Cenchrus carolinianus*



TILLETIACEAE

TILLETIA FOETENS (B. & C.) Trel.

On *Triticum vulgare* (cult.)

TILLETIA TRITICI (Bjerk.) Wint.

On *Triticum vulgare* (cult.)

TUBURCINIA CLINTONIAE Kom.

On *Streptopus roseus*

UROCYSTIS OCCULTA (Wallr.) Rabh.

On *Secale cereale* (cult.)

UROCYSTIS AGROPYRI (Preuss) Schrot.

On *Elymus virginicus*  
*canadensis*

UROCYSTIS CEPULAE Frost

On *Allium Cepa*

ENTYLOMA LINEATUM (Cke.) Davis

On *Zizania palustris*

ENTYLOMA CRASTOPHILUM Sacc.

On *Phleum pratense*  
*Agrostis alba vulgaris*

ENTYLOMA NYMPHAEAE (Cunn.) Setch.

On *Castalia odorata*  
*tuberosa*  
*Nymphaea advena*

ENTYLOMA MICROSPORUM (Ung.) Schrot.

On *Ranunculus septentrionalis*

ENTYLOMA RANUNCULI (Bon.) Schrot.

On *Ranunculus pennsylvanicus*  
*Anemone quinquefolia*

ENTYLOMA THALICTRI Schrot.

On *Thalictrum dioicum*  
*dasy carpum*

ENTYLOMA MENISPERMI Parl. & Trel.

On *Menispermum canadense*

ENTYLOMA FLOERKEAE Holw.

On *Floerkea proserpinacoides*

ENTYLOMA SANICULAE Pk.

On *Sanicula marylandica*

ENTYLOMA AUSTRALE Speg.

On *Physalis virginiana*  
*heterophylla*  
*spp. indet.*

ENTYLOMA LINARIAE Schroet. var. VERONICAE Wint.

On *Veronica peregrina*

ENTYLOMA LOBELIAE Farl.

On *Lobelia inflata*

ENTYLOMA COMPOSITARUM Farl.

On *Eupatorium uruicaefolium*  
*Aster paniculatus*  
*pumiceus*  
*Erigeron philadelphicus*  
*Silphium integrifolium*  
*Ambrosia trifida*  
*artemisiaefolia*  
*Lepachys pinnata*  
*Helenium autumnale*  
*Senecio aureus*

ENTYLOMA POLYSPORUM (Pk.) Farl.

On *Ambrosia artemisiaefolia*

BURRILLIA PUSTULATA Setch.

On *Sagittaria latifolia*

DOASSANSIA MARTIANOFFIANA (Thum.) Schrot.

On *Potamogeton sp. indet.*

DOASSANSIA SAGITTARIAE (West.) Fisch.

On *Sagittaria latifolia*

———forma CONFLUENS Davis

On *Sagittaria heterophylla elliptica*

DOASSANSIA OPACA Setch.

On *Sagittaria latifolia*

DOASSANSIA INTERMEDIA Setch.

On *Sagittaria latifolia*

DOASSANSIA DEFORMANS Setch.

On *Sagittaria latifolia*

DOASSANSIA ALISMATIS (Nees) Cornu

On *Alisma Plantago-aquatica*

DOASSANSIA RANUNCULINA Davis

On *Ranunculus delphinifolius*

TRACYA LEMNAE (Setch.) Syd.

On *Spirodela polyrhiza*

UREDINALES

PUCCINIACEAE

The Roman numerals I, II, III are used to indicate the aecial, uredinial and telial states respectively.

UROMYCES SPARGANII Cke. & Pk.

On *Sparganium eurycarpum* III.

UROMYCES HALSTEDII De Toni

On *Leersia virginica* II, III.

UROMYCES MINIMUS Davis

On *Muhlenbergia sylvatica* II, III.

UROMYCES ACUMINATUS Arth.

On *Spartina michauxiana* II, III.

*Steironema lanceolatum* I.

*Phlox pilosa* I.

*Polemonium reptans* I.

UROMYCES AMPHIDYMUS Syd.

On *Glyceria septentrionalis* II, III.

UROMYCES ELEOCHARIDIS Arth.

On *Eleocharis palustris* II, III.

UROMYCES SCIRPI Burr.

On *Scirpus fluviatilis* II, III.

*Cicuta maculata* I.

*bulbifera* I.

*Sium cicutaefolium* I.

- UROMYCES UNIPORULUS Kern.  
On *Carex gracillima* II, III.
- UROMYCES PERIGYNIUS Hals.  
On *Carex intumescens* III.
- UROMYCES MINUTUS Diet.  
On *Carex gracillima*
- UROMYCES ARISAEMAE Cke.  
On *Arisaema triphyllum* I, II, III.  
*Dracontium* I, II, III.
- UROMYCES PYRIFORMIS Cke.  
On *Acorus Calamus* III.
- UROMYCES JUNCI-TENUIS Syd.  
On *Juncus tenuis* II, III.  
*Silphium terebinthinaceum* I.  
*integrifolium* I.  
*perfoliatum* I.
- UROMYCES JUNCI-EFFUSI Syd.  
On *Juncus effusus* II, III.
- UROMYCES HOLWAYI Lagh.  
On *Lilium canadense* II, III.
- UROMYCES POLYGONI (Pers.) Fckl.  
On *Polygonum aviculare* II, III.  
*Polygonum erectum* II, III.
- On *Dianthus Caryophyllus* (cult.) II, III.
- UROMYCES CARYOPHYLLINUS (Schrank) Wint.
- UROMYCES TRIFOLII (Hedw.) Lev.  
On *Trifolium pratense* II, III.
- UROMYCES TRIFOLII-REPENTIS (Cast.) Liro  
On *Trifolium incarnatum* I, II, III, *vide* Trelease  
*repens* I, II, III.  
*hybridum* II, III.
- UROMYCES OBLONGUS Vize  
On *Trifolium repens* I.
- UROMYCES HEDYSARI-PANICULATI (Schw.) Farl.  
On *Desmodium Dillenii*

UROMYCES LESPEDEZAE-PROCUMBENTIS (Schw.) Lagh.

- On *Lespedeza violacea* I, II.
- capitata* I, II, III.
- sp. indet.* I, II, III.

UROMYCES ALBUS (Clint.) Diet & Holw.

- On *Vicia americana* I.

UROMYCES FABAE (Pers.) DBY.

- On *Vicia americana* II.
- Lathyrus palustris* I.
- venosus* I, II, III.
- ochroleucus* III.

UROMYCES APPENDICULATUS (Pers.) Lk.

- On *Phaseolus vulgaris* II, III.

UROMYCES EUPHORBIAE Cke. & Pk.

- On *Euphorbia polygonifolia* I, III.
- Preslii* I, II, III.
- maculata* I, II, III.

UROMYCES TOXICODENDRI Berk. & Rav.

- On *Rhus Toxicodendron* II, III.

UROMYCES HYPERICI-FRONDOSI (Schw.) Arth.

- On *Hypericum ascyron* III.
- punctatum* II, III.
- boreale* II, III.
- virginicum* I, II, III.

UROMYCES HOWEI Pk.

- On *Asclepias incarnata* III.
- syriaca* III.

UROMYCES PLUMBARIUS Pk.

- On *Oenothera biennis* I.

UROMYCES RUDBECKIAE Arth. & Holw.

- On *Rudbeckia laciniata* III.

PUCCINIA ANDROPOGONIS Schw.

- On *Andropogon scoparius* III.
- Pentstemon hirsutus* I.

PUCGINIA PUSTULATA (Curt.) Arth.

On *Andropogon scoparius* II, III.

*furcatus* II, III.

*Oomandra umbellata* I.

*Richardsiana* I.

PUCGINIA CEANOTHI (E. & K.) Arth.

On *Ceanothus ovatus* I.

PUCGINIA SORGHII Schw.

On *Zea Mays* II, III.

PUCGINIA EMACULATA Schw.

On *Panicum capillare* II, III.

PUCGINIA PANICI Diet.

On *Panicum virgatum*, II, III.

*Euphorbia corollata* I.

PUCGINIA SESSILIS Schneid.

On *Phalaris arundinacea* III.

PUCGINIA MILII Erikss.

On *Milium effusum* II.

*Oryzopsis asperifolia* II, III.

PUCGINIA STIPAE Arth.

On *Stipa spartea* II, III.

PUCGINIA MUHLENBERGIAE Arth. & Holw.

On *Muhlenbergia foliosa* III.

PUCGINIA PHLEI-PRATENSIS Erikss. & Henn.

On *Phleum pratense* II, III.

PUCGINIA SYDOWIANA Diet.

On *Sporobolus asper* III.

PUCGINIA PYGMAEA Erikss.

On *Calamagrostis canadensis* II, III.

PUCGINIA PERMINUTA Arth.

On *Cinna arundinacea* III.

PUCGINIA EATONIAE Arth.

On *Sphenopholis pallens* II, III.

*Ranunculus abortivus* I.

PUCGINIA MONOICA (Pk.) Arth.

On *Arabis lyrata* I.

PUCGINIA CORONATA Corda.

On *Avena sativa* II, III.

*Calamagrostis canadensis* II, III.

*Dactylis glomerata* II, III.

*Rhamnus alnifolia* I.

*cathartica* I.

PUCGINIA PERIDERMIOSPORA (Ell. & Tracy) Arth.

On *Spartina michauxiana* II, III.

*Fraginus americana* I.

*Fraginus nigra* I.

PUCGINIA SEYMOURIANA Arth.

On *Spartina michauxiana* II, III.

*Cephalanthus occidentalis* I.

PUCGINIA VEXANS Farl.

On *Bouteloua curtipendula* II, III.

PUCGINIA BARTHOLOMAEI Diet.

On *Asclepias syriaca* I.

PUCGINIA PHRAGMITIS (Schum.) Koern.

On *Phragmites communis* II, III.

*Rumex* spp. *indet.* I.

PUCGINIA SIMILLIMA Arth.

On *Phragmites communis* II, III.

*Anemone canadensis* I.

PUCGINIA POARUM Niels.

On *Poa pratensis* II.

PUCGINIA TOMIPARA Trel.

On *Bromus ciliatus* II, III.

*Clematis virginiana* I.

PUCGINIA IMPATIENTIS (Schw.) Arth.

On *Elymus virginicus* II, III.

*striatus* II, III.

*Impatiens pallida* I.

*biflora* I.

PUCGINIA APOCRYPTA Ell. & Tracy

On *Hystrix patula* III.

*Shepherdia canadensis* I.

## PUCCINIA RUBIGO-VERA (DC.) Wint.

On *Agropyron repens* II, III.*Triticum vulgare* II, III.*Hordeum jubatum* II, III.

## PUCCINIA SIMPLEX (Koern.) Erikss. &amp; Henn.

On *Hordeum vulgare* II, III.

## PUCCINIA GRAMINIS Pers.

On *Milium effusum* III.*Alopecurus geniculatus aristulatus* II, III.*Agrostis alba vulgaris* III.*hyemalis* II, III.*Cinna arundinacea* II, III.*Avena sativa* II, III.*Briza maxima* II, III.*Dactylis glomerata* II, III.*Glyceria grandis* III.*Agropyron repens* II, III.*caninum* II, III.*Triticum vulgare* II, III.*Hordeum jubatum* III.*vulgare* II, III.*Elymus canadensis* III.*striatus* III.*Secale cereale* II, III.*Berberis vulgaris* I.

## PUCCINIA CYPERI Arth.

On *Cyperus Schweinitzii* III.*strigosus* II, III.*filiculmis* III.*Xanthium sp. indet.* I.

## PUCCINIA DULICHII Syd.

On *Dulichium arundinaceum* III.

## PUCCINIA ELEOCHARIDIS Arth.

On *Eleocharis palustris* II, III.*Eupatorium purpureum* I.*perfoliatum* I.

## PUCCINIA OBTECTA Pk.

On *Scirpus americanus* II, III.*validus* III.*Bidens frondosa* I.



Puccinia angustata Pk.

- On *Scirpus atrovirens* II, III.
- lineatus* II, III.
- cyperinus pelius* III.
- pedicellatus* III.
- Lycopus virginicus* I.
- americanus* I.

Puccinia caricis (Schum.) Rehbent.

- On *Urtica gracilis* I.

Puccinia albiperidia Arth.

- On *Carex gracillima* II, III.
- Ribes cynosbati* I.
- gracile* I.
- oxyacanthoides* I.
- americanum* I.
- prostratum* I.

Puccinia peckii (DeToni) Kell.

- On *Carex trichocarpa* III.
- Oenothera biennis* I.

Puccinia patruelis Arth.

- On *Lactuca Scariola integrata* I.
- canadensis* I.
- Prenanthes alba* I.
- Hieracium scabrum* I.

Puccinia phrymae (Hals.) Arth.

- On *Carex longirostris* II, III.
- Phryma leptostachya* I.

Puccinia bolleyana Sacc.

- On *Carex trichocarpa* III.
- Sambucus canadensis* I.

Puccinia caricis-solidaginis Arth.

- On *Solidago* spp. *varii* I.

Puccinia caricis-asteris Arth.

- On *Aster* spp. *varii* I.

Puccinia caricis-erigerontis Arth.

- On *Erigeron* spp. *varii* I.

- Puccinia obscura Schroet.  
On *Luzula campestris* II, III.
- Puccinia zygadeni Trel.  
On *Zygadenus chloranthus* III.
- Puccinia asparagi DC.  
On *Asparagus officinalis* II, III.
- Puccinia mesomegala B. & C.  
On *Clintonia borealis* III.
- Puccinia aletridis B. & C.  
On *Aletris farinosa* II, III.
- Puccinia iridis (DC.) Wallr.  
On *Iris versicolor* II.
- Puccinia cyripedii Arth.  
On *Cyripedium parviflorum* II, III.
- Puccinia ornata Arth. & Hol.  
On *Rumex Britannica* III.
- Puccinia polygoni-amphibii Pers.  
On *Polygonum amphibium* II, III.  
*hydroperoides* II.  
*virginianum* II, III.  
*convolvulus* II, III.  
*Geranium maculatum* I.
- Puccinia thalictri Chev.  
On *Thalictrum dioicum* III.  
*dasy carpum* III.
- Puccinia anemones-virginiana Schw.  
On *Anemone cylindrica* III.  
*virginiana* III.
- Puccinia fusca (Pers.) Wint.  
On *Anemone quinquefolia* III.
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On *Caltha palustris* III

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PUCGINIA HEUCHERAE (Schw.) Diet.

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*nuda* III.

PUCGINIA RIBIS DC.

On *Ribes prostratum* III.

*triste* III.

PUCGINIA WALDSTEINIAE Curt.

On *Waldsteinia fragarioides* III.

PUCGINIA PRUNI-SPINOSAE Pers.

On *Prunus serotina* II, III.

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PUCGINIA AMORPHAE Curt.

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## PUCCINIA OSMORHIZAE (Pk.) Cke. &amp; Pk.

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## PUCCINIA BULLATA (Pers.) Wint.

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## PUCCINIA PORPHYROGENITA Curt.

On *Cornus canadensis* III.

## PUCCINIA DAYI Clint.

On *Steironema ciliatum* III

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## PUCCINIA MENTHAE Pers. var. AMERICANA Burr.

On *Monarda fistulosa* I, II, III.

*punctata* II, III.

*Hedeoma pulegioides* III.

*Satureja vulgaris* III.

*Pycnanthemum virginianum* II, III.

*Mentha arvensis canadensis* II, III.

## PUCCINIA PHYSALIDIS Pk.

On *Physalis virginiana* III.

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PUCGINIA CLINTONII Pk.

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PUCGINIA PUNCTATA Lk.

On *Galium Aparine* I.

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PUCGINIA RUBEFACIENS Johans.

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PUCGINIA VERNONIAE Schw.

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PUCGINIA TENUIS (Schw.) Burr.

On *Eupatorium urticaefolium* I, III.

PUCGINIA KUHNIAE Schw.

On *Kuhnia eupatorioides* II, III.

PUCGINIA TRACYI Sacc. & Syd.

On *Solidago sp. indet.* III.

PUCGINIA ASTERIS Duby

On *Aster spp. vari* III.

PUCGINIA SILPHII Schw.

On *Silphium laciniatum* III.

*integrifolium* III.

*perfoliatum* III.

PUCGINIA HELIANTHI Schw.

On *Helianthus spp. vari*. I, II, III.

PUCGINIA XANTHII Schw.

On *Ambrosia trifida* III.

*Xanthium sp. indet.* III.

PUCGINIA ABSINTHII DC.

On *Artemisia dracunculoides* II, III.

PUCGINIA NARDOSMIAE E. & E.

On *Petasites palmatus* III.

- Puccinia RECEDENS Syd.  
On *Senecio aureus* III.
- Puccinia CIRSII-LANCEOLATI Schroet.  
On *Cirsium lanceolatum* I, II, III.
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- Puccinia TARAXACI (Rebent.) Plowr.  
On *Taraxacum officinale* II, III.
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- Puccinia ORBICULA Pk.  
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- Puccinia HIERACII (Schum.) Mart.  
On *Hieracium scabrum* II, III.  
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- Gymnoconia PECKIANA (Howe) Trotter  
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*idaeus aculeatissimus* I.  
*triflorus* III.  
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On *Juniperus communis depressa* III.  
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- Gymnosporangium CLAVIPES Cke. & Pk.  
On *Juniperus communis depressa* III.  
*Amelanchier oblongifolia* I.  
*Cydonia vulgaris* I.

GYMNOSPORANGIUM CLAVARIAEFORME (Jacq.) DC.

On *Amelanchier spicata* I.

*Juniperus communis depressa* III.

GYMNOSPORANGIUM JUNIPERI-VIRGINIANAE Schw.

On *Juniperus virginiana* III.

*Pyrus coronaria* I.

*ioensis* I.

*Malus* I.

GYMNOSPORANGIUM NIDUS-AVIS Thaxt.

On *Amelanchier canadensis* I.

GYMNOSPORANGIUM JUVENESCENS Kern.

On *Juniperus virginiana* III.

*Amelanchier canadensis* I.

GYMNOSPORANGIUM GLOBOSUM Parl.

On *Juniperus virginiana* III.

*Crataegus macrantha succulenta* I.

*spp. indet.* I.

PHRAGMIDIUM ANDERSONI Shear

On *Potentilla fruticosa* II.

PHRAGMIDIUM POTENTILLAE-CANADENSIS Diet

On *Potentilla canadensis* II, III.

PHRAGMIDIUM IMITANS Arth.

On *Rubus idaeus aculeatissimus* II, III.

*occidentalis* II, III.

PHRAGMIDIUM OCCIDENTALE Arth.

On *Rubus parviflorus* I, III.

PHRAGMIDIUM SPECIOSUM Fr.

On *Rosa blanda* I, III.

"*parviflora*" III.

*rugosa*

*sp. indet.* (cult.)

PHRAGMIDIUM DISCIFLORUM (Tode) James

On *Rosa blanda* I, II, III.

"*parviflora*" II, III.

? *woodsii* II, III.

*carolina*

*spp. indet.*

KUEHNEOLA UREDINIS (Lk.) Arth.

- On *Rubus hispidus* II, III.  
*allegheniensis* II, III.  
*canadensis* II.  
*villosus* II.

MELAMPSORACEAE

MELAMPSORA BIGELOWII Thuem.

- On *Salix amygdaloides* III.  
*lucida* II.  
*fragilis* X *alba* II.  
*discolor* II, III.  
*spp. indet.* II, III.  
*Larix laricina* I.

MELAMPSORA MEDUSAE Thuem.

- On *Populus tremuloides* II, III.  
*grandidentata* II, III.  
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MELAMPSORA LINI (Pers.) Desm.

- On *Linum usitatissimum* II, III.  
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MELAMPSORELLA CERASTII (H. Mart.) Schroet

- On *Abies balsamea* I.

MELAMPSORIDIUM BETULINUM (Pers.) Kleb.

- On *Betula pumila* II.  
*Larix laricina* I.

MELAMPSOROPSIS PYROLAE (DC.) Arth.

- On *Pyrola secunda* II.  
*elliptica* II.

MELAMPSOROPSIS LEDI (Lk.) Arth.

- On *Ledum groenlandicum* II.

MELAMPSOROPSIS LEDICOLA (Pk.) Arth.

- On *Picea Mariana* I.

MELAMPSOROPSIS CASSANDRAE (Pk. & Cl.) Arth.

- On *Chamaedaphne calyculata* II.  
*Picea mariana* I.



MELAMPSOROPSIS ARCTOSTAPHYLI (Diet.) Arth.

On *Arctostaphylos Uva-ursi* III

MELAMPSOROPSIS CHIOGENIS (Diet.) Arth.

On *Chiogenes hispidula* II

PUCCINIASTRUM POTENTILLAE Kom.

On *Potentilla tridentata* II

PUCCINIASTRUM ARCTICUM (Lagh.) Tranz. var. AMERICANUM Farl.

On *Rubus idaeus aculeatissimus* II, III  
*occidentalis* II.  
*triflorus* II.

PUCCINIASTRUM AGRIMONIAE (Schw.) Tranz.

On *Agrimonia striata* II, III.  
*gryposepala* II.  
*spp. indet.* II.

PUCCINIASTRUM PUSTULATUM (Pers.) Diet.

On *Epilobium angustifolium* II, III.  
*adenocaulon* II, III.  
*coloratum* II.  
*Abies balsamea* I.

PUCCINIASTRUM PYROLAE (Pers.) Diet.

On *Chimaphila umbellata* II.  
*Pyrola secunda* II.  
*elliptica* II.  
*americana* II.

PUCCINIASTRUM MYRTILLI (Schum.) Arth.

On *Vaccinium pennsylvanicum* II, III.  
*canadense* II.

HYALOPSORA POLYPODII (D C.) Magn.

On *Cystopteris fragilis* II.

UREDINOPSIS PHEGopteridis Arth.

On *Phegopteris Dryopteris* II, III.

UREDINOPSIS ATKINSONII Magn.

On *Asplenium Filix-foemina* II, III.  
*Aspidium Thelypteris* II.

UREDINOPSIS MIRABILIS (Pk.) Magn.

On *Onoclea sensibilis* II.

UREDINOPSIS STRUTHIOPTERIDIS Stoermer.

On *Onoclea Struthiopteris* II, III.

UREDINOPSIS OSMUNDAE Magn.

On *Osmunda regalis* II, III.

*Claytoniana* II.

*cinnamomea* II, III.

CRONARTIUM COMPTONIAE Arth.

On *Myrica asplenifolia* II, III.

CRONARTIUM QUERCUS (Brondeau) Schroet.

On *Quercus alba* II.

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CRONARTIUM COMANDRAE Pk.

On *Comandra umbellata* II, III.

COLEOSPORIACEAE

COLEOSPORIUM VIBURNI Arth.

On *Viburnum Lentago* II, III.

COLEOSPORIUM CAMPANULAE (Pers.) Lev.

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COLEOSPORIUM SOLIDAGINIS (Schw.) Thuem.

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ISOLATED FORMS

UREDOSPORA SP. INDET.

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CAEOMA ABIETIS-CANADENSIS Farl.

On *Tsuga canadensis*

AECIDIUM SMILACINAE Schum.

On *Smilacina racemosa*

*Polygonatum biflorum*

*commutatum*

AECIDIUM IRIDIS Gerard

On *Iris versicolor*

AECIDIUM THALICTRI Grev.

On *Thalictrum dioicum*

*dasy carpum*

**AECIDIUM RANUNCULACEARUM D C.**

On *Anemone quinquefolia*  
*canadensis*

**AECIDIUM ACTAEAE Opiz.**

On *Actaea sp. indet.*

**AECIDIUM DICENTRAE Trel.**

On *Dicentra Cucullaria*

**AECIDIUM SP. INDET.**

On *Amphicarpa monoica*

**AECIDIUM POLYGALINUM Pk.**

On *Polygala Senega*

**AECIDIUM EUPHORBIAE Gmel.**

On *Euphorbia commutata*

**AECIDIUM HYDNOIDEUM B. & C.**

On *Dirca palustris*

**AECIDIUM NESAEAE Gerard**

On *Decodon verticillatus*

**AECIDIUM LYSIMACHIAE (Schlecht.) Wallr.**

On *Lysimachia thyrsoflora*

**AECIDIUM SP. INDET.**

On *Mimulus ringens*  
*Castilleja sessiliflora*

**AECIDIUM COMPOSITARUM**

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*Polymnia canadensis*  
*Rudbeckia laciniata*  
*Cacalia reniformis*  
*Krigia amplexicaulis*

**PERIDERMIIUM BALSAMEUM Pk.**

On *Abies balsamea*

**PERIDERMIIUM SP. INDET.**

On *Pinus Banksiana*

**PERIDERMIIUM SP. INDET.**

On *Tsuga canadensis*

HYMENOMYCETES

AGARICACEAE

PANAEOLUS EPIMYCES Pk.

On *Coprinus atramentarius*  
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THELEPHORACEAE

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*canadense*  
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MYCELIA STERILIA

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On *Zizania palustris*

SCLEROTIUM RHIZODES Awd.

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*Phalaris arundinacea*  
*Phleum pratense*  
*Agrostis hyemalis*  
*neglecta*  
*Sphenopholis pallens*  
*Poa pratensis*  
*Glyceria nervata*  
*Bromus ciliatus*  
*Agropyron caninum*  
*Hordeum jubatum*

SCLEROTIUM GLOBULIFERUM (Davis)

On *Glyceria septentrionalis*

SCLEROTIUM BIFRONS Ell. & Evht.

On *Populus tremuloides*

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AGARICACEA

Hypomyces lactifluorum, 860

——— viridis, 860

AGASTACHE SCROPHULARIAEFOLIA

Ascochyta lophanthi, 869

Peronospora lophanthi, 853

Puccinia hyssopi, 909

Sphaerotheca humuli fuliginea, 855

AGRIMONIA GRYPOSEPALA

Pucciniastrum agrimoniae, 914

Sphaerotheca humuli, 855

AGRIMONIA PARVIFLORA

Peronospora potentillae, 852

AGRIMONIA STRIATA

Pucciniastrum agrimoniae, 914

Septoria agrimoniae-eupatorii, 872

Sphaerotheca humuli, 855

AGRIMONIA

Pucciniastrum agrimoniae, 914

Septoria agrimoniae-eupatoriae, 872

Sphaerotheca humuli, 855

AGROPYRON CANINUM

Puccinia graminis, 905

Sclerotium rhizodes, 917

**AGROPYRON REPENS**

- Claviceps, 861
- Erysiphe graminis, 857
- Puccinia graminis, 905
- Puccinia rubigo-vera, 905
- Septoria agropyri, 869
- Ustilago macrospora, 896

**AGROSTIS ALBA**

- Entyloma crastophilum, 898
- Puccinia graminis, 905

**AGROSTIS HYEMALIS**

- Claviceps, 860
- Puccinia graminis, 905
- Sclerotium rhizodes, 917

**ALETRIS FARINOSA**

- Puccinia aletridis, 907

**ALISMA PLANTAGO-AQUATICA**

- Cercospora alismatis, 890
- Cladochytrium maculare, 848
- Doassansia alismatis, 900
- Ramularia alismatis, 885

**ALLIUM CANADENSE**

- Heterosporium allii, 890

**ALLIUM CEPA**

- Peronospora schleideni, 851
- Urocystis cepulae, 893

**ALLIUM TRICOCCUM**

- Septoria viridi-tingens, 870

**ALNUS INCANA**

- Erysiphe aggregata, 857
- Phyllactinia corylea, 858
- Exoascus alni-incanae, 864

**ALNUS**

- Septoria alnifolia, 870

**ALOPECURUS GENICULATUS**

- Puccinia graminis, 905

**ALTHAEA ROSEA**

- Cercospora althaeina*, 893
- Puccinia malvacearum*, 908

**AMARANTHUS BLITOIDES**

- Albugo bliti*, 849

**AMARANTHUS HYBRIDUS**

- Albugo bliti*, 849

**AMARANTHUS RETROFLEXUS**

- Albugo bliti*, 849

**AMBROSIA ARTEMISIAEFOLIA**

- Albugo tragopogonis*, 850
- Entyloma compositarum*, 899
- Entyloma polysporum*, 899
- Erysiphe cichoracearum*, 858
- Physalospora ambrosiae*, 859
- Plasmopara halstedii*, 851
- Protomyces andinus*, 854

**AMBROSIA TRIFIDA**

- Cercospora racemosa*, 894
- Entyloma compositarum*, 899
- Physalospora ambrosiae*, 859
- Plasmopara halstedii*, 851
- Protomyces andinus*, 854
- Puccinia xanthii*, 910
- Septoria bacilligera*, 877

**AMELANCHIER CANADENSIS**

- Entomosporium maculatum cydoniae*, 879
- Gymnosporangium juvenescens*, 912
- Gymnosporangium nidus-avis*, 912

**AMELANCHIER OBLONGIFOLIA**

- Gymnosporangium clavipes*, 911

**AMELANCHIER SPICATA**

- Entomosporium maculatum domesticum*, 879
- Gymnosporangium clavariaeforme*, 912

**AMELANCHIER**

- Dimerosporium collinsii*, 859
- Phyllosticta destruens*, 866



**AMORPHA CANESCENS**

*Puccinia amorphae*, 908

**AMORPHA FRUTICOSA**

*Puccinia amorphae*, 908

**AMPHICARPA MONOICA**

*Aecidium* sp. indet. 916

*Cercospora monoica*, 892

*Erysiphe polygoni*, 857

*Synchytrium decipiens*, 848

**ANDROMEDA GLAUCOPHYLLA**

*Exobasidium vaccinii*, 917

*Rhytisma andromedae*, 864

**ANDROPOGON FURCATUS**

*Epichloe typhina*, 861

*Puccinia pustulata*, 903

**ANDROPOGON SCOPARIUS**

*Puccinia andropogonis*, 902

*Puccinia pustulata*, 903

**ANEMONE CANADENSIS**

*Aecidium ranunculacearum*, 916

*Didymaria didyma*, 885

*Plasmopora pygmaea*, 850

*Puccinia simillima*, 904

**ANEMONE CYLINDRICA**

*Puccinia anemones-virginianae*, 907

**ANEMONE QUINQUEFOLIA**

*Aecidium ranunculacearum*, 916

*Entyloma ranunculi*, 898

*Plasmopara pygmaea*, 850

*Puccinia fusca*, 907

*Puccinia pruni-spinosae*, 908

*Sclerotinia tuberosa*, 863

*Synchytrium anemones*, 848

**ANEMONE VIRGINIANA**

*Didymaria didyma*, 885

*Puccinia anemones-virginianae*, 907

**ANGELICA ATROPURPUREA**

*Fusicladium depressum*, 889

**APHIDES**

*Empusa aphidis*, 849

**APIOUS TUBEROSA**

*Cercospora tuberosa*, 892

**APIUM GRAVEOLENS**

*Septoria apii*, 874

**APPLES**

*Gloeosporium fructigenum*, 880

**APOCYNUM ANDROSAEMIFOLIUM**

*Cercospora apocyni*, 888

*Cylindrosporium apocyni*, 883

*Septogloeum apocyni*, 882

**APOCYNUM CANNABINUM**

*Cercospora apocyni*, 888

*Phyllosticta apocyni*, 867

**AQUILEGIA CANADENSIS**

*Erysiphe polygoni*, 857

*Septoria aquilegiae*, 871

**ARABIS LAEVIGATA**

*Peronospora parasitica*, 852

**ARABIS LYRATA**

*Puccinia monoica*, 904

**ARACHNIDA**

*Isaria arachnophila*, 895

**ARALIA HISPIDA**

*Cylindrosporium leptospermum*, 883

**ARALIA NUDICAULIS**

*Cylindrosporium leptospermum*, 883

*Triphragmium clavellousum*, 911

**ARALIA RACEMOSA**

*Phyllosticta decidua*, 867

**ARCTOSTAPHYLOS UVA-URSI**

- Asterina gaultheriae, 862
- Exobasidium vaccinii, 917
- Dimerosporium conglobatum, 859
- Melampsoropsis arctostaphyli, 914

**ARISAEMA DRACONTIUM**

- Uromyces arisaemae, 901

**ARISAEMA TRIPHYLLUM**

- Uromyces arisaemae, 901

**ARRHENATHERUM ELATIUS**

- Ustilago perennans, 896

**ARTEMISA BIENNIS**

- Albugo tragopogonis, 850
- Peronospora leptosperma, 853

**ARTEMISIA DRACUNCULOIDES**

- Puccinia absinthii, 910

**ASARUM CANADENSE**

- Synchytrium asari, 848

**ASCLEPIAS INCARNATA**

- Cercospora clavata, 893
- Septoria asclepiadicola, 874
- Uromyces howei, 902

**ASCLEPIAS PHYTOLACCOIDES**

- Cercospora clavata, 893

**ASCLEPIAS SYRIACA**

- Cercospora clavata, 893
- Puccinia bartholomaei, 904
- Uromyces howei, 902

**ASPARAGUS OFFICINALIS**

- Puccinia asparagi, 907

**ASPIDIUM MARGINALE**

- Fusidium pteridis, 884

**ASPIDIUM THELYPTERIS**

- Uredinopsis atkinsonii, 914

**ASPLENIUM FILIX-FOEMINA**

*Uredinopsis atkinsonii*, 914

**ASTER DIVARICATUS**

*Erysiphe cichoracearum*, 858

**ASTER DRUMMONDII**

*Basidiophora entospora*, 853

*Erysiphe cichoracearum*, 858

*Septoria astericola*, 877

*Septoria atropurpurea*, 877

**ASTER LAEVIS**

*Erysiphe cichoracearum*, 858

**ASTER LATERIFLORUS**

*Erysiphe cichoracearum*, 858

**ASTER MACROPHYLLUS**

*Septoria atropurpurea*, 877

**ASTER NOVAE-ANGLIAE**

*Basidiophora entospora*, 853

*Ramularia asteris*, 888

**ASTER PANICULATUS**

*Entyloma compositarum*, 899

**ASTER PUNICEUS**

*Basidiophora entospora*, 853

*Cercospora cana*, 889

*Entyloma compositarum*, 899

*Erysiphe cichoracearum*, 858

*Septoria solidaginicola*, 876

**ASTER SHORTII**

*Septoria solidaginicola*, 876

**ASTER UMBELLATUS**

*Erysiphe cichoracearum*, 858

*Phyllosticta astericola*, 867

*Septoria solidaginicola*, 876

**ASTER VIMINEUS**

*Septoria atropurpurea*, 877

**ASTER**

- Coleosporium solidaginis, 915
- Montagnella heliopsisidis, 862
- Puccinia asteris, 910
- Puccinia caricis-asteris, 906
- Ramularia asteris, 888
- Rhytisma asteris, 864
- Septoria atropurpurea

**ASTRAGALUS CANADENSIS**

- Erysiphe polygoni, 857

**ASTRAGALUS**

- Ramularia desmodii, 886

**ATRIPLEX PATULA**

- Cercospora dubia, 891

**AVENA SATIVA**

- Puccinia coronata, 904
- Puccinia graminis, 905
- Ustilago avenae, 896
- Ustilago levis, 896

**BARBAREA**

- Ramularia barbareae, 886

**BERBERIS VULGARIS**

- Gloeosporium berberidis, 880
- Puccinia graminis, 905

**BETA VULGARIS**

- Cercospora betaecola, 891

**BETULA ALBA**

- Gloeosporium betularum, 880
- Phyllactinia corylea, 858.
- Septoria betulae, 870

**BETULA NIGRA**

- Gloeosporium betularum, 880

**BETULA PUMILA**

- Cylindrosporium betulae, 882
- Melampsoridium betulinum, 913
- Microsphaera alni, 856
- Septoria betulae, 870

**BIDENS ARISTOSA**

- Plasmopara halstedii, 851
- Sphaerotheca humuli fuliginea, 855

**BIDENS CERNUA**

- Cercospora megalopotamica, 895
- Plasmopara halstedii, 851
- Protomyces andinus, 854

**BIDENS CONNATA**

- Cercospora umbrata, 895
- Plasmopara halstedii, 851
- Protomyces andinus, 854
- Sphaerotheca humuli fuliginea, 855

**BIDENS FRONDOSA**

- Phyllosticta decidua, 867
- Plasmopara halstedii, 851
- Protomyces andinus, 854
- Puccinia obtecta, 905
- Septocylindrium concomitans, 885
- Septoria bidentis, 877
- Sphaerotheca humuli fuliginea, 855

**BIDENS VULGATA**

- Plasmopara halstedii, 851

**BLUE BOTTLE FLY**

- Empusa americana, 848

**BOEHMERIA CYLINDRICA**

- Cercospora boehmeriae, 891

**BOLETUS**

- Hypomyces chrysospermus, 860
- Sepedonium chrysospermum, 884

**BOLTONIA ASTEROIDES**

- Septoria erigerontis boltoniae, 877

**BOUTELOUA CURTIPENDULA**

- Puccinia vexans, 904

**BRASSICA ALBA**

- Albugo candida, 849

**BRASSICA ARVENSIS**

- Peronospora parasitica, 852

**BRASSICA NIGRA**

- Albugo candida, 849
- Peronospora parasitica, 852

**BRIZA MAXIMA**

- Puccinia graminis, 905

**BROMUS CILIATUS**

- Puccinia tomipara, 904
- Sclerotium rhizodes, 917
- Septoria brevispora, 869

**BROMUS SECALINUS**

- Septoria bromi, 869

**CACALIA ATRIPLICIFOLIA**

- Septoria cacaliae, 878

**CACALIA RENIFORMIS**

- Aecidium compositarum, 916

**CADDIS FLIES**

- Empusa rhizophora, 849

**CAKILE EDENTULA**

- Albugo candida, 849

**CALAMAGROSTIS CANADENSIS**

- Balansia hypoxylon, 861
- Claviceps, 860
- Cylindrosporium calamagrostidis, 882
- Dilophospora alopecuri, 878
- Epichloe typhina, 861
- Mastigosporium album calvum, 885
- Puccinia pygmaea, 903
- Puccinia coronata, 904
- Sclerotium rhizodes, 917
- Septoria bromi, 869
- Septoria everhartii, 870
- Ustilago calamagrostidis, 896

**CALAMAGROSTIS NEGLECTA**

- Sclerotium rhizodes, 917

**CALLA PALUSTRIS**

- Cercospora callae, 890

**CALOPTENUS**

*Empusa grylli*, 849

**CALTHA PALUSTRIS**

*Erysiphe polygoni*, 857  
*Fabraea rousseauana*, 863  
*Puccinia calthae*, 907  
*Puccinia Zopfi*, 907

**CAMPANULA AMERICANA**

*Coleosporium campanulae*, 915  
*Septoria campanulae*, 876

**CAMPANULA APARINOIDES**

*Septoria campanulae*, 876

**CANNABIS SATIVA**

*Septoria cannabina*, 871

**CAPSELLA BURSA-PASTORIS**

*Albugo candida*, 849  
*Cylindrosporium capsellae*, 883

**CARDAMINE DOUGLASSII**

*Albugo candida*, 849  
*Peronospora parasitica*, 852  
*Septoria dentariae*, 872

**CAREX ARCTATA**

*Cercospora caricina*, 890

**CAREX CEPHALOIDEA**

*Cercospora caricina*, 890  
*Septoria caricinella*, 870

**CAREX GRACILLIMA**

*Cercospora caricina*, 890  
*Puccinia albiperidia*, 906  
*Uromyces minutus*, 901  
*Uromyces uniporulus*, 901

**CAREX INTUMESCENS**

*Phyllosticta caricis*, 865  
*Uromyces perigynius*, 901

**CAREX LANUGINOSA**

*Cintractia subinclusa*, 897



**CAREX LONGIROSTRIS**

*Puccinia phrymae*, 906

**CAREX LUPULINA**

*Cintractia subinclusa*, 897

**CAREX PENNSYLVANICA**

*Phyllosticta caricis*, 865

*Septoria riparia*, 870

*Schizonella melanogramma*, 897

**CAREX ROSEA**

*Cercospora caricina*, 890

**CAREX ROSTRATA**

*Ustilago olivacea*, 897

**CAREX ROSTRATA UTRICULATA**

*Cintractia subinclusa*, 897

**CAREX TRICHOCARPA**

*Phleospora caricis*, 878

*Puccinia bolleyana*, 906

*Puccinia peckii*, 906

**CAREX TRISPERMA**

*Phyllosticta caricis*, 865

**CAREX**

*Cintractia caricis*, 897

*Cryptomela caricis*, 883

*Puccinia caricis-asteris*, 906

*Puccinia caricis-erigerontis*, 906

*Puccinia caricis-solidaginis*, 906

*Ramularia canadensis*, 885

*Septoria caricinella*, 870

**CARPINUS CAROLINIANA**

*Gloeosporium robergei*, 880

*Gnomoniella fimbriata*, 859

*Microsphaera alni*, 856

*Phyllactinia corylea*, 858

**CARYA OVATA**

*Gloeosporium caryae*, 879

*Microstroma juglandis*, 884

**CARYA**

*Phyllactinia corylea*, 858

**CASTALIA ODORATA**

*Entyloma nymphaeae*, 898

**CASTALIA TUBEROSA**

*Cercospora nymphaeae*, 891

*Entyloma nymphaeae*, 898

**CASTILLEJA SESSILIFLORA**

*Aecidium* sp. indet., 916

**CAULOPHYLLUM THALICTROIDES**

*Cercospora caulophylli*, 891

**CEANOTHUS AMERICANUS**

*Microsphaeraalni*, 856

**CEANOTHUS OVATUS**

*Cercospora ceanothi*, 893

*Puccinia ceanothi*, 903

**CELASTRUS SCANDEMS**

*Phyllactinia corylea*, 859

*Ramularia celastri*, 887

**CENCHRUS CAROLINIANUS**

*Sorosporium syntherismae*, 897

**CEPHALANTHUS OCCIDENTALIS**

*Cercospora cephalanthi*, 894

*Puccinia seymouriana*, 904

*Septoria cephalanthi*, 876

*Microsphaeraalni*, 856

**CERASTIUM NUTANS**

*Isariopsis albo-rosella*, 895

*Peronospora alsinearum*, 852

**CERASTIUM VISCOSUM**

*Isariopsis albo-rosella*, 895

*Septoria cerastii*, 871

**CERASTIUM VULGATUM**

*Isariopsis albo-rosella*, 895

**CHAMAEDAPHNE CALYCVLATA**

- Ascochyta cassandrae, 869
- Exobasidium vaccinii, 917
- Melampsoropsis cassandrae, 918
- Venturia pulchella, 859

**CHELONE GLABRA**

- Erysiphe galeopsidis, 857
- Septoria wilsoni, 875

**CHENOPODIUM ALBUM**

- Cercospora dubia, 891
- Peronospora effusa, 851
- Phyllosticta atriplicis, 865

**CHENOPODIUM HYBRIDUM**

- Peronospora effusa, 351

**CHIMAPHILA UMBELLATA**

- Pucciniastrum pyrolae, 914

**CHIOGENES HISPIDULA**

- Melampsoropsis chiogenis, 914

**CHIRONOMUS**

- Empusa culicis, 849

**CHRYSANTHEMUM LEUCANTHEMUM**

- Septoria chrysanthemi, 878

**CICUTA BULBIFERA**

- Uromyces scirpi, 900

**CICUTA MACULATA**

- Cylindrosporium cicutae, 883
- Septoria umbelliferarum, 874
- Uromyces scirpi, 900

**CINNA ARUNDINACEA**

- Puccinia graminis, 905
- perminuta, 903

**CIRCAEA ALPINA**

- Puccinia circaeae, 908

**CIRCAEA LUTETIANA**

- Puccinia circaeae, 908

**CIRSIUM ALTISSIMUM**

*Puccinia cirsi*, 911

**CIRSIUM ARVENSE**

*Albugo tragopogonis*, 850

*Puccinia obtogens*, 911

*Septoria cirsi*, 878

**CIRSIUM DISCOLOR**

*Erysiphe cichoracearum*, 858

*Puccinia cirsi*, 911

**CIRSIUM LANCEOLATUM**

*Puccinia cirsi-lanceolati*, 911

*Septoria cirsi*, 878

**CIRSIUM MUTICUM**

*Albugo tragopogonis*, 850

*Septoria commonsii*, 878

**CITRULLUS VULGARIS**

*Septoria cucurbitacearum*, 876

**CLEMATIS VIRGINIANA**

*Ascochyta clematidina*, 868

*Cercospora squalidula*, 891

*Cylindrosporium clematidis*, 883

*Erysiphe polygoni*, 857

*Puccinia tomipara*, 904

**CLINTONIA BOREALIS**

*Puccinia mesomegala*, 907

**COMANDRA RICHARDSIANA**

*Puccinia pustulata*, 903

**COMANDRA UMBELLATA**

*Cronartium comandrae*, 915

*Puccinia pustulata*, 903

**CONVOLVULUS SEPIUM**

*Puccinia convolvuli*, 909

*Septoria convolvuli*, 874

**COPRINUS ATRAMENTARIUS**

*Panaeolus epimyces*, 917

**COPRINUS COMATUS**

*Panaeolus epimyces*, 917

**COPTIS TRIFOLIA**

*Septoria coptidis*, 871

**CORNUS ALTERNIFOLIA**

*Microsphaeraalni*, 856

*Ramularia stolonifera*, 887

*Septoria cornicola*, 874

**CORNUS AMOMUM**

*Ascochyta cornicola*, 869

*Septoria cornicola*, 874

**CORNUS CANADENSIS**

*Glomerularia corni*, 884

*Puccinia porphyrogenita*, 909

**CORNUS PANICULATA**

*Septoria cornicola*, 874

**CORNUS STOLONIFERA**

*Phyllactinia corylea*, 859

*Ramularia stolonifera*, 887

*Sarcinella heterospora*, 895

**CORYLUS AMERICANA**

*Cryptosporella anomala*, 859

*Gloeosporium coryli*, 880

*Gnomoniella coryli*, 859

*Microsphaeraalni*, 856

*Phyllactinia corylea*, 858

**CORYLUS ROSTRATA**

*Gloeosporium coryli*, 880

*Gnomoniella coryli*, 859

*Microsphaeraalni*, 856

*Sarcinella heterospora*, 895

*Septoria corylina*, 870

**CRATAEGUS MACRANTHA SUCCULENTA**

*Gymnosporangium globosum*, 912

**CRATAEGUS OXYACANTHA**

*Podosphaera oxyacanthae*, 854

**CRATAEGUS**

- Entomosporium thumenii, 879
- Gymnosporangium globosum, 912
- Monilia crataegi, 884
- Phleospora crataegi, 878
- Phyllactinia corylea, 858
- Podosphaera oxyacanthae, 854
- Septoria crataegi, 872

**CRYPTOTAENIA CANADENSIS**

- Septoria cryptotaeniae, 874

**CUCUMIS MELO**

- Septoria cucurbitacearum, 876

**CUCURBITA MAXIMA**

- Septoria cucurbitacearum, 876

**CYDONIA VULGARIS**

- Gymnosporangium clavipes, 911

**CYNOGLOSSUM OFFICINALE**

- Phyllosticta decidua, 867

**CYPERUS FILICULMIS**

- Puccinia cyperi, 905

**CYPERUS SCHWEINITZII**

- Phyllachora cyperi, 861
- Puccinia cyperi, 905

**CYPERUS STRIGOSUS**

- Puccinia cyperi, 905

**CYPRIPEDIUM ACAULE**

- Cercospora cypripedii, 891

**CYPRIPEDIUM PARVIFLORUM**

- Cercospora cypripedii, 891
- Puccinia cypripedii, 907

**CYSTOPTERIS FRAGILIS**

- Hyalopsora polypodii, 914

**DACTYLIS GLOMERATA**

- Puccinia coronata, 904
- Puccinia graminis, 905

DAHLIA

*Erysiphe cichoracearum*, 858

DECODON VERTICILLATUS

*Aecidium nesaeae*, 918

DENTARIA LACINIATA

*Peronospora parasitica*, 852

*Septoria dentariae*, 872

DESMODIUM CANADENSE

*Microphaera diffusa*, 857

DESMODIUM CANESCENS

*Microsphaera diffusa*, 857

*Phyllosticta desmodii*, 866

DESMODIUM DILLENII

*Uromyces hedysari-paniculati*, 901

DESMODIUM GRANDIFLORUM

*Cercospora desmedii*, 892

*Parodiella perisporioides*, 859

DESMODIUM PANICULATUM

*Microsphaera diffusa*, 857

DESMODIUM

*Ramularia desmedii*, 886

DIANTHUS CARYOPHYLLUS

*Uromyces caryophyllinus*, 901

DICENTRA CUCULLARIA

*Aecidium dicentrae*, 916

*Peronospora corydalis*, 852

DIERVILLA LONICERA

*Phyllosticta diervillae*, 867

*Septoria diervillicola*, 876

DIGITARIA SANGUINALE

*Ustilago rabenhorstiana*, 896

*Piricularia grisea*, 888

DIOSCOREA VILLOSA

*Cercospora dioscoreae*, 890

*Ramularia dioscoreae*, 885

**DIRCA PALUSTRIS**

*Aecidium hydnoideum*, 916

**DODECATHEON MEADIA**

*Phyllosticta dodecathei*, 867

**DRABA CAROLINIANA**

*Peronospora parasitica*, 852

**DRACOCEPHALUM PARVIFLORUM**

*Peronospora hedeomae*, 853

*Septoria dracocephali*, 875

**DULICHIMUM ARUNDINACEUM**

*Puccinia dulichii*, 905

**ECHINOCYSTIS LOBATA**

*Septoria sicyi*, 876

**ELAPHOMYCES**

*Cordyceps capitata*, 861

**ELEOCHARIS PALUSTRIS**

*Puccinia eleocharidis*, 905

*Uromyces eleocharidis*, 900

**ELEOCHARIS**

*Claviceps nigricans*, 861

**ELYMUS CANADENSIS**

*Claviceps*, 861

*Puccinia graminis*, 905

*Urocystis agropyri*, 898

*Ustilago striaeformis*, 856

**ELYMUS STRIATUS**

*Claviceps*, 861

*Puccinia graminis*, 905

——— *impatiens*, 904

**ELYMUS VIRGINICUS**

*Piricularia parasitica*, 888

*Puccinia impatientis*, 904

*Urocystis agropyri*, 898

**ELYMUS**

*Epichloe typhina*, 861

**EPIGAEA REPENS**

*Cercospora epigaeina*, 893

*Microsphaera alni vaccinii*, 856



**EPILOBIUM ADENOCAULON**

*Pucciniastrum pustulatum*, 914

**EPILOBIUM ANGUSTIFOLIUM**

*Pestalozzia Kriegeriana*, 883

*Pucciniastrum pustulatum*, 914

*Ramularia punctiformis*, 887

**EPILOBIUM COLORATUM**

*Pucciniastrum pustulatum*, 914

*Ramularia punctiformis*, 887

*Septoria epilobii*, 873

*Sphaerotheca humuli*, 855

**ERAGROSTIS HYPNOIDES**

*Ustilago spermophora*, 896

**ERAGROSTIS MEGASTACHYA**

*Ustilago spermophora*, 896

**ERECTITES HIERACIFOLIA**

*Plasmopara halstedii*, 851

*Sphaerotheca humuli fuliginea*, 855

**ERIGERON ANNUUS**

*Cercospora cana*, 889

*Plasmopara halstedii*, 851

*Septoria erigerontis*, 877

**ERIGERON CANADENSIS**

*Cercospora cana*, 889

**ERIGERON PHILADELPHICUS**

*Entyloma compositarum*, 899

*Septoria erigerontis*, 877

**ERIGERON RAMOSUS**

*Cercospora cana*, 889

*Septoria erigerontis*, 877

**ERIGERON**

*Puccinia caricis-erigerontis*, 906

**ERYNGIUM YUCCIFOLIUM**

*Cylindrosporium eryngii*, 883

**ERYSIPHEAE**

*Ampelomyces quisqualis*, 868

**EUCHLAENA LUXURIANS**

*Ustilago zaeae*, 896

**EUPATORIUM PERFOLIATUM**

*Cercospora perfoliata*, 894

*Erysiphe cichoracearum*, 858

*Phyllosticta decidua*, 867

*Puccinia eleocharidis*, 905

**EUPATORIUM PURPUREUM**

*Cercospora perfoliata*, 894

*Erysiphe cichoracearum*, 858

*Puccinia eleocharidis*, 905

**EUPATORIUM URTICAEFOLIUM**

*Entyloma compositarum*, 899

*Erysiphe cichoracearum*, 858

*Hypocrella*, 861

*Plasmopara halstedii*, 851

*Puccinia tenuis*, 910

**EUPHORBIA COMMUTATA**

*Aecidium euphorbiae*, 916

**EUPHORBIA COROLLATA**

*Microsphaera euphorbiae*, 857

*Passalora fasciculata*, 889

*Puccinia panici*, 903

**EUPHORBIA MACULATA**

*Peronospora euphorbiae*, 852

*Uromyces euphorbiae*, 902

**EUPHORBIA POLYGONIFOLIA**

*Uromyces euphorbiae*, 902

**EUPHORBIA PRESII**

*Uromyces euphorbiae*, 902

**FAGUS GRANDIFOLIA**

*Gloeosporium fagi americanum*, 880

*Microsphaera alni*, 856

*Phyllactinia corylea*, 858

*Phyllosticta fagicola*, 865

**FESTUCA ELATIOR**

*Puccinia phlei-pratensis*, 903

**FLIES-CADDIS**

*Empusa rhizophora*, 849

**FLIES-HOUSE**

*Empusa muscae*, 849

**FLIES**

*Saprolegnia thuretii*, 849

**FLOERKEA PROSERPINACOIDES**

*Entyloma floerkeae*, 899

*Peronospora floerkeae*, 853

**FLY-BLUE BOTTLE**

*Empusa americana*, 848

**FRAGARIA VESCA**

*Ramularia tulasnei*, 886

*Sphaerella fragariae*, 859

**FRAGARIA VIRGINIANA**

*Ramularia modesta*, 886,

*Ramularia tulasnei*, 886

*Sphaerella fragariae*, 859

**FRAXINUS AMERICANA**

*Dicoccum nebulosum*, 889

*Gloeosporium aridum*, 881

*Puccinia peridermiospora*, 904

*Septoria besseyi*, 874

**FRAXINUS NIGRA**

*Marssonina fraxini*, 882

*Piggotia fraxini*, 879

*Puccinia peridermiospora*, 904

**FRAXINUS PENNSYLVANICA**

*Phyllactinia corylea*, 859

**FRAXINUS**

*Piggotia fraxini*, 879

**GALEOPSIS TETRAHIT**

*Septoria galeopsidis*, 875

**GALIUM APARINE**

*Cercospora galii*, 894

*Peronospora calotheca*, 853

*Puccinia punctata*, 910

**GALIUM ASPRELLUM**

*Puccinia punctata*, 910

**GALIUM BOREALE**

*Peronospora calotheca*, 853

*Puccinia rubefaciens*, 910

**GALIUM CIRCAEZANS**

*Septoria psilostega*, 875

**GALIUM CONCINNUM**

*Puccinia punctata*, 910

**GALIUM LANCEOLATUM**

*Peronospora calotheca*, 853

**GALIUM TINCTORIUM**

*Cercospora galii*, 894

*Pseudopeziza repanda*, 863

*Puccinia punctata*, 910

*Septoria psilostega*, 875

**GALIUM TRIFLORUM**

*Peronospora calotheca*, 853

*Puccinia punctata*, 910

**GAULTHERIA PROCUMBENS**

*Asterina gaultheriae*, 862

**GAYLUSSACIA BACCATA**

*Exobasidium vaccinii*, 917

*Microsphaera alni vaccinii*, 856

**GENTIANA ANDREWSII**

*Leptothyrium gentianaecolum*, 879

*Puccinia gentianae*, 909

**GERANIUM MACULATUM**

*Cercospora geranii*, 892

*Erysiphe polygoni*, 857

*Pestalotziella subsessilis*, 881

*Plasmopara geranii*, 850

*Puccinia polygoni-amphibii*, 907

**GERARDIA GRANDIFLORA**

*Cercospora gerardiae*, 894

*Sphaerotheca humuli fuliginea*, 855

**GEUM CANADENSE**

- Peronospora potentillae, 852
- Phyllosticta decidua, 867
- Sphaerotheca humuli, 855
- Synchytrium aureum, 848

**GEUM MACROPHYLLUM**

- Peronospora potentillae, 852
- Septoria gei, 872
- Sphaerotheca humuli, 855

**GEUM RIVALE**

- Peronospora potentillae, 852

**GEUM STRICTUM**

- Peronospora potentillae, 852

**GEUM VIRGINIANUM**

- Sphaerotheca humuli, 855
- Synchytrium aureum, 848

**GLYCERIA GRANDIS**

- Puccinia graminis, 905
- Ustilago longissima, 896

**GLYCERIA NERVATA**

- Claviceps, 860
- Cylindrosporium glyceriae, 882
- Sclerotium rhizodes, 917

**GLYCERIA SEPTENTRIONALIS**

- Claviceps, 860
- Fusarium heterosporum, 895
- Sclerotium globuliferum, 917
- Uromyces amphidymus, 900
- Ustilago longissima macrospora, 896

**GNAPHALIUM POLYCEPHALUM**

- Cercospora gnaphaliacea, 894

**GRAMINEAE**

- Erysiphe graminis, 857
- Phyllachora graminis, 861
- Scolecotrichum graminis, 889

**GRATIOLA VIRGINIANA**

- Septoria gratiolae, 875

**GYRINUS**

Laboulbenia gyrinidarum, 864

**HALENIA DEFLEXA**

Puccinia haleniae, 909

**HAMAMELIS VIRGINIANA**

Gonatobotryum maculicolum, 885

Phyllactinia corylea, 858

Phyllosticta hamamelidis, 866

Podosphaera biuncinata, 854

Ramularia hamamelidis, 886

**HEDEOMA PULEGIOIDES**

Puccinia menthae, 909

**HELENIUM AUTUMNALE**

Entyloma compositarum, 899

Erysiphe cichoracearum, 858

Septoria helenii, 878

**HELIANTHUS ANNUUS**

Albugo tragopogonis, 850

Plasmopara halstedii, 851

Septoria helianthi, 877

**HELIANTHUS DIVARICATUS**

Plasmopara halstedii, 851

**HELIANTHUS GROSSE-SERRATUS**

Plasmopara halstedii, 851

Septoria helianthi, 877

**HELIANTHUS HIRSUTUS**

Septoria helianthi, 877

**HELIANTHUS OCCIDENTALIS**

Cercospora helianthi, 894

Plasmopara halstedii, 851

**HELIANTHUS STRUMOSUS**

Erysiphe cichoracearum, 858

Plasmopara halstedii, 851

Septoria helianthi, 877

**HELIANTHUS TUBEROSUS**

Plasmopara halstedii, 851

Septoria helianthi, 877

**HELIANTHUS**

Montagnella heliopsisidis, 862

Puccinia helianthi, 910

Septoria helianthi, 877

**HELIOPSIS SCABRA**

Erysiphe cichoracearum, 858

**HEPATICACUTILOBA**

Plasmopara pygmaea, 850

Protomyces fuscus, 854

Puccinia pruni-spinosae, 908

**HEPATICATRILOBA**

Protomyces fuscus, 854

**HERACLEUM LANATUM**

Ramularia heraclei, 887

**HEUCHERA AMERICANA**

Puccinia curtipes, 908

**HEUCHERA HISPIDA**

Puccinia curtipes, 908

**HEUCHERA**

Cercospora heucherae, 892

**HIERACIUM CANADENSE**

Puccinia hieracii, 911

**HIERACIUM SCABRUM**

Puccinia hieracii, 911

patruelis, 906

**HORDEUM JUBATUM**

Puccinia graminis, 905

Puccinia rubigo-vera, 905

Sclerotium rhizodes, 917

Septoria passerinii, 870

**HORDEUM DISTICHON**

Helminthosporium sativum 890

**HORDEUM VULGARE**

- Helminthosporium gramineum, 890
- sativum, 890
- teres, 889
- Puccinia graminis, 905
- Puccinia simplex, 905
- Ustilago hordei, 897
- nuda, 897

**HOUSE FLIES**

- Empusa muscae, 849

**HUMULUS LUPULUS**

- Cylindrosporium humuli, 882
- Plasmopara humuli, 850

**HYDROPHYLLUM VIRGINIANUM**

- Erysiphe cichoracearum, 858
- Peronospora hydrophylli, 853
- Puccinia hydrophylli, 909

**HYPERICUM ASCYRON**

- Uromyces hyperici-frondosi, 902

**HYPERICUM BOREALE**

- Uromyces hyperici-frondosi, 902

**HYPERICUM PUNCTATUM**

- Septoria sphaerelloides, 873
- Uromyces hyperici-frondosi, 902

**HYPERICUM VIRGINICUM**

- Uromyces hyperici-frondosi, 902

**HYSTRIX PATULA**

- Epichloe typhina, 861
- Piricularia parasitica, 888
- Puccinia apocryta, 904

**ILEX VERTICILLATA**

- Ramularia prini, 887
- Rhytisma ilicis-canadensis, 863
- Microsphaera alni, 856



**IMPATIENS BIFLORA**

- Plasmopara obducens, 850
- Puccinia argentata, 908
- Puccinia impatientis, 904
- Ramularia impatientis, 887
- Septoria nolitangeris, 873

**IMPATIENS PALLIDA**

- Plasmopara obducens, 850
- Puccinia impatientis, 904
- Ramularia impatientis, 887

**INULA HELENIUM**

- Erysiphe cichoracearum, 858

**IPOMOEA PURPUREA**

- Septoria convolvuli, 874

**IRIS VERSICOLOR**

- Aecidium iridis, 915
- Asteroma venulosum, 868
- Phyllosticta iridis, 865
- Puccinia iridis, 907

**ISOPYRUM BITERNATUM**

- Cercospora merrowae, 891

**IVA XANTHIFOLIA**

- Albugo tragopogonis, 850

**JUGLANS CINEREA**

- Marssonina juglandis, 881
- Microstroma juglandis, 884

**JUGLANS NIGRA**

- Marssonina juglandis, 881

**JUNCUS EFFUSUS**

- Uromyces junci-effusae, 901

**JUNCUS NODOSUS**

- Claviceps junci, 861

**JUNCUS TENUIS**

- Cintractia junci, 897
- Phyllachora junci, 862
- Uromyces junci-tenuis, 901

**JUNIPERUS COMMUNIS DEPRESSA**

- Gymnosporangium clavariaeforme, 912
- clavipes, 911
- davisii, 911

**JUNIPERUS VIRGINIANA**

- Cercospora sequoiae juniperi, 890
- Gymnosporangium globosum, 912
- juniperi-virginianae, 912
- juvenescens, 912

**KALMIA POLIFOLIA**

- Microsphaera alni vaccini, 856

**KOELERIA CRISTATA**

- Claviceps, 860
- Epichloe typhina, 861

**KRIGIA AMPLEXICAULIS**

- Aecidium compositarum, 916

**KUHNIA EUPATORIROIDES**

- Puccinia kuhniae, 910

**LACHNOSTERNA**

- Cordyceps herculea, 861

**LACTARIUS TORMINOSUS**

- Hypomyces torminosus, 860

**LACTARIUS ZONARIUS**

- Hypomyces lateritius, 860

**LACTARIUS**

- Hypomyces lateritius, 860

**LACTUCA CANADENSIS**

- Bremia lactucae, 850
- Phyllosticta decidua, 867
- Puccinia patruellis, 906
- Septoria lactucicola, 878

**LACTUCA PULCHELLA**

- Puccinia hemisphaerica, 911
- Septoria lactucae, 878

**LACTUCA SATIVA**

- Bremia lactucae, 850
- Septoria lactucae, 878

**LACTUCA SCARIOLA**

- Puccinia patruellis, 906
- Septoria lactucicola, 878
- Septoria lactucae, 878

**LACTUCA SPICATA**

*Bremia lactucae*, 850

**LAPORTEA CANADENSIS**

*Septoria urticae*, 871

**LAPPA MINOR**

*Phyllosticta lappae*, 868

*Septoria lapparum*, 878

**LAPPULA VIRGINIANA**

*Erysiphe cichoracearum*, 858

*Phyllosticta decidua*, 867

**LARIX LARICINA**

*Melampsora bigelowii*, 913

*Melampsoridium betulinum*, 913

**LATHYRUS OCHROLEUCUS**

*Erysiphe polygoni*, 857

*Phleospora reticulata*, 878

*Microsphaera alni*, 856

*Uromyces fabae*, 902

**LATHYRUS PALUSTRIS**

*Microsphaera alni*, 856

*Uromyces fabae*, 902

**LATHYRUS VENOSUS**

*Cercospora viciae*, 892

*Erysiphe polygoni*, 857

*Microsphaera alni*, 856

*Phleospora reticulata*, 878

*Uromyces fabae*, 902

**LEDUM GROENLANDICUM**

*Melampsoropsis ledi*, 913

**LEERSIA ORYZOIDES**

*Sphaerella zizaniae*, 859

**LEERSIA VIRGINICA**

*Piricularia grisea*, 888

*Uromyces alstedii*, 900

**LEONURUS CARDIACA**

*Phyllosticta decidua*, 867

**LEPACHYS PINNATA**

*Entyloma compositarum*, 899

LEPIDIUM VIRGINICUM

- Albugo candida, 849
- Peronospora parasitica, 852
- Septoria lepidicola, 872

LESPEDEZA CAPITATA

- Phyllachora lespedezae, 862
- Uromyces lespedezae-procumbentis, 902

LESPEDEZA VIOLACEA

- Microsphaera diffusa, 857
- Uromyces lespedezae-procumbentis, 902

LESPEDEZA

- Ramularia desmodii, 886
- Uromyces lespedezae-procumbentis, 902

LIATRIS SCARIOSA

- Septoria liatridis, 876

LIATRIS SPICATA

- Septoria liatridis, 876

LILIUM CANADENSE

- Uromyces holwayi, 901

LINNAEA BOREALIS

- Venturia dickiei, 859

LINUM SULCATUM

- Melampsora lini, 913

LINUM USITATISSIMUM

- Melampsora lini, 913

LIPPIA LANCEOLATA

- Cercospora lippiae, 893

LOBELIA CARDINALIS

- Septoria lobeliae, 876

LOBELIA INFLATA

- Entyloma lobeliae, 899
- Septoria lobeliae, 876

LOBELIA SIPHILITICA

- Puccinia lobeliae, 910
- Septoria lobeliae, 876

LOBELIA SPICATA

Septoria lobeliae, 876

LONICERA CANADENSIS

Glomerularia corni, 884

Leptothyrium periclymeni americanum, 879

LONICERA DIOICA

Microsphaera alni, 856

LONICERA GLAUDESCENS

Cercospora antipus, 894

LONICERA HIRSUTA

Cercospora antipus, 894

Septoria sambucina, 876

LONICERA OBLONGIFOLIA

Glomerularia corni, 884

Leptothyrium periclymeni americanum, 879

LONICERA SULLIVANTII

Sarcinella heterospora, 895

Microsphaera alni, 856

LONICERA TATARICA

Microsphaera alni, 856

LONICERA

Cercospora antipus, 894

Phoma cryptica, 868

LUDVIGIA PALUSTRIS

Septoria ludwigiae, 873

LUDVIGIA POLYCARPA

Phyllosticta ludwigiae, 867

LUPINUS PERENNIS

Erysiphe polygoni, 857

LUZULA CAMPESTRIS

Puccinia obscura, 907

LYCHNIS ALBA

Septoria melandrii, 871

LYCOPERSICUM ESCULENTUM

Septoria lycopersici, 875

**LYCOPUS AMERICANUS**

- Ascochyta leonuri, 869
- Puccinia angustata, 906

**LYCOPUS UNIFLORUS**

- Phyllosticta decidua, 867

**LYCOPUS VIRGINICUS**

- Puccinia angustata, 906

**LYSIMACHIA THYRSIFLORA**

- Aecidium lysimachiae, 916
- Ramularia lysimachiae, 887

**LYTHRUM ALATUM**

- Cercospora lythri, 893
- Septoria lythrina, 873

**MAIANTHEMUM CANADENSE**

- Cercospora maianthemi, 890
- Cercospora subsanguinea, 890

**MALVA ROTUNDIFOLIA**

- Puccinia malvacearum, 908
- Septoria heterochroa, 873

**MEDICAGO SATIVA**

- Peronospora trifoliorum, 852
- Pseudopeziza medicaginis, 863

**MELILOTUS ALBA**

- Cercospora davisii, 892
- Marssonina meliloti, 882
- Phoma meliloti, 868

**MENISPERMUM CANADENSE**

- Cercospora menispermi, 891
- Entyloma menispermi, 898

**MENTHA ARVENSIS CANADENSIS**

- Phyllosticta decidua, 867
- Puccinia menthae, 909
- Ramularia menthicola, 887

**MENYANTHES TRIFOLIATA**

- Physoderma menyanthis, 848
- Septoria menyanthis, 874

**MILIUM EFFUSUM**

- Puccinia graminis, 905
- milii, 903

**MIMULUS RINGENS**

- Aecidium sp. indet., 916
- Septoria mimuli, 875
- Uredo sp. indet., 915

**MITELLA DIPHYLLA**

- Puccinia heucherae, 908
- Ramularia mitellae, 886
- Sphaerotheca humuli, 855

**MITELLA NUDA**

- Puccinia heucherae, 908

**MONARDA FISTULOSA**

- Puccinia menthae, 909

**MONARDA PUNCTATA**

- Phyllosticta decidua, 867
- Puccinia menthae, 909

**MUHLENBERGIA FOLIOSA**

- Puccinia muhlenbergiae, 903

**MUHLENBERGIA SYLVATICA**

- Uromyces minimus, 900

**MYRICA ASPLENIFOLIA**

- Cronartium comptoniae, 915
- Ovularia destructiva, 884

**MYRICA GALE**

- Ovularia destructiva, 884

**NEMOPANTHUS MUCRONATA**

- Ramularia nemopanthis, 887
- Microsphaera alni, 856
- Rhytisma ilicis-canadensis, 863

**NEPETA HEDERACEA**

- Phyllosticta decidua, 867

**NYMPHAEA ADVENA**

- Entyloma nymphaeae, 898
- Phyllosticta fatiscens, 866

**OAKESIA SESSILIFOLIA**

*Phyllosticta cruenta discincta*, 865

**OENOTHERA BIENNIS**

*Peronospora arthuri*, 853

*Puccinia peckii*, 906

*Septoria oenotherae*, 873

*Uromyces plumbarius*, 902

**OENOTHERA PUMILA**

*Septoria oenotherae*, 873

**ONOCLEA SENSIBILIS**

*Uredinopsis mirabilis*, 914

**ONOCLEA STRUTHIOPTERIS**

*Uredinopsis struthiopteridis*, 915

**ORYZOPSIS ASPERIFOLIA**

*Puccinia milii*, 903

**ORYZOPSIS RACEMOSA**

*Claviceps*, 860

**OSMORHIZA CLAYTONI**

*Puccinia osmorhizae*, 909

*Ramularia reticulata*, 887

*Septoria osmorhizae*, 874

**OSMORHIZA LONGISTYLIS**

*Cercospora osmorhizae*, 893

*Puccinia osmorhizae*, 909

*Septoria osmorhizae*, 874

**OSMUNDA CINNAMOMEA**

*Uredinopsis osmundae*, 915

**OSMUNDA CLAYTONIANA**

*Uredinopsis osmundae*, 915

**OSMUNDA REGALIS**

*Uredinopsis osmundae*, 915

*Ustilago osmundae*, 896

**OSTRYA VIRGINIANA**

*Phyllactinia corylea*, 858

*Septoria ostryae*, 870

**OXALIS CORNICULATA**

*Microsphaera russellii*, 857



**OXALIS STRICTA**

*Microsphaera russellii*, 857

*Phyllosticta oxalidis*, 866

*Ustilago oxalidis*, 897

**OXALIS**

*Ramularia oxalidis*, 886

**OXYBAPHUS NYCTAGINEUS**

*Ascochyta oxybaphi*, 868

*Cercospora oxybaphi*, 891

**OXYPOLIS RIGIDIOR**

*Septoria umbelliferarum*, 874

**PANICUM CAPILLARE**

*Puccinia emaculata*, 903

**PANICUM DEPAUPERATUM**

*Septoria graminum*, 869

**PANICUM MILIACEUM**

*Sorosporium syntherismae*, 897

**PANICUM VIRGATUM**

*Puccinia panici*, 903

**PARIETARIA PENNSYLVANICA**

*Erysiphe cichoracearum*, 858

*Septoria parietariae*, 871

**PARNASSIA CAROLINIANA**

*Erysiphe polygoni*, 857

**PASTINACA SATIVA**

*Cercospora apii pastinacae*, 893

**PEDICULARIS CANADENSIS**

*Puccinia clintonii*, 910

*Synchytrium aureum*, 848

**PEDICULARIS LANCEOLATA**

*Sphaerotheca humuli fulginea*, 855

**PENTHORUM SEDOIDES**

*Cercospora sedoides*, 891

**PENTSTEMON HIRSUTUS**

- Cercospora pentstemonis*, 894
- Puccinia andropogonis*, 902

**PETALOSTEMON**

- Puccinia petalostemonis*, 908

**PETASITES PALMATUS**

- Puccinia nardosmiae*, 910
- Ramularia variegata*, 888

**PHALARIS ARUNDINACEA**

- Claviceps*, 860
- Puccinia sessilis*, 903
- Sclerotium rhizodes*, 917

**PHASEOLUS**

- Gloeosporium lindemuthianum*, 881
- Uromyces appendiculatus*, 902

**PHEGOPTERIS DRYOPTERIS**

- Uredinopsis phegopteridis*, 914

**PHLEUM PRATENSE**

- Claviceps*, 860
- Entyloma crastophilum*, 898
- Puccinia phlei-pratensis*, 903
- Sclerotium rhizodes*, 917
- Ustilago striaeformis*, 896

**PHLOX DIVARICATA**

- Cercospora omphacodes*, 893
- Erysiphe cichoracearum*, 858
- Septoria divaricata*, 874

**PHLOX DRUMMONDII**

- Erysiphe cichoracearum*, 858

**PHLOX PANICULATA**

- Erysiphe cichoracearum*, 858

**PHLOX PILOSA**

- Uromyces acuminatus*, 900

**PHRAGMITES COMMUNIS**

- Puccinia phragmitis*, 904
- Puccinia similima*, 904
- Scolecotrichum maculicolum*, 889

PHRYMA LEPTOSTACHYA

Puccinia phrymae, 906  
Septoria leptostachya, 875

PHYLLACHORA GRAMINIS

Piricularia parasitica

PHYSALIS HETEROPHYLLA

Cercospora physalidis, 894  
Entyloma australe, 899

PHYSALIS PUBESCENS

Cercospora physalidis, 894

PHYSALIS VIRGINIANA

Entyloma australe, 899  
Puccinia physalidis, 909

PHYSALIS

Cercospora diffusa, 894  
Entyloma australe, 899

PHYSOCARPUS OPULIFOLIUS

Sphaerotheca humuli, 855

PHYSOSTEGIA VIRGINIANA

Septoria physostegiae, 875

PICEA MARIANA

Melampsoropsis cassandrae, 913  
——— ledicoia, 913

PILEA PUMILA

Septoria pileae, 871

PINUS BANKSIANA

Lophodermium pinastri, 862  
Peridermium sp. indet., 916

PINUS STROBUS

Lophodermium pinastri, 862

PISUM SATIVUM

Ascochyta pisi, 868  
Peronospora viciae, 852  
Septoria pisi, 873

PLANTAGO CORDATA

Ramularia plantaginis, 888

PLANTAGO MAJOR

- Erysiphe cichoracearum, 858
- Peronospora alta, 853
- Septoria plantaginis, 875
- Sphaerotheca humuli fuliginea, 855

PLANTAGO RUGELII

- Asterina plantaginis, 862
- Erysiphe cichoracearum, 858
- Peronospora alta, 853
- Ramularia plantaginis, 888

POA ANNUA

- Septoria graminum, 869

POA COMPRESSA

- Claviceps, 860

POA PRATENSIS

- Erysiphe graminis, 857
- Puccinia poarum, 904
- Sclerotium rhizodes, 917

PODOPHYLLUM PELTATUM

- Hypocrella, 861
- Puccinia podophylli, 908
- Septoria podophyllina, 872

POLEMONIUM REPTANS

- Uromyces ocuminatus, 900

POLYGALA SENEGA

- Aecidium polygalinum, 916

POLYGONATUM BIFLORUM

- Aecidium smilacinae, 915

POLYGONATUM COMMUTATUM

- Aecidium smilacinae, 915

POLYGONUM AMPHIBIUM

- Puccinia polygoni-amphibii, 907
- Ramularia rufomaculans, 886

**POLYGONUM AVICULARE**

- Cercospora avicularis, 891
- Erysiphe polygoni, 857
- Ramularia rufomaculans, 886
- Uromyces polygoni, 901

**POLYGONUM CILINODE**

- Ramularia rufomaculans, 886
- Septoria polygonorum, 871

**POLYGONUM CONVULVULUS**

- Puccinia polygoni-amphibii, 907
- Septoria polygonorum, 871

**POLYGONUM ERECTUM**

- Cercospora avicularis, 891
- Uromyces polygoni, 901

**POLYGONUM HYDROPIPER**

- Cercospora hydropiperis, 891
- Septoria polygonorum, 871

**POLYGONUM HYDROPIPEROIDES**

- Puccinia polygoni-amphibii, 907

**POLYGONUM MUHLENBERGII**

- Ramularia rufomaculans, 886

**POLYGONUM ORIENTALE**

- Septoria polygonorum, 871

**POLYGONUM PENNSYLVANICUM**

- Ustilago utriculosa, 897

**POLYGONUM SAGITTATUM**

- Sphacelotheca hydropiperis, 897

**POLYGONUM SCANDENS**

- Peronospora polygoni, 851

**POLYGONUM VIRGINIANUM**

- Puccinia polygoni-amphibii, 907

**POLYGONUM**

- Septoria polygonorum, 871

**POLYMNIA CANADENSIS**

- Aecidium compositarum, 916
- Septoria polymniae, 877

**POLYPORUS**

- Hypocrea aurantiaca, 860
- Hypomyces frondosus, 860
- Hypomyces aurantius, 860

**PONTERERIA CORDATA**

- Cercospora pontederiae, 890

**POPULUS ALBA**

- Marssonina castagnei, 881

**POPULUS BALSAMIFERA**

- Septoria musiva, 870

**POPULUS CANDICANS**

- Marssonina castagnei, 881

**POPULUS DELTOIDES**

- Marssonina castagnei, 881
- Melampsora medusae, 913
- Septoria musiva, 870

**POPULUS GRANDIDENTATA**

- Fusicladum radiosum, 889
- Marssonina castagnei, 881
- Melampsora medusae, 913

**POPULUS TREMULOIDES**

- Fusicladium radiosum, 889
- Marssonina castagnei, 881
- Melampsora medusae, 913
- Sclerotium bifrons, 917
- Septoria musiva, 870
- Taphrina johansonii, 864

**POPULUS SPP. VARI**

- Uncinula salicis, 855

**PORTULACA OLERACEA**

- Albugo portulacae, 849

**POTAMOGETON**

- Doassansia martianoffiana, 899

**POTENTILLA ANSERINA**

- Ramularia arvensis, 886

**POTENTILLA ARGUTA**

- Marssonina potentillae, 882
- Taphrina potentillae, 864

POTENTILLA CANADENSIS

Phragmidium potentillae-canadensis, 912

POTENTILLA FRUTICOSA

Phragmidium andersoni, 912

POTENTILLA MONSPELIENSIS

Gloeosporium fragariae, 880

Mollisia dehnii, 863

Peronospora potentillae, 852

Ramularia arvensis, 886

POTENTILLA PALUSTRIS

Cercospora comari, 892

Marssonina potentillae, 882

Septogloeum potentillae, 882

Sphaerotheca humuli, 855

POTENTILLAE TRIDENTATA

Pucciniastrum potentillae, 914

PRENANTHES ALBA

Puccinia patruelis, 906

Puccinia orbicula, 911

Septoria nabali, 878

Sphaerotheca humuli fuliginea, 855

Synchytrium aureum, 848

PROSERPINACA PALUSTRIS

Puccinia proserpinacae, 909

PRUNELLA VULGARIS

Ramularia brunellae, 887

Septoria brunellae, 875

Sphaerotheca humuli fuliginea, 855

PRUNUS AMERICANA

Monilia fructigena, 884

Plowrightia morbosa, 862

Podosphaera oxyacanthae, 854

Puccinia pruni-spinosae, 908

PRUNUS NIGRA

Phyllostica prunicola, 866

PRUNUS PENNSYLVANICA

Cylindrosporium padi, 883

Plowrightia morbosa, 862

Podosphaera oxyacanthae, 854

Puccinia pruni-spinosae, 908

PRUNUS PERSICA

Exoascus deformans, 864

PRUNUS PUMILA

Podosphaera oxyacanthae, 854

PRUNUS SEROTINA

Cercospora circumscissa, 892

Cylindrosporium padi, 883

Monilia seaveri, 884

Phyllosticta prunicola, 866

Phyllosticta serotina, 866

Plowrightia morbosa, 862

Puccinia pruni-spinosae, 908

PRUNUS VIRGINIANA

Cylindrosporium padi, 883

Exoascus cerasi, 864

Monilia angustior, 884

Phyllosticta destruens, 866

Plowrightia morbosa, 862

Podosphaera oxyacanthae, 854

Puccinia pruni-spinosae, 908

PRUNUS

Cylindrosporium padi, 883

Exoascus pruni, 864

Podosphaera oxyacanthae, 854

PSEDERA

Cercospora ampelopsidis, 893

Phyllosticta labruscae, 866

Plasmopara viticola, 851

Septogloeum ampelopsidis, 882

Unicinula necator, 855

PTELEA TRIFOLIATA

Septoria pteleae, 873

PTERIS AQUILINA

Fusidium pteridis, 884

Marssonina necans, 881

Phyllachora pteridis, 861

Septoria aquilina, 869



**PYCNANTHEMUM VIRGINIANUM**

*Puccinia menthae*, 909

**PYROLA AMERICANA**

*Pucciniastrum pyrolae*, 914

*Ovularia pyrolae*, 884

**PYROLA ELLIPTICA**

*Melampsoropsis pyrolae*, 913

*Ovularia pyrolae*, 884

*Pucciniastrum pyrolae*, 914

**PYROLA SECUNDA**

*Melampsoropsis pyrolae*, 913

*Pucciniastrum pyrolae*, 914

**PYRUS ARBUTIFOLIA**

*Cercospora pyri*, 892

**PYRUS CORONARIA**

*Cercospora pyrina*, 888

*Fusicladium dendriticum*, 889

*Gymnosporangium juniperi-virginianae*, 912

*Marssonina coronaria*, 881

*Phyllosticta pyrina*, 866

*Podosphaera oxyacanthae*, 854

**PYRUS IOENSIS**

*Gymnosporangium juniperi-virginianae*, 912

**PYRUS MALUS**

*Fusicladium dendriticum*, 889

*Gloeosporium fructigenum*, 880

*Gymnosporangium juniperi-virginianae*, 912

*Phyllosticta pyrina*, 866

*Podosphaera leucotricha*, 854

**PYRUS MELANOCARPA**

*Cercospora pyri*, 892

*Gymnosporangium davisii*, 911

**PYRUS PRUNIFOLIA**

*Fusicladium dendriticum*, 889

**PYRUS AMERICANA**

*Entomosporium maculatum domesticum*, 879

*Gymnosporangium cornutum*, 911

**QUERCUS ALBA**

- Cronatrium quercus, 915
- Fumago vagans, 895
- Gloeosporium nervisequum, 880
- Leptothyrium dryinum, 879
- Marssonina martini, 881
- Microsphaera alni, 856
- Phyllosticta phomiformis, 865
- Phyllosticta quercus, 865

**QUERCUS COCCINEA**

- Taphrina coerulescens, 864

**QUERCUS ELLIPSOIDALIS**

- Microsphaera alni, 856

**QUERCUS MACROCARPA**

- Gloeosporium nervisequum, 880
- Marssonina martini, 881
- Microsphaera alni, 856
- Phyllosticta quercus, 865

**QUERCUS RUBRA**

- Gloeosporium nervisequum, 880
- Leptothyrium dryinum, 879
- Marssonina martini, 881
- Microsphaera alni, 856
- extensa, 856
- Taphrina coerulescens, 864

**QUERCUS VELUTINA**

- Cronartium quercus, 915
- Gloeosporium septorioides, 880

**QUERCUS**

- Ascochyta quercus, 868
- Phyllactinia corylea, 858

**RADICULA ARMORACIA**

- Cercospora armoraciae, 891
- Phyllosticta decidua, 867
- Ramularia armoraciae, 886

**RADICULA PALUSTRIS**

- Albugo candida, 849
- Cercospora nasturtii, 891
- Peronospora parasitica, 852

**RANUNCULUS ABORTIVUS**

- Ascochyta (?) infuscans, 868
- Erysiphe polygoni, 857
- Puccinia eatoniae, 903
- Septocylindrium ranunculi, 885

**RANUNCULUS ACRIS**

- Didymaria didyma, 885
- Erysiphe polygoni, 857

**RANUNCULUS DELPHINIFOLIUS**

- Doassansia ranunculina, 900
- Erysiphe polygoni, 857

**RANUNCULUS FASCICULARIS**

- Didymaria didyma, 885
- Peronospora ficariae, 852

**RANUNCULUS PENNSYLVANICUS**

- Didymaria didyma, 885
- Entyloma ranunculi, 898
- Peronospora ficariae, 852
- Pseudopeziza singularia, 863

**RANUNCULUS RECURVATUS**

- Didymaria didyma, 885
- Synchythium aureum, 848

**RANUNCULUS SCELERATUS**

- Pseudopeziza singularia, 863

**RANUNCULUS SEPTENTRIONALIS**

- Didymaria didyma, 885
- Entyloma microsporum, 898
- Peronospora ficariae, 852

**RAPHANUS CAUDATUS**

- Albugo candida, 849

**RAPHANUS SATIVUS**

- Albugo candida, 849
- Peronospora parasitica, 852

**RHAMNUS ALNIFOLIA**

- Cercospora rhamni, 892
- Puccinia coronata, 904

**RHAMNUS CATHARTICA**

- Cercospora rhamni*, 892
- Puccinia coronata*, 904

**RHEUM RHAPONTICUM**

- Ascochyta rhei*, 868

**RHUS GLABRA**

- Cladosporium aromaticum*, 889
- Septoria rhoina*, 873
- Sphaerotheca humuli*, 855

**RHUS TOXICODENDRON**

- Uromyces toxicodendri*, 902

**RHUS TYPHINA**

- Septoria rhoina*, 873
- Sphaerotheca humuli*, 855

**RIBES AMERICANUM**

- Gloeosporium ribis*, 880
- Puccinia albiperidia*, 906
- Septoria ribis*, 872
- Sphaerotheca mors-uvae*, 854

**RIBES CYNOSBATI**

- Plasmopara ribicola*, 850
- Puccinia albiperidia*, 906
- Septoria ribis*, 872
- Sphaerotheca mors-uvae*, 854

**RIBES GRACILE**

- Puccinia albiperidia*, 906

**RIBES LACUSTRE**

- Septoria ribis*, 872

**RIBES ODORATUM**

- Septoria aurea*, 872

**RIBES OXYACANTHOIDES**

- Puccinia albiperidia*, 906
- Plasmopara ribicola*, 850

**RIBES PROSTRATUM**

- Cylindrosporium ribis, 883
- Gloeosporium ribis, 880
- Plasmopara ribicola, 850
- Puccinia albiperidial, 906
- Puccinia ribis, 908
- Septoria ribis, 872

**RIBES TRISTE**

- Cylindrosporium ribis, 883
- Gloeosporium ribis, 880
- Plasmopara ribicola, 850
- Puccinia ribis, 908

**RIBES VULGARE**

- Cylindrosporium ribis, 883
- Gloeosporium ribis, 880
- Septoria ribis, 872

**RIBES**

- Cylindrosporium ribis, 883
- Gloeosporium ribis, 880
- Septoria grossulariae, 872
- ribis, 872

**ROSA BLANDA**

- Actinonema rosae, 869
- Phragmidium disciflorum, 912
- speciosum, 912

**ROSA CAROLINA**

- Cercospora rosaecola, 892
- Phragmidium disciflorum, 912

**ROSA "PARVIFLORA"**

- Phragmidium speciosum, 912
- disciflorum, 912

**ROSA RUBIGINOSA**

- Actinonema rosae, 869

**ROSA RUGOSA**

- Phragmidium speciosum, 912

**ROSA WOODSII**

- Phragmidium disciflorum, 912

**ROSA**

- Phragmidium disciflorum, 912
- speciosum, 912
- Sphaerotheca humuli, 855

**RUBUS ALLEGHENIENSIS**

- Gymnoconia peckiana, 911
- Kuehneola uredinis, 913
- Septoria rubi, 872

**RUBUS CANADENSIS**

- Gymnoconia peckiana, 911
- Kuehneola uredinis, 913
- Peronospora rubi, 852

**RUBUS HISPIDUS**

- Kuehneola uredinis, 913
- Septoria rubi, 872

**RUBUS IDAEUS ACULEATISSIMUS**

- Asterina rubicola, 862
- Cylindrosporium rubi, 883
- Graphium gracile, 895
- Gymnoconia peckiana, 911
- Phragmidium imitans, 912
- Pucciniastrum arcticum americanum, 914
- Septoria rubi, 872
- Sphaerotheca humuli, 855

**RUBUS OCCIDENTALIS**

- Gymnoconia peckiana, 911
- Phragmidium imitans, 912
- Pucciniastrum arcticum americanum, 914
- Septoria rubi, 872

**RUBUS PARVIFLORUS**

- Phragmidium occidentale, 912
- Septoria rubi, 872
- Sphaerotheca humuli, 855

**RUBUS TRIFLORUS**

- Gymnoconia peckiana, 911
- Pucciniastrum arcticum americanum, 914
- Sphaerotheca humuli, 855

**RUBUS VILLOSUS**

- Kuehneola uredinis, 913

**RUBUS**

- Gloeosporium venetum, 880

**RUDBECKIA HIRTA**

*Septoria rudbeckiae*, 877

**RUDBECKIA LACINIATA**

*Aecidium compositarum*, 916

*Phyllosticta rudbeckiae*, 868

*Plasmopara halstedii*, 851

*Ramularia rudbeckiae*, 888

*Septoria rudbeckiae*, 877

*Uromyces rudbeckiae*, 902

**RUMEX ALTISSIMUS**

*Septoria rumicis*, 871

**RUMEX BRITTANICA**

*Puccinia ornata*, 907

**RUMEX CRISPUS**

*Ovularia obliqua*, 884

*Ramularia decipiens*, 886

**RUMEX OBTUSIFOLIUS**

*Ovularia obliqua*, 884

**RUMEX VERTICILLATUS**

*Ramularia pratensis*, 886

*Septoria rumicis*, 871

*Urophlyctis major*, 848

**RUMEX**

*Puccinia phragmitis*, 904

*Ramularia occidentalis*, 885

**SAGITTARIA HETEROPHYLLA**

*Cercospora sagittariae*, 890

*Doassansia sagittariae confluens*, 899

**SAGITTARIA LATIFOLIA**

*Burrillia pustulata*, 899

*Cercospora sagittariae*, 890

*Doassansia deformans*, 900

————— *intermedia*, 900

————— *opaca*, 899

————— *sagittariae*, 899

*Gloeosporium confluens*, 879

**SALIX AMYGDALOIDES**

Melampsora bigelowii, 913

**SALIX CORDATA**

Tuberculina davisiana, 895

**SALIX DISCOLOR**

Melampsora bigelowii, 913

Ramularia rosea, 885

**SALIX FRAGILIS**

Gloeosporium salicis, 879

Melampsora bigelowii, 913

Ramularia uredinis, 885

**SALIX LONGIFOLIA**

Gloeosporium salicis, 879

Ramularia uredinis, 885

**SALIX LUCIDA**

Marssonina apicalis, 881

Melampsora bigelowii, 913

Phyllosticta apicalis, 865

Septoria salicina, 870

**SALIX PEDICELLARIS**

Septogloeum salicinum 882

**SALIX PETIOLARIS**

Ramularia rosea, 885

**SALIX**

Fumago vagans, 895

Melampsora bigelowii, 913

Rhynisma salicinum, 863

Uncinula salicis, 855

**SAMBUCUS CANADENSIS**

Microsphaera grossulariae, 857

Puccinia bolleyana, 906

Septoria sambucina, 876

**SAMBUCUS RACEMOSA**

Microsphaera grossulariae, 857

Ramularia sambucina, 888



**SANGUINARIA CANADENSIS**

*Cylindrosporium circinans*, 888

**SANICULA GREGARIA**

*Puccinia marylandica*, 909

*Urophlyctis pluriannulata*, 848

**SANICULA MARYLANDICA**

*Entyloma saniculae*, 899

*Puccinia marylandica*, 909

*Urophlyctis pluriannulata*, 848

**SAPROLEGNIA THURETII**

*Olpidiopsis saprolegniae*, 848

**SATUREJA VULGARIS**

*Puccinia menthae*, 909

**SAXIFRAGA PENNSYLVANICA**

*Puccinia curtipes*, 908

*Septoria albicans*, 872

**SCIARA**

*Empusa sciarae*, 849

**SCIRPUS AMERICANUS**

*Puccinia obtecta*, 905

**SCIRPUS ATROVIRENS**

*Puccinia angustata*, 906

*Synchytrium scirpi*, 848

**SCIRPUS CYPERINUS**

*Puccinia angustata*, 906

**SCIRPUS FLUVIATILIS**

*Uromyces scirpi*, 900

**SCIRPUS LINEATUS**

*Puccinia angustata*, 906

**SCIRPUS PEDICELLATUS**

*Puccinia angustata*, 906

**SCIRPUS VALIDUS**

*Puccinia obtecta*, 905

**SCROPHULARIA MARYLANDICA**

*Peronospora sordida*, 853

*Septoria scrophulariae*, 875

**SCUTELLARIA GALERICULATA**

- Erysiphe cichoracearum, 858
- Septoria scutellariae, 875

**SCUTELLARIA LATERIFLORA**

- Erysiphe cichoracearum, 858
- Phyllosticta decidua, 867
- Septoria scutellariae, 875

**SCUTELLARIA PARVULA**

- Erysiphe cichoracearum, 858

**SCUTELLARIA VERSICOLOR**

- Septoria scutellariae, 875

**SECALE CEREALE**

- Claviceps purpurea, 860
- Puccinia graminis, 905
- Urocystis occulta, 898

**SENECIO AUREUS**

- Albugo tragopogonis, 850
- Entyloma compositarum, 899
- Puccinia recedens, 911

**SETARIA GLAUCA**

- Ustilago neglecta, 896

**SETARIA ITALICA**

- Piricularia grisea, 888
- Sclerospora graminicola, 853

**SETARIA VIRIDIS**

- Sclerospora graminicola, 853
- Septoria graminum, 869

**SHEPHERDIA CANADENSIS**

- Puccinia apocrypta, 904

**SICYOS ANGULATUS**

- Plasmopara australis, 851

**SILENE ANTIRRHINA**

- Ascochyta silenes, 868
- Septoria dimera, 871

**SILENE NOCTIFLORA**

- Phyllosticta nebulosa, 865
- Septoria noctiflora, 871

**SILENE STELLATA**

- Marssonina delastrei, 881
- Septoria silenicola, 871

**SILPHIUM INTEGRIFOLIUM**

- Ascochyta treleasei, 869
- Entyloma compositarum, 899
- Plasmopara halstedii, 851
- Puccinia silphii, 910
- Septoria silphii, 877
- Uromyces junci-tenuis, 901

**SILPHIUM LACINIATUM**

- Puccinia silphii, 910

**SILPHIUM PERFOLIATUM**

- Plasmopara halstedii, 851
- Puccinia silphii, 910
- Septoria silphii, 877
- Uromyces junci-tenuis, 901

**SILPHIUM TEREBINTHINACEUM**

- Plasmopara halstedii, 851
- Uromyces junci-tenuis, 901

**SILPHIUM TRIFOLIATUM**

- Plasmopara halstedii, 851

**SISYMBRIUM OFFICINALE**

- Albugo candida, 849

**SIUM CICUTAEFOLIUM**

- Cercospora sii, 893
- Septoria sii, 874
- Uromyces scirpi, 900

**SMILACINA RACEMOSA**

- Aecidium smilacinae, 915
- Phyllosticta cruenta pallidior, 865
- Septoria smilacinae, 870

**SMILACINA STELLATA**

- Phyllosticta cruenta pallidior, 865

**SMILAX ECIRRHATA**

Ramularia subrufa, 885

**SMILAX HERBACEA**

Stagonospora smilacis, 869

**SMILAX HISPIDA**

Cercospora mississippiensis, 890

Stagonospora smilacis, 869

**SOLANUM MELONGENUM**

Phyllosticta hortorum, 867

**SOLANUM TUBEROSUM**

Phytophthora infestans, 850

**SOLIDAGO ARGUTA**

Septoria solidaginicola, 876

**SOLIDAGO CAESIA**

Septoria solidaginicola, 876

**SOLIDAGO CANADENSIS**

Erysiphe cichoracearum, 858

Septoria davisii, 876

solidaginicola, 876

**SOLIDAGO LATIFOLIA**

Cercospora stomatica, 894

Ramularia virgaureae, 888

Septoria atropurea, 877

**SOLIDAGO RIDDELLII**

Plasmopara halstedii, 851

**SOLIDAGO RIGIDA**

Basidiophora entospora, 853

Phyllosticta simillispora, 867

**SOLIDAGO SEROTINA**

Cerosporella reticulata, 888

Ramularia serotina, 888

Septoria davisii, 876

——— solidaginicola, 876

**SOLIDAGO ULMIFOLIA**

Ramularia virgaureae, 888

**SOLIDAGO**

- Coleosporium solidaginis, 915
- Puccinia caricis-solidaginis, 906
- Puccinia tracyi, 910
- Rhytisma solidaginis, 864
- Septoria intermedia, 877

**SORGHUM VULGARE**

- Sphacelotheca sorghi, 897

**SPARGANIUM EURYCARPUM**

- Cylindrosporium sparganii, 882
- Uromyces sparganii, 900

**SPARTINA MICHAUXIANA**

- Ascochyta spartinae, 868
- Puccinia peridermiospora, 904
- Puccinia seymouriana, 904
- Uromyces acuminatus, 900

**SPECULARIA PERFOLIATA**

- Septoria speculariae, 876

**SPERGULA ARVENSIS**

- Peronospora obovata, 852

**SPHENOPHOLIS PALLENS**

- Puccinia eatoniae, 903
- Sclerotium rhizodes, 917

**SPIDERS**

- Isaria arachnophila, 895

**SPIRAEA SALICIFOLIA**

- Cercospora rubigo, 892
- Podosphaera oxyacanthae, 854
- Septoria salicifoliae, 872

**SPIRAEA TOMENTOSA**

- Podosphaera oxyacanthae, 854
- Septoria salicifoliae, 872

**SPIRODELA POLYRHIZA**

- Tracya lemnae, 900

**SPOROBOLUS ASPER**

- Puccinia sydowiana, 903

**STACHYS PALUSTRIS**

*Phyllosticta decidua*, 867

**STACHYS TENUIFOLIA ASPERA**

*Erysiphe galeopsidis*, 857

*Phyllosticta decidua*, 867

*Septoria stachydis*, 875

**STAPHYLEA TRIFOLIA**

*Ovularia isarioides*, 884

**STEIRONEMA CILIATUM**

*Phyllosticta decidua*, 867

*Puccinia dayi*, 909

*Ramularia lysimachiae*, 887

*Septoria conspicua*, 874

**STEIRONEMA LANCEOLATUM**

*Puccinia dayi*, 909

*Septoria conspicua*, 874

*Uromyces acuminatus*, 900

**STEIRONEMA QUADRIFLORUM**

*Septoria conspicua*, 874

**STELLARIA LONGIFOLIA**

*Septoria stellariae*, 871

**STELLARIA MEDIA**

*Septoria stellariae*, 871

**STIPA SPARTEA**

*Puccinia stipae*, 903

**STREPTOPUS ROSEUS**

*Tubercinia clintoniae*, 898

**SYMPLOCARPUS FOETIDUS**

*Cercospora symplocarpi*, 890

*Septoria spiculosa*, 870

**SYRINGA VULGARIS**

*Microsphaeraalni*, 856

*Phyllosticta syringae*, 867

**TAENIDIA INTEGERRIMA**

*Cercospora platyspora*, 893

*Puccinia bullata*, 909

**TARAXACUM OFFICINALE**

- Puccinia taraxaci, 911
- Ramularia taraxaci, 888
- Sphaerotheca humuli fuliginea, 855

**TEUCRIUM CANADENSE**

- Cercospora racemosa, 894
- Erysiphe cichoracearum, 858
- Phyllosticta decidua, 867

**THALICTRUM DASYPARPUM**

- Aecidium thalictri, 915
- Cylindrosporium thalictri, 882
- Entyloma thalictri, 898
- Erysiphe polygoni, 857
- Gloeosporium thalictri, 880
- Phytophthora thalictri, 850
- Puccinia thalictri, 907

**THALICTRUM DIOICUM**

- Aecidium thalictri, 915
- Ascochyta clematidina thalictri, 868
- Cylindrosporium thalictri, 882
- Entyloma thalictri, 898
- Puccinia thalictri, 907

**THALICTRUM REVOLUTUM**

- Phytophthora thalictri, 850

**THUYA OCCIDENTALIS**

- Keithia thujina, 864

**TILIA AMERICANA**

- Cercospora microsora, 893
- Uncinula clintonii, 856

**TRADESCANTIA REFLEXA**

- Cylindrosporium tradescantiae, 882

**TRAGOPOGON PORRIFOLIUS**

- Albugo tragopogonis, 850

**TRAGOPOGON PRATENSIS**

- Albugo tragopogonis, 850

**TRIENTALIS AMERICANA**

- Septoria increscens, 874

**TRIFOLIUM HYBRIDUM**

- Cercospora zebrina, 892
- Uromyces trifolii-repentis, 901

**TRIFOLIUM INCARNATUM**

- Uromyces trifolii-repentis, 901

**TRIFOLIUM PRATENSE**

- Cercospora zebrina, 892
- Phyllachora trifolii, 862
- Polythrincium trifolii, 889
- Pseudopeziza trifolii, 863
- Uromyces trifolii, 901

**TRIFOLIUM REPENS**

- Cercospora zebrina, 892
- Phyllachora trifolii, 862
- Polythrincium trifolii, 889
- Uromyces oblongus, 901
- trifolii-repentis, 901

**TRILLIUM CERNUUM**

- Phyllosticta trillii, 865
- Septoria trillii, 870

**TRILLIUM DECLINATUM**

- Septoria trillii, 870

**TRILLIUM GRANDIFLORUM**

- Septoria trillii, 870

**TRILLIUM RECURVATUM**

- Septoria trillii, 870

**TRIOSTEUM PERFOLIATUM**

- Cladosporium triostei, 889

**TRITICUM VULGARE**

- Claviceps purpurea, 860
- Puccinia graminis, 905
- rubigo-vera, 905
- Tilletia foetens, 898
- tritici, 898
- Ustilago tritici, 897



**TSUGA CANADENSIS**

- Caeoma abietis-canadensis*, 915
- Peridermium* sp. indet., 916

**TYPHA LATIFOLIA**

- Phyllosticta renouana*, 865

**ULMUS AMERICANA**

- Phleospora ulmi*, 878
- Dothidella ulmea*, 862
- Uncinula macrospora*, 856

**UREDINEAE**

- Darluka filum*, 869
- Tuberculina persicina*, 895

**URTICA GRACILIS**

- Peronospora urticae*, 851
- Puccinia caricis*, 906
- Ramularia urticae*, 885

**UVULARIA GRANDIFLORA**

- Phyllosticta cruenta discincta*, 865

**VACCINIUM CANADENSE**

- Exobasidium vaccinii*, 917
- Microsphaera alni vaccinii*, 856
- Pucciniastrum myrtilli*, 914
- Ramularia effusa*, 887

**VACCINIUM MACROCARPON**

- Exobasidium vaccinii*, 917
- Ramularia multiplex*, 887

**VACCINIUM PENNSYLVANICUM**

- Exobasidium vaccinii*, 917
- Microsphaera alni vaccinii*, 856
- Pucciniastrum myrtilli*, 914

**VERBASCUM THAPSUS**

- Ramularia variabilis*, 887

**VERBENA HASTATA**

- Septoria verbenae*, 874

**VERBENA URTICAEFOLIA**

- Erysiphe cichoracearum*, 858
- Septoria verbenae*, 874

**VERNONIA FASCICULATA**

- Cercospora veroniae, 894
- Puccinia veroniae, 910

**VERNONIA NOVEBORACENSIS**

- Aecidium compositarum, 916
- Ascochyta treleasei, 869

**VERONICA ANAGALLIS-AQUATICA**

- Peronospora grisea, 853

**VERONICA ARVENSIS**

- Peronospora grisea, 853
- Septoria veronicae, 875

**VERONICA PEREGRINA**

- Entyloma linariae veronicae, 899
- Peronospora grisea, 853
- Ramularia veronicae, 887

**VERONICA SERPYLLIFOLIA**

- Sphaerotheca humuli fuliginea, 855

**VERONICA VIRGINICA**

- Phyllosticta decidua, 867
- Puccinia veronicarum, 910
- Septoria veronicae, 875
- Sphaerotheca humuli fuliginea, 855

**VIBURNUM ACERIFOLIUM**

- Microsphaera alni, 856

**VIBURNUM LENTAGO**

- Cercospora varia, 894
- Coleosporium viburni, 915
- Ramularia viburni, 888
- Microsphaera alni, 856

**VIBURNUM OPULUS**

- Cercospora varia, 894

**VIBURNUM PUBESCENS**

- Phyllosticta tineola, 867
- Microsphaera alni, 856

**VICIA AMERICANA**

- Ascochyta pisi, 868
- Gloeosporium davisii, 881
- Gloeosporium everhartii, 880
- Peronospora viciae, 852
- Septoria astragali, 873
- Uromyces albus, 902
- Uromyces fabae, 902

**VICIA CAROLINIANA**

- Cercospora viciae, 892

**VICIA VILLOSA**

- Ascochyta pisi, 868

**VIOLA PUBESCENS**

- Sclerotium nervale, 917
- Septoria violae, 873
- Synchytrium aureum, 848

**VIOLA**

- Cercospora granuliformis, 893
- Marssonina violae, 882
- Phyllosticta violae, 866
- Puccinia violae, 908
- Septoria hyalina, 873
- violae, 873

**VITIS LABRUSCA**

- Plasmopara viticola, 851

**VITIS VULPINA**

- Ascochyta ampelina, 869
- Cercospora viticola, 893
- Phyllosticta labruscae, 866
- Phyllosticta spermoides, 866
- Plasmopara viticola, 851

**VITIS**

- Phoma uvicola, 868
- Phyllosticta labruscae, 866
- Plasmopara viticola, 851
- Uncinula necator, 857

**WALDSTEINIA FRAGARIOIDES**

*Puccinia waldsteiniae*, 908

*Ramularia waldsteiniae*, 886

**XANTHIUM**

*Erysiphe cichoracearum*, 858

*Puccinia cyperi*, 905

——— *xanthii*, 910

*Septoria xanthii*, 877

**ZANTHOXYLUM AMERICANUM**

*Phyllactinia corylea*, 859

*Septoria pachyspora*, 873

**ZEA MAYS**

*Puccinia sorghi*, 903

*Ustilago zeae*, 896

**ZIZANIA PALUSTRIS**

*Claviceps*, 880

*Entyloma lineatum*, 898

*Sclerotium zizaniae*, 917

**ZIZIA AUREA**

*Cercospora ziziae*, 893

*Urophlyctis pluriannulata*, 848

**ZIZIA CORDATA**

*Cylindrosporium ziziae*, 883

**ZYGADENUS CHLORANTHUS**

*Puccinia zygadeni*, 907

## APPENDIX.

*Cercospora rubigo* Cke. & Hark (?)

Of the fungus doubtfully referred to this species the following notes were made: Spots angular-suborbicular, limited by the veins, reddish brown, 5-8 mm. in diameter; hyphae hypophyllous, fuliginous, assurgent to erect, often arising as branches from a superficial creeping mycelium, sometimes branched, usually crooked and denticulate or nodulose 25-60 x 3 $\mu$ ; conidia hyaline, attenuate from a point about 10 $\mu$  above the base where the diameter of the conidium is greatest, straight or more often somewhat curved, pluriguttulate, 50-125 x 3-4 $\mu$ . On *Spiraea salicifolia*, Spooner, Wis., July 20th, 1911.

*Cylindrosporium thalictri* (E. & E.) (*C. ranunculi* (Bon.) Sacc. forma is borne on suborbicular spots which are first red on the upper surface becoming pale olive and finally sooty with the developing hyphae and conidia.

*Cylindrosporium thalictri* (E. & E.) *C. ranunculi* (Bon.) Sacc. forma *thalictri* E. & E. Journ. Mycol. 3, 130 (1887). This seems to be distinct from the form on *Ranunculus* there being no evidence that it is a conidial state of *Entyloma*. The stroma from which the sporules spring is often spherical and these masses are often gregarious and crowded. *Cylindrosporium clematidis* E. & E. with different spots and epiphyllous acervuli can hardly be the same. I have not seen *Septoria thalictri* E. & E. but judge from the description that it may not be distinct from this. Journ. Mycol. 4: 49, (1888).

*Entomosporium maculatum* Lev. var. *domesticum* Sacc. The specimens that I have referred to this variety were collected in Burnett Co. on mountain ash. The sporules are mostly 16-20 x 8-9 $\mu$ . One collection on *Amelanchier spicata* has sporules of about the same dimensions. Specimens on quinces from the Madison market, obtained by Mr. A. G. Johnson, show sporules 20-23 x 7-10 $\mu$ . It is doubtful if the variation in size is of any taxonomic significance.

*Gloeosporium fragariae* (Lib.) Mont. My measurements of the sporules of the fungus referred to this species range from 12-24 x 4-5 $\mu$ . It was collected at Spooner.

*Marssonina coronaria* (Ell. & Davis) This is *Asoochoyta coronaria* Ell. & Davis, 3rd supplementary list No. 580 and also *Marsonia coronariae* Sacc. & Dearn. (Ann. Mycol. 10, 3, 313.)

*Phragmidium disciflorum* (Tode) James. The form on *Rosa blanda* is *Ph. americanum* Diet. while that on *Rosa woodsii* (?) and *R. pratincola* (?) is *Ph. rosae-arkansanae* Diet. Wisconsin is included in the range of *Ph. rosae setigerae* Diet. which occurs on *Rosa setigera*

and *R. carolina*, by Arthur (Torreya 9, 26) Rust on foreign roses in Wisconsin as far as examined appears to be *Ph. americanum* Diet. or *Ph. disciflorum*.

*Phyllosticta caricis* (Fckl.) Sacc. The specimens which I have referred to this species bear fusoid-oblong sporules 10–13 x  $2\frac{1}{2}$ –3 $\mu$ .

*Phyllosticta cruenta discincta* (Davis). Specimens from Blue Mounds and Madison show sporules about 16 x 6 $\mu$ . *Ph. cruenta* is referred to *Macrophoma* by Ferraris (Ann. Mycol. 10, 3, 288). This would make a generic separation of the two forms listed although the globose sporules of var. *pallidior* are equal in content to the longer and narrower sporules of var. *discincta*.

*Phyllosticta decidua* E. & K. The form on horse radish which I have referred to this species appears to be *Ph. orbicula* E. & E. Some of the forms that I have referred to this species cause angular alutaceous spots. Perhaps they should all be referred to *Phyllosticta anceps* Sacc.

*Protomyces andinus* Pat. Judging from the description of this species, the type of which was collected in Chili by Spegazzini, *P. gravidus* is not distinct. It is doubtful however, if the form on *Ambrosia* with larger sporangia and usually forming larger galls is conspecific.

*Puccinia pygmaea* Erikss. The specimens of rust on *Calamagrostis* that I have collected in Wisconsin and that have been referred to *P. striatula* Pk. are in part of this species and in part *P. coronata* Corda. *P. striatula* Pk. apparently does not occur in Wisconsin.

*Ramularia modesta* Sacc. I have not seen authentic specimens of this species. The specimens which I have referred here were collected at Spooner.

*Ramularia nemopanthis* C. & P. Specimens collected in Burnett Co. have branching hyphae and catenulate conidia 7–13 x 3–4 $\mu$ . Apparently a vigorous state.

*Sclerotium rhizodes* Awd. The list of hosts of this species, excepting *Calamagrostis canadensis*, is taken from Research Bulletin No. 18, of the University of Wisconsin, Agricultural Experiment Station: A. B. Stout; June 1911.

*Septogloeum salicinum* (Pk.) Sacc. In this collection the sporules are mostly produced into long slender tips, sometimes almost bristle like.

*Septoria dimera* Sacc. This is the fungus on *Silene antirrhina* that was referred to *Septoria saponariae* (DC.) in the supplementary list. It occurs on stems as well as leaves and the sporules range mostly from 20–40 x 3–4 $\mu$ . usually with one septum.

*Septoria rumicis* Ellis. This is antedated by *S. rumicis* Trail from which, judging from the description of the latter, it may not be distinct. In that case Trail should be cited as the author.

*Septoria salicifoliae* (Trel.) E. & E. On *Spiraea tomentosa* the fungus is epiphyllous and the sporules are borne in acervuli and much

resemble those of *Septogloeum salicinum* (Pk.) Sacc. collected at the same time and place.

*Septoria sambucina* Pk. The form on *Lonicera* is probably *S. Xylostei* Sacc. & Wint. Sporules 50-75 x 2 $\mu$ .

*Septoria umbelliferarum* Kalchb. There is no apparent reason why the specimens on *Cicuta* and *Oxypholis* should have been referred to this species in the supplementary list except that I did not know what to do with them and the inclusive appearance of the specific name. Each host is represented by a single specimen and they do not resemble each other.

*Uromyces euphorbiae* C. & P. This includes *U. proeminens* (DC.) Lev. on *E. polygonifolia* and *E. Preslii* and *U. euphorbiicola* (B. & C.) Tranz. on *E. maculata* which are perhaps better considered as races.

*Puccinia monoica* (Pk.) Arth. Dr. Arthur informs me that the Aecidium on *Arabis lyrata* was collected at Trempealeau, Wis., by J. M. Holzinger in 1890.

*Phyllosticta similispora* Ell. & Davis. What appears to be this fungus has been described by Saccardo under the name *Leptothyrium tumidulum* n. sp. (Ann. Myc. 10, 3, 312.)

These notes are to be continued in a subsequent publication.

I have followed the Sydows in *Monographia Uredinearum* in using the specific name *trifolii* to designate the *Uromyces* that occurs on *Trifolium pratense*. Kern (Phytopathology I: 1, 3 et seq.) and Arthur (N. A. Flora 7: 255) apply it to the form on *Trifolium repens* and use the specific name *fallens* for the rust on *T. pratense*. The proper disposition of the form on *Trifolium hybridum* is not clear. Morphologically it resembles the form on *T. repens* from which it differs in the absence of an aecial stage as does that on *T. pratense*. Liro did not succeed in transferring the rust from *T. repens* to *T. hybridum* by inoculation.

*Septoria parietariae* Davis (4th suppl. list of paras. fungi of Wis. p. 871) is probably not different from *S. urticae* var. *parietariae* Sacc. (Syll. Fung. 16: 971) of which I was not aware when the former name was proposed.

*Peridermium balsameum* Pk. has been shown by Fraser to be, in part at least, the aecial stage of *Uredinopsis*. Fraser also finds that *Caeoma abietis-canadensis* is connected with *Melampsora* on *Populus grandidentata*.

The "primary uredo" (*Uredo muelleri* Schroet.) occurs on the hosts of *Kuehneola uredinis* (Lk.) Arth. (*K. albida* (Kuehn) Magnus) in Wisconsin and might properly have been designated by the numeral "I" because of its aecial character. The same may be said of *Phragmidium potentillae-canadensis* Diet. which is placed in *Kuehneola* by Arthur.

PRELIMINARY REPORT ON A COLLECTION OF HEPATICA  
TICAE FROM THE DULUTH-SUPERIOR DISTRICT.  
STATES OF MINNESOTA AND WISCONSIN.

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GEORGE H. CONKLIN, M. D.

The specimens in this report, were collected within the territory which will hereafter be designated, the Duluth-Superior District. This District is confined by a circle with the Twin Ports, Duluth and Superior as the centre, and the distance of fifty miles more or less as a radius. Such a territory would include a part of St. Louis County along the lake shore in Minnesota and the whole of Douglas County, Wisconsin. The northeast corner of Carlton County, Minnesota, where the St. Louis River enters the dalles near the villages of Thompson and Carlton, and the vicinity of Lutsen, Cook County, Minnesota, one hundred miles down the north shore, are also included. The St. Louis River divides the District so that the two states of Wisconsin and Minnesota are about equally represented, and so far as observed the hepatic flora is very similar in the states of the District if similar habitat be chosen in collecting.

The immediate topography of the two cities, however, is very dissimilar. Duluth, Minn., is situated on the North Shore Range of Lake Superior. This range extends from Carlton, Minn., on the southwest to the extreme northeast international boundary. This highland parallels the lake shore, and has an altitude varying from 1000 to 1500 feet above sea level. As Lake Superior is 600 feet above the sea, the range rises from 400 to 900 feet above the lake. This altitude is obtained within a few miles from the lake shore. In places there are bold outcroppings of rock and ledges. In other places the rise is more



gradual, and the whole range was originally heavily timbered. In the immediate vicinity of Duluth the forest has been removed, except in a few parks, which still retain some of the old pines. Fortunately, outside of the city limits there is a good growth of hardwood, and northward along the lake shore, more virgin conditions prevail. The rock is Archean-gabro, of volcanic origin. Similar rock formations occur in the Adirondacks and in the neighborhood of Baltimore, Md. In fact the Lake Superior basin itself may be regarded as a primitive depression of the earth crust, antedating the Huronian period. There are many intrusions of eruptive rock, arranged more or less concentric to the basin, with the newest nearest the lake, and it is thought that the depression is an ancient and deep seated centre of volcanic activity.<sup>1</sup> Faults occur in the rock formation, especially at Carlton, Minn., where the Huronic slates appear. It is here that the water of the St. Louis River finds egress to Lake Superior, rushing over the displaced ledges, and eroding a gorge of great extent and beauty.

The whole North Shore Range which really begins at Carlton, Minn., twenty miles up the St. Louis River, is cut by many small streams and rivers which drain the upland valleys and swamps. These streams make the drop to the lake level, sometimes within a short distance. This produces a series of cascades, waterfalls, and rapids, rocky ravines and eroded ledges. Each of these streams has its own peculiar charm, and when heavily wooded afford to the bryologist as well as the angler, a paradise of interest. Within the city limits of Duluth the places referred to in this report are Oneota ravine with its bald peak, and canyon cliff; Spirit Lake ravine, with its narrow, deep perpendicularly-walled watercourse often bridged by old logs, and large rocks; Chester Creek and Lester Rivers preserved as public parks, and still growing a rich hepatic and moss flora. Beyond the city along the north shore, at intervals of every few miles are the larger rivers, Sucker, French and Knife. On account of the accessibility of these places, the collecting done in Minnesota has been along these rocky water-ways. Swamps and bogs, and deep wood at the

<sup>1</sup>International Encyclopedia

higher altitudes are numerous, but they have not yet been visited.

That these places will yield similar plants to those found in the Wisconsin swamps is reasonably certain.

In contrast to the rocky north shore, the country adjacent to Superior, Wis., presents a more or less level plain, extending back from the south lake shore for twelve or fifteen miles. This plain or basin was once the bed of the lake. The soil is therefore a deep clay deposit, which rises about thirty feet to the mile from the lake southward. This clay is cut by rivers, creeks and ravines for surface drainage, and was once heavily timbered on the more dry and higher places. The natural hollows with less drainage, were covered with dense tamarack or balsam swamps, with often an accompanying sphagnum and heath bog.

Within the city of Superior are many of these swamps, now partially dried, some covered with alder or willow thickets, others much overgrown with grass, but in places having moisture enough to preserve the characteristics of the bog proper. It is in these places which grow in quantity *Scapania irrigua*, *Lophozia incisa*, *Lepidozia reptans*, *Cephalozia lunulaefolia*, *Riccardia latifrons*, *R. palmata* and the swamp form of *Cephalozia*.

This clay plain is bounded on the south by the Copper Range which was the original southern shore of Lake Superior. This lies in a southwesterly direction and meets the North Shore Range at Carlton, Minn.

The Copper Range is also Keweenaw like the North Shore Range. The rock formation is similar except that the amygdaloid rock is more apparent on the surface, and the occurrence at both Copper Creek and Black River gorges of the Pottsdam sandstone. The amygdaloid carries traces of copper and silver and other minerals. No granite formation is present in the District. Near Superior the Copper Range is cut by two rivers, Copper Creek and Black River. Both make the heavy drop to the lower plain level. Copper Creek is a leisurely way by a series of trout pools, rapids, and cascades, through a heavily wooded tract; Black River in a magnificent drop of 160 feet down a narrow gorge with perpendicular side walls. While

the pine is here largely removed, enough forest of birch, maple, poplar and conifers is left to preserve the necessary moisture for the support of a rich bryophytic flora. The writer has never been in the White Mountains and knows the region of Franconia only from his Bradford Torrey and the many specimens in the hepatic herbarium, but to him Manitou Falls on Black River is the "Flume" of Douglas Co., Wisconsin. As might be expected the plants collected here are similar to those on the North Shore Range. *Scapania nemorosa*, *Scapania curta*, *Lophozia heterocolpa*, *Jungermannia pumila*, *Cololejeunea Biddlecomiae* are some of the common mesophytic rock loving species. On the other hand the North Shore Range, at the higher altitudes, present in places a xerophytic habitat. In such places only, has been found *Lophozia alpestris*, *L. excisa*, *L. bicrenata*, *Scapania umbrosa*, *Sphenobolus Helderianus*, and *Cephaloziella myriantha*. The severe long winter of continued cold, and rather hot, dry summers of intense growth of all forms of vegetation; the presence of only two months of the year devoid of frosts; the rather high dry rocks and upland bogs and lakes; all these approach a semi-alpine, semi-arctic habitat. In evidence of this we find *Cephalozia pleniceps*, *C. connivens*, *Mylia anomala*, *Lophozia alpestris*, *L. heterocolpa*, *L. Muelleri* and *Blepharostoma trichophyllum*, the latter growing freely on the ground. South and southeast of the Copper Range the country is broken into ridges of clay and sand, gradually becoming a typical pine barren toward the southern limit of the District—the country of jack pine and sweet fern, of blueberry, arbutus and scrub oak, of innumerable deep clear lakes, with their edging of sandy beaches or cranberry bogs trailing off into a balsam and tamarack swamp. Collections were made from such places as Solon Springs, Gordon Lakes, Lake Nebagamon, Brule River and Winneboujou. Such is the general environment of the hepaticae of the Duluth-Superior District. Dr. Alexander W. Evans has kindly verified the 80 species here reported, and a duplicate set has been placed in his herbarium. The writer gratefully acknowledges his indebtedness to both Dr. Evans and Miss C. C. Haynes for their invaluable assistance.

HEPATICAE COLLECTED IN DULUTH-SUPERIOR  
DISTRICT.

ORDER 1. RICCIACEAE.

1. *Riccia fluitans* L.

No. 267 Superior, Wis., Aug. 3, 1907.

Very abundant along the shore in still water of the St. Louis Bay. Although collected only from the Wisconsin side, it undoubtedly could be found in the numerous back-waters of the Minnesota side of the bay. One other *Riccia* have been reported, *R. arvensis* Aust. from Madison. It has not been observed here. *Ricciocarpus natans* (L) Corda is reported from both states, but has failed to appear in the District, although a special search has been made along the bays, rivers, and upland lakes.

ORDER 2. MARCHANTIACEAE.

2. *Conocephalum conicum* (L) Durmot.

No. 431 Woodland, Duluth, Minn., May 30, 1909 (fruiting).

No. 1024 Winneboujou, Brule, Wis., Apr. 9 (fruiting).

No. 1180 Lutsen, Cook Co., Minn., Sept. 1911.

3. *Preissia quadrata* (Scop.) Nees.

No. 634 Black River, Douglas Co., Wis., Oct. 5, 1909.

No. 647 French River, Minn., Oct. 3, 1909.

No. 1181 Lutsen, Cook Co., Minn., Sept. 1911.

4. *Marchantia polymorpha* L.

No. 82 Gordon, Wis., Sept. 16, 1906.

No. 918 Billings Park, Superior, Wis., Sept. 9, 1906.

No. 534 Copper Creek, Wis., Aug. 5, 1909.

No. 289 Copper Creek, Wis., Aug. 29, 1907.

No. 1182 Lutsen, Cook Co., Minn., Sept. 1911, Duluth, Minn.,  
etc.

No. 1041 Black River, Douglas Co., Wis., Oct. 3, 1910.

*Conocephalum conicum* is very common in wet swampy places, and along banks of streams. It fruits here about May 30th, when *Epigaea repens* is in flower. In 1910 it was in full fruit April 9th, which was an unusually early season.

*Preissia quadrata* is rather common in the bed of the streams which cut the ranges, on rocks just above the usual water course. In high water these plants would be submerged. It never grows on high banks or dry rocks. It likes the rock crevices filled with silt, and favors a rather full exposure to the sun, but always insists on getting a drink in torrential storms and rainy seasons. It fruits in summer. *Asterella tenella* has been reported from Minnesota. *Grimaldia fragrans* and *Reboulia hemispherica* from both states. *Conocephalum conicum*, *Marchantia polymorpha* and *Preissia quadrata* from both states.

ORDER 3. METZGERIACEAE.

5. *Riccardia latifrons* Lindb.

- No. 776 Superior, Wis., July 18, 1909.
- No. 659 Carlton, Minn., Sept. 26, 1909.
- No. 1171 Lutsen, Cook Co., Minn., Sept. 1911.
- No. 1136pp Black River, Douglas Co., Wis., Oct. 3, 1911.

6. *Riccardia multifida* (L) S. F. Gray.

- No. 1134 Lutsen, Cook Co., Minn., Sept. 20, 1911.
- No. 1097 Brule River, at Winneboujou, May 7, 1911.
- No. 1036pp Black River, Douglas Co., Wis., Oct. 3, 1910.

7. *Riccardia palmata* (Hedw.) S. F. Gray.

- No. 280 Copper Creek, Wis., Aug. 29, 1907.
- No. 1010 Carlton, Minn., Oct. 16, 1910.
- No. 107 Solon Springs, Wis., Aug. 20, 1906.
- No. 1200 Lutsen, Cook Co., Minn., Sept. 23, 1911.
- No. 1039 Black River, Douglas Co., Wis., Oct. 3, 1910.

8. *Riccardia pinguis* (L) S. F. Gray.

- No. 1184 Lutsen, Cook Co., Minn., Sept. 1911.
- No. 1099 Brule River, Wis., May 20, 1911.
- No. 1216 Lake Nebagamon, Wis., Sept. 3, 1911.

9. *Pellia epiphylla* (L) Corda.

- No. 1012 Black River, Douglas Co., Wis., Oct. 3, 1910.
- No. 1185 Lutsen, Cook Co., Minn., Sept. 1911.
- Duluth, Minn., Superior, Wis., etc.

10. *Pellia Fabroniana* Raddi.

- No. 1026 Brule River, at Winneboujou, Wis., April 9, 1911.
- No. 1066 Black River, Douglas Co., Wis., Oct. 3, 1911.

11. *Pellia Neesiana* (Gottsche) Limpr.

- No. 316 Gordon, Wis., Sept. 16, 1906.
- No. 100 Solon Springs, Wis., May, 1908.
- No. 1108 Fairmount Park, Duluth, Minn., July 4, 1911.
- No. 1186 Lutsen, Cook Co., Minn., Sept. 22, 1911.
- No. 1045 Black River, Douglas Co., Wis., Oct. 3, 1910.
- No. 1027 Winneboujou, Brule, Wis.

12. *Blasia pusilla* L.

- No. 873 Chester Creek, Minn., July 20, 1909.
- No. 1040 Black River Falls, Wis., Oct. 3, 1910. Spirit Lake and French River, Minn., etc.

Both *Riccardia latifrons* and *R. palmata* are found on logs, *R. latifrons* usually mixed with mosses, on very rotten wood, *R. palmata* always growing alone on old water soaked, but not very rotten wood in dense shade and dampness. *R. pinguis* and *R. multifida* grow about boggy springs, in dense shade.

*Pellia Neesiana* is common in the springy swamps at high altitudes in the jack pine region, and fruits freely in May with *Conocephalum conicum*. It is also common along the rocky water-ways of both states.

*Pellia epiphylla* grows along the sand and clay banks of all the streams and is common in swamps at the lower levels.

*Pellia Fabroniana* has been found only on old moss covered logs in wet swamps.

*Blasia pusilla* effect the clay banks along the streams wet with springs. At Chester Creek, Duluth, Minn., it covers quite an area. At Black and French Rivers it grew along the river banks in thin bright green rosettes.

ORDER 4. JUNGERMANNIACEAE.

13. *Jungermannia lanceolata* L.

- No. 772 Oneota Ravine, Duluth, Minn.
- No. 514 French River, Minn., Oct. 3, 1909.
- No. 1026 Winneboujou, Wis., April 9, 1911.
- No. 2003 Lutsen, Cook Co., Minn., Sept. 21, 1911.  
Superior, Wis., etc.

14. *Jungermannia pumila* With.

- No. 886 Chester Creek, Duluth, Minn., July 24, 1909.
- No. 626 Black River, Douglas Co., Wis., Oct. 3, 1909.

- No. 551 Copper Creek, Wis., Aug. 5, 1909.
- No. 1014 French River, Minn., Oct. 3, 1909.
- No. 1187 Lutsen, Cook Co., Minn., Sept. 22, 1911.

15. *Jungermannia sphaerocarpa* Hook  
 No. 1155 Lutsen, Cook Co., Minn., Sept. 20, 1911.

16. *Jamesoniella autumnalis* (DC) Steph.  
 No. 607 Billings Park, Superior, Wis., Nov. 14, 1909.  
 No. 410 Solon Springs, Wis., Oct. 1907.  
 No. 594 Copper Creek, Wis., Aug. 5, 1909.  
 No. 242 Albert, Minn., Aug. 1906.  
 No. 447 Woodland, Duluth, Minn., May 30, 1909.  
 No. 848pp Knife River, Minn., Aug. 1, 1909.  
 No. 2002 Lutsen, Cook Co., Minn., Sept. 1911.

*Jungermannia pumila* loves the rocks in streams on the shady side and grows on the bare rocks without soil where it can occasionally be wet with spray. The rhizoids penetrate deeply the minute crevices of the fractured rocks. The under side of over-hanging shady cliffs, or little caves close to the waterline are often covered with this tiny plant in a thin tracery of dark green. It is almost impossible to remove the plant from the substratum.

*Jungermannia lanceolata* is found in the usual habitat, old rotten logs in shade and moisture with other mosses. It is rarely collected in the sterile condition because of its similarity to *Jamesoniella autumnalis*. When the purse string puckered perianth of the species is present it can be distinguished at a glance. *Jamesoniella autumnalis* is one of the most common of the hepatics in the District. Its perianth is so persistent and it fruits so freely that it is recognized with little difficulty. It adapts itself to a great variety of habitat and therefore is more or less variable. When it grows on the ground in full exposure to the sun the leaves are apt to be imbricated, and tinged a red wine color. The plants growing on old birches, now freely exposed to sun and winds have much reduced leaves resembling an *Odontischisma*; while those growing in deep woods on old logs with plenty of moisture expand to luxurious size. Such a variety of form is puzzling to the beginner, and is exceeded by

only two other common hepatics, viz, *Plagiochila asplenioides* and *Lophocolea heterophylla*. The rare *J. sphaerocarpa* was found only once at Lutsen, along a rocky brooklet draining a cedar swamp, growing with *J. pumila*.

17. *Lophozia alpestris* (Schleich.) Evans.
  - No. 790 Oneota, Duluth, Minn., Aug. 15, 1907.
  - No. 933 Oneota, Mt. Bald, Aug. 15, 1909.
18. *Lophozia attenuata* (Mort.) Dumort.
  - No. 601 French River, Minn., Aug. 3, 1909.
  - No. 601A Carlton, Minn., Sept. 26, 1909.
  - No. 1121 Lutsen, Cook Co., Minn., Sept. 20, 1911.
19. *Lophozia barbata* (Schreb.) Durmot.
  - No. 919 Oneota Ravine, Duluth Minn., Aug. 15, 1909.
  - No. 668 Carlton, Minn., Sept. 26, 1909.
  - No. 1175 Lutsen, Cook Co., Minn., Sept. 1911.
  - No. 1086 Black River Falls, and
  - No. 232 Copper Creek, Douglas Co., Wis., etc.
20. *Lophozia bicrenata* (Schmid.) Dumor.
  - No. 910 Carlton, Minn., Sept. 26, 1910.
  - No. 652 Carlton, Minn., Sept. 26, 1910.
21. *Lophozia excisa* (Dicks.) Durmot.
  - No. 885 Chester Creek, Duluth, Minn., July 24, 1909.
  - No. 1107 Fairmount Park, Duluth, Minn., July 4, 1911.
22. *Lophozia heterocolpa* (Thed.) M. A. Howe.
  - No. 566 Copper Creek, Wis., Aug. 5, 1909.
  - No. 702 French River, Minn., Oct. 3, 1909.
  - No. 878 Chester Creek, Minn., July 29, 1909.
  - No. 1118 Lutsen, Cook Co., Minn., Sept. 20, 1911.  
Knife River, Lester Park, Duluth, Minn., etc.
23. *Lophozia incisa* (Schrad.) Dumort.
  - No. 694 French River, Minn., Oct. 3, 1909.
  - No. 803 Knife River, Minn., Aug. 1, 1909.
  - No. 529 Copper Creek, Wis., Aug. 5, 1909.
  - No. 1130 Lutsen, Cook Co., Minn., Sept. 23, 1911.
  - No. 775 Superior, Wis., July 18, 1907.
24. *Lophozia Kaurini* (Limpr.) Steph.
  - No. 1138 Black River, Douglas Co., Wis., Oct. 3, 1910.
  - No. 1125 Lutsen, Cook Co., Minn., Sept. 20, 1911.



25. *Lophozia longidens* (Lindb.) Macoun.  
No. 1126 Lutsen, Cook Co., Minn., Sept. 20, 1911.
26. *Lophozia Lyoni* (Tayl.) Steph.  
No. 821 Oneota, Duluth, Minn., June 27, 1909.  
No. 376 Knife River, Minn., Aug. 1, 1909.  
No. 920 Copper Creek, Wis., Aug. 5, 1907.  
No. 1191 Lutsen, Cook Co., Minn., Sept. 1911.  
No. 1046 Black River, Douglas Co., Wis.
27. *Lophozia Muelleri* (Nees) Schiffn.  
No. 1002 Black River, Douglas Co., Wis., Oct. 3, 1910.
28. *Lophozia porphyroleuca* (Nees) Schiffn.  
No. 724 Superior, Wis., Sept. 6, 1909.  
No. 1006 Black River, Douglas Co., Wis., Oct. 3, 1910.
29. *Lophozia ventricosa* (Dicks) Dumort.  
No. 888 Chester Creek, Duluth, Minn., July 20, 1909.  
No. 658 Carlton, Minn., Sept. 27, 1909.  
No. 939 Oneota Ravine, Duluth, Minn., Sept. 1909.  
No. 691 Knife River, Minn., Aug. 1, 1909.

*L. alpestris* has been collected only at Oneota, on high flat narrow rock ledges on the north side of the cliff. Near by the perpendicular wall was covered with great green patches of fruiting *L. barbata* and *L. Lyoni*, while the very small rock crevices in the more open places were outlined with *Scapania curta* and *Cephaloziella*.

Only one station was found for *L. bicrenata* along a well beaten path close to the edge and at the top of the cliff below the dam at Thompson, Minnesota. It grew in full exposure to the sun on rather dry thin earth on rocks. This was in full fruit September 26, 1909. Collected also in the same locality in 1910 and 1911.

*L. excisa* was observed only at Chester Creek, and Fairmount Park, Duluth, Minn., in both instances at the top of the cliff by the upper falls, near the boulevard. At Chester Creek it grew on a half buried upturned stump spreading out on the loose sandy clay and was in splendid fruit July 29, 1909. It has a vivid green color and is a larger plant than *L. bicrenata*, resembling in the field a stunted form of *L. Lyoni*.

*L. attenuata* usually called ubiquitous in places where it occurs, is far from omnipresent in this District. It was found once in limited quantity growing with *Sphenolobus Hellerianus*, *Sphenolobus exsectus*, and *S. exsectaeformis* on old wood at French River, Minnesota. At Lutsen, Cook County, it is more common and grew mixed with mosses on old logs in a cedar swamp.

*L. barbata* and *L. Lyoni* are very common on damp rock in deep shady ravines along the water ways. Both are often found growing in pure colonies in dense mats and fruiting freely.

*L. incisa* is readily detected by its vivid green color and the usual powdery gemmiferous condition of the leaves. At Lutsen the wood paths through cedar swamps were vivid green with large patches of this beautiful hepatic. The substratum is usually very rotten wood even when growing on the ground. It is frequently found on old logs in wet swamps.

Of the *Muelleri* group three very interesting species; *L. heterocolpa* (Thed.) M. A. Howe, *L. Muelleri* (Nees) Dumort, and *L. Kaurini* (Limpr.) Steph. occur in the District.

About two years ago a few plants were found, resembling a slender form of *Lophocolea heterophylla* which had bifid underleaves and gemmiferous branches with strangely modified leaves. It was finally referred to the genus *Lophozia* until it could be collected again in quantity. About a year later Dr. Evans saw the slide mount of the plants and determined it *L. heterocolpa* (Thed.) M. A. Howe, the *Jungermannia Watiana* Aust. of Gray's Manual. Since then it has been largely collected in all the rocky streams of both the north and south ranges at Copper Creek and Black River, Wisconsin; Carlton, Knife, French and Lester Rivers and northward in Minnesota.

It favors mossy rock ledges at the lower levels. It is easily recognized by the usual gemmiferous condition. The habitat is similar to *Plagiochila asplenoides*, the form that effects the wet banks along streams, and not the robust form of that species which clings with its firmly rooted radicles, in patches to perpendicular rock walls below the water falls of the higher altitudes.

At Lutsen, *L. heterocolpa* was found once covering a shady log over a sphagnum run in a cedar swamp, at least three feet above the moss covered ground, a very unusual habitat for the species.

*L. Muelleri* was collected once at Black River on a shady ledge of rock below the Falls, at the bottom of the gorge, just above the high water line. It was growing with *Scapania curta*. *L. Muelleri* as collected at Black River resembles *L. badensis* in its small size and small trigones but the stems bear quite regularly well developed underleaves, and the leaf cells are too small to be *L. badensis*.

The specimen bears plenty of perianths with the mouths contracted into little beaks plainly seen with the hand lens.

*L. Muelleri* is closely related to *L. heterocolpa* which fruits so rarely that out of hundreds of specimens examined the past two years, only one perianth was observed. On the other hand *L. Muelleri* fruits freely, no gemmiferous branches occurring, while in *L. heterocolpa*, the gemmiferous branches are plainly the chief characteristic.

*L. Kaurini* is larger than *L. heterocolpa* and has been found always associated with *Preissia quadrata*. Its occurrence in the Duluth-Superior District marks a third regional station for the species in North America.<sup>2</sup>

*Lophozia ventricosa* has always been found in the rock crevices and on rock ledges, at the higher altitudes in rather shady damp places. Its bog sister *L. porphyroleuca* is much more robust and the large perianths on the bright green plants creeping on rotten wood or sphagnum in company with the pale *Scapania irrigua* is strikingly noticeable, in the partially dried up swamp adjacent to Superior.

*L. longidens* has been found only at Lutsen, Cook County, Minn., where it is rather common, growing on old logs in wet woods. The plants here are rarely tufted, of a bright green color, and freely gemmiferous. The angular red gemmae hang at the tips of the transversely attached leaves like min-

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<sup>2</sup> See Jan. Bryologist 1912, Vol. 15, No. 1, p. 11.

ture popcorn balls. Once recognized this rare species can usually be detected in the field.

30. *Sphenolobus exsectaeformis* (Briedl.) Steph.

- No. 529 Copper Creek, Douglas Co., Wis., May 5, 1909.
- No. 619 Knife River, Minn., Aug. 1, 1909.
- No. 784 Oneota River, Duluth, Minn.
- No. 601A Carlton, Minn., Sept. 26 1909.
- No. 636 French River, Minn., Oct. 3, 1909.
- No. 1190 Lutsen, Cook Co., Minn., Sept. 1911.

31. *Sphenolobus exsectus* (Schmid.) Steph.

- No. 774 Oneota, Duluth, Minn., June 27, 1909.
- No. 615 French River, Minn., Oct. 3, 1909.
- No. 1000 Black River, Douglas Co., Wis., Oct. 2, 1910.
- No. 618pp Knife River, Minn., Aug. 1, 1909.
- No. 1189 Lutsen, Cook Co., Minn., Sept. 1911.

32. *Sphenolobus Hellerianus* (Nees) Steph.

- No. 601 French River, Minn., Oct. 3, 1909.
- No. 660 Carlton, Minn., Sept. 26, 1909.
- No. 1119 Lutsen, Cook Co., Minn., Sept. 20, 1911.

33. *Sphenolobus Michauxii* (Web.) Steph.

- No. 1109 Solon Springs, Douglas Co., Wis., July 30, 1911.
- No. 1123 Lutsen, Cook Co., Minn., Sept. 20, 1911.

The plants of this genus are interesting both for their great beauty and for the easy determination of the species, which the gemmae afford.

*Sphenolobus Hellerianus* is more difficult, especially if associated with *Lophozia attenuata*. It is distinguished from the other species by the small size of the plants, and the club shaped upright gemmiferous branches covered with dark blood red gemmae. All the leaves on these stems are quite different from the ordinary leaves, being slightly emarginate, closely appressed and covered with gemmae as well as the apex of the stem. It is usually mixed with other hepatics, *Lophozia incisa*, *Jame-soniella autumnalis*, *Blepharostoma trichophyllum*, *L. reptans*, etc., and often little can be distinguished with the hand lens except the minute almost black red clubs. It has been found sparingly only in Minnesota at Carlton, and French River, but

at Lutsen it grew in dense patches on old wet logs in deep woods associated with *Sphenobolus Michauxii*.

*Sphenobolus Michauxii* is rare in the immediate vicinity of the Twin Ports, but is very common at Lutsen, Cook County, Minn., where every old moss covered log in a cedar swamp grew patches of it. At Solon Springs it covered a large log across a brook. The plants here were very slender and delicate, although fruiting, while at Lutsen the normal size of the species was attained.

*Sphenobolus exsectus* has oval gemmae and the leaf cells are uniformly thickened and average  $9 \times 18 \mu$ .

*Sphenobolus exsectaeformis* has angular gemmae and the leaf cells are thin walled or with small but distinct trigones and average  $22 \times 36 \mu$ . Fortunately the species rarely fail to produce gemmae. Both affect old wood, preferably a bare rotten stump or log in damp woods.

34. *Plagiochila asplenioides* (L.) Dumort.

- No. 542 Copper Creek, Wis., Aug. 5, 1909.
- No. 863 Knife, River, Minn., Aug. 1, 1909.
- No. 664 Carlton, Minn., Sept. 26, 1909.
- No. 294 Solon Springs, Wis., 1907.
- No. 973 Oneota, Duluth, Minn., Sept. 19, 1909.
- No. 1188. Lutsen, Cook Co., Minn., Sept. 1911.

*P. asplenioides* presents the usual variability of the species in the District. It is common along the rocky banks of all the streams which cut the North Shore and the Copper Ranges. Upon the high, dryer, wooded, rocky banks the slender form known as *P. porelloides* occurs. More robust forms occur on the rocks in the bed of the stream etc. The underleaves can usually be determined but these are slender and fugacious.

35. *Mylia anomala* (Hook) S. F. Gray.

- No. 961 Black River, Douglas Co., Wis., Oct. 3, 1910.
- No. 1104 Superior, Douglas Co., Wis., June 4, 1911.

This species was first found in a sphagnum bog one half mile west of the upper falls on Black River. A part of the cranberry, tamarack, and balsam swamp has escaped a recent "burning over." The dry season of 1910 rendered the swamp nearly

dry. *Scapania irrigua*, *Lophozia porphyroleuca*, *Cephalozia lunulaefolia*, *Riccardia latifrons* and *Lepidozia reptans* are associated hepatics.

The next year it was found in quantity at South Superior. Some ten years previously a street had been laid out and ditched through a sphagnum balsam swamp, where cranberries and blueberries still grew and bore fruit. During the summer of 1911 the shady side of the cut peat of this ditch was lined with *Mylia anomala*, freely gemmiferous but lacking perianth. *Ceph. pleniceps* and *Ceph. lunulaefolia* were associated hepatics, and *Drasera rotundifolia* flowered freely among the sphagnum at the bottom of the ditch.

36. *Lophocolea heterophylla* (Schrad.) Durmot.

- No. 904 Chester Creek, Duluth, Minn., July 20, 1909.
- No. 630 Knife River, Minn., Aug. 1, 1909.
- No. 633 Carlton, Minn., Sept. 26, 1909.
- No. 379 Copper Creek, Douglas Co., Wis., Aug. 29, 1909.
- No. 760 Superior, Wis., July 18, 1909.
- No. 1174 Lutsen, Cook Co., Minn., Sept. 1911.

37. *Lophocolea minor* Nees.

- No. 655 Carlton, Minn., Sept. 26.
- No. 673 Black River, Douglas Co., Wis., Oct. 5, 1909.
- No. 519 French River, Minn., Oct. 5, 1909.
- No. 1192 Lutsen, Cook Co., Minn., Sept. 1911.

Rightly named, *Lophocolea heterophylla* does not belie its appellation in the District. It is the most variable of all the species observed. Side by side the beginner can not believe that the large leaved fruiting plant growing on wet ground can be the same species, as the small bifid leaved, cephalozia-like plant, spreading out its delicate tracery on old bare wood. Learning to recognize the variability of this species, is one of the first real troubles to overcome by the student, for it is exceedingly common and effects a great variety of habitat.

*Lophocolea minor* confines itself to rocks along streams, usually of the higher altitudes, and is rather common in such places. It has been found along all the streams which cut the ranges.

38. *Chiloscyphus pallescens* (Ehrh.) Dumort.  
 No. 914 Oneota Ravine, Duluth, Minn.  
 No. 250 Copper Creek, Wis., Sept. 15, 1902.  
 No. 591 Copper Creek, Wis., Aug. 5, 1903.  
 No. 522 Gordon, Wis., Aug. 1907.
39. *Chiloscyphus polyanthus* L. Corda.  
 No. 458 Copper Creek, Wis., Sept. 15, 1902.  
 No. 446 Woodland, Duluth, Minn., May 30, 1909.  
 No. 814 Knife River, Minn., Aug. 1, 1909.  
 No. 718 Superior, Wis., Sept. 12, 1909.
40. *Chiloscyphus polyanthus rivularis* Nees.  
 No. 1013 Winneboujou, Brule River, Wis., Apr. 9, 1910.
41. *Harpanthus scutatus* (Web. & Mohr.) Spruce.  
 No. 470 Solon Springs, Wis., July 1, 1909.  
 No. 777 Oneota, Duluth, Minn., July 27, 1909.  
 No. 620 Black River, Douglas Co., Wis., Oct. 5, 1909.  
 No. 822 Knife River, Minn., Aug. 1, 1909.
42. *Geocalyx graveolens* (Schrad.) Nees.  
 No. 445 Woodland, Duluth, Minn., May 30, 1907.  
 No. 860 Knife River, Minn., Aug. 1, 1909.  
 No. 1194 Lutsen, Cook Co., Minn., Sept. 1911.  
 No. 1030 Winneboujou, Douglas Co., Wis., April 9, 1910.

*Chiloscyphus polyanthus* has its usual habitat. The variety, *rivularis* grew in a brooklet draining a dense swamp into the Brule River near Winneboujou, Wis. *Pellia Neesiana* and *Conocephalum conicum* were fruiting on the nearby logs and trailing their fronds, into the springy pools. The bed of the brook and submerged twigs and stones were covered with the variety fruiting. When collected again in June 1911 few perianths were found.

*Chiloscyphus pallescens* is found rarely, having been collected in the three localities only. It fruited freely in 1909.

*Harpanthus scutatus* deserves special mention because it occurs so often in the District in the gemmiferous state. It humps itself into little cushions of pale, upward stems, very different from the ordinary form of growth. These gemmiferous branches resemble quite closely *Cephalozia Francisci* (Hook.) Dumort. in the crowded, rounded bifid leaves, closely

appressed to the stem. The subulate underleaves however on the horizontal parts of the stem, distinguishes the plant from the *Cephalozia*, but these portions of the stem are often rotted away. The perianth of *Cephalozia Francisci* as well as its habitat on the ground distinguishes the species from *Harpanthus scutatus* which so far as observed grows on old wood.

*Geocalyx graveolens* grows on old rotten wood preferably buried. At Lutsen the yellowish green color of the colonies distinguished the species at a glance from the vivid bright green of its common associate, *Lophogiu incisa*.

43. *Cephalozia bicuspidata* (L.) Dumort.

- No. 335 Minnesota Point, Duluth, Minn., Sept. 15, 1907.
- No. 783 Billings Park, Superior, Wis., July 5, 1909.

44. *Cephalozia connivens* (Dicks.) Dumort.

- No. 260 Gordon, Wis., Aug. 25, 1907.
- No. 1166 Lutsen, Cook Co., Minn., Sept. 23, 1911.
- No. 1017 Solon Springs, Douglas Co., Wis., July 1, 1911.

45. *Cephalozia curvifolia* (Dicks.) Dumort.

- No. 270 Cooper Creek, Wis., Aug. 29, 1907.
- No. 407 Solon Springs, Wis., May, 1907.
- No. 641 French River Wis., Oct. 3, 1909.
- No. 222 Albert, Minn., Oct. 1907.
- No. 865 Knife River, Minn., Aug. 1, 1909.
- No. 755 Oneota Ravine, Duluth, Minn., July 27, 1909.
- No. 679 Carlton, Minn., Sept. 26, 1909.
- No. 1176 Lutsen, Cook Co., Minn., Sept. 1911.

46. *Cephalozia lunulaefolia* Dumort

- No. 743 Superior, Wis., Sept. 12, 1909.
- No. 860 Knife River, Minn., Aug. 1, 1909.
- No. 637 French River, Minn., Oct. 3, 1909.
- No. 1016 Solon Springs, Wis., July 1, 1909.
- No. 386 Spirit Lake Minn., Oct. 14, 1906.
- No. 309 Minnesota Point, Duluth, Minn., Sept. 15, 1907.
- No. 1172 Lutsen, Cook Co., Minn., Sept. 1911.

47. *Cephalozia Macounii* Aust.

- No. 1048 Black River, Douglas Co., Wis.
- No. 1053 Manitou Falls, Oct. 3, 1911.



48. *Cephalozia pleniceps* (Aust.) Lindb.

No. 216 Superior, Wis., July 15, 1909.

No. 1100 South Superior, Wis., Oct. 3, 1911.

No. 1165 Lutsen, Cook Co., Minn., Sept. 23, 1911.

No. 1058 Black River, Douglas Co., Wis., Oct. 3, 1910.

49. *Cephalozia serriflora* Lindb.

No. 1048 Black River, Douglas Co., Wis.

No. 1053 Manitou Falls.

*Cephalozia bicuspidata* is one of the rare species in the District.

*C. lunulaefolia* is very common on logs, and rotten wood in swamps and dense woods.

*Cephalozia curvifolia* is very common on logs in the forest, preferring bark denuded logs and before the growth of mosses have invaded the host. Large logs have been observed covered with the species, green, brown or reddish in color depending upon the amount of exposure to the sun.

*Cephalozia pleniceps* grows on cut peat on buried stump roots along old paths through cedar swamps. *Cephalozia connivens* in wet springy places on old wood.

*Cephalozia Macounii* and *Cephalozia serriflora* collected only once, and growing together, were found thickly covering an old log in one of the most inaccessible places of the Black River gorge at Manitou Falls. Rarest of our tiny plants, they could not have chosen a place of greater security.

50. *Cephaloziella myriantha* (Lindb.) Schiffn. det. Douin.

No. 687 Carlton, Minn., on rocks Sept. 26, 1909.

No. 748 Stinson Ave. Swamp, Superior Wis., on ground and stump, Sept. 12, 1909.

51. *Cephaloziella Sullivantii* (Aust.) Evans. det. Douin.

No. 749 Stinson Ave. Swamp, Superior, Wis., Sept. 12, 1909.

Many forms of the composite *Cephaloziella divaricata* (Smith) Dumort. occur in this District. The two species above only have been determined from material sent Prof. Douin. Until his monograph of the genus is available for study the bulk of material remains undetermined.

*Cephaloziella myriantha* occurs in the high alpine rocks in full exposure to sun.

52. *Calypogeia Neesiana* (Massal & Carest.) C. Mull. Frib.  
No. 1157 Winneboujou, Brule River, Douglas Co., Wis., May 7, 1911.  
No. 1128 Lutsen, Cook Co., Minn., Sept. 20, 1911.
53. *Calypogeia Trichomanis* (L.) S. F. Gray.  
No. 489 Hill Ave. Swamp, Superior, Wis., Sept. 12, 1909.  
No. 609 Billings Park, Superior, Wis., Nov. 14, 1909.  
No. 531 Copper Creek, Douglas Co., Wis., Aug. 5, 1909.  
No. 289 Solon Springs, Wis., Sept. 16, 1906.
54. *Bazzania trilobate* (L.) S. F. Gray.  
No. 160 Solon Springs, Wis., Aug. 26, 1906.  
No. 318 Gordon, Wis., Sept. 15, 1906.  
No. 317 Albert, Minn., Sept. 1905.  
No. 852 Knife River, Minn., Aug. 1, 1909.  
No. 565 Copper Creek, Wis., Aug. 5, 1909.  
No. 646 French River, Minn., Oct. 3, 1909.  
No. 1167 Lutsen, Cook Co., Minn., Sept., 1911.
55. *Lepidozia reptans* (L.) Dumort.  
No. 611 Billings, Park, Superior, Wis., July 5, 1909.  
No. 859 Knife River, Minn., Aug. 1, 1909.  
No. 216 Copper Creek, Wis., Aug. 24, 1907.  
No. 420 Chester Creek, Minn., May 11, 1907.  
No. 1173 Lutsen, Cook Co., Minn., Sept., 1911.
56. *Blepharostoma trichophyllum* (L.) Dumort.  
No. 580 Copper Creek, Wis., Aug 5, 1909.  
No. 778 Oneota, Duluth, Minn., July 27, 1909.  
No. 913 French River, Minn., Oct. 3, 1909.  
No. 838 Knife River, Minn., Aug. 1, 1909.  
No. 659 Carlton, Minn., Sept. 26, 1909.  
No. 734 Superior, Wis., Sept. 12, 1909.  
No. 1179 Lutsen, Cook Co., Minn., Sept., 1911, and Black River, Wis.
57. *Ptilidium ciliare* (L.) Nees.  
No. 690 Carlton, Minn., Sept. 26, 1909.  
No. 588 Copper Creek, Wis., Aug. 5, 1909.  
No. 1198 Lutsen, Cook Co., Minn., Sept., 1911.

58. *Ptilidium pulcherrimum* (Web.) Hampe.

No. 917 Gordon, Wis., Sept. 15, 1906.

No. 730 Superior, Wis., Sept. 12, 1909.

No. 1020 Albert, Minn., Sept., 1905.

No. 1021 Lester Park, Duluth, Minn., Oct. 17, 1906.

No. 662 Carlton, Minn., Sept. 26, 1909.

No. 166 Solon Springs, Wis., Aug. 26, 1906.

N. 792 Oneota, Duluth, Minn., Aug. 15, 1909.

No. 1199 Lutsen, Cook Co., Minn., Sept. 23, 1911.

*Calypogeia Trichomanis* is not common. It prefers a gravel or sandy clay bank.

*C. Neesiana* grows in swamps on wood or sphagnum, or woody peat, near wet springy bogs.

*Blepharostoma trichophyllum* is usually found on logs mixed with other hepatics and mosses, but at the higher altitudes it grows on the ground along wood paths and at Black River, Wis., it was found in quite pure patches on the flat rocks one half way up the falls in the higher beds of the streams, where in high water it would, for a while, be submerged.

*Ptilidium pulcherrimum* is one of the most common hepatics of the District. It grows on old wood, and rocks, and humus soil which usually covers the remains of an old log or stump.

*P. ciliare* is found at the higher altitudes growing on the ground among rocks where it forms little cushions of upright growth of an inch or more in thickness.

*Bazzania trilobata* is common, and grows spreading out over the perpendicular surfaces of rocks, or mossy banks. In the swamps it grows in large tufts on the ground with usually a substratum of rock.

*Lepidozia reptans* is the ubiquitous hepatic of the District and grows everywhere except on the trunks of living trees.

59. *Trichocolea tomentella* (Ehrh.) Dumort.

No. 1198 Winneboujou, Brule River, Douglas Co., Wis., in wet sphagnum swamp. May 20, 1911.

60. *Scapania apiculata* Spruce.

No. 530 Copper Creek, Wis., Aug. 5, 1909.

No. 1004 Wentworth, Douglas Co., Wis., Oct. 19, 1910.

No. 152 Spirit Lake, Duluth, Minn., Oct. 14, 1907.

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- No. 382 St. Louis Bay, Superior, Wis., Aug., 1905.  
No. 1120 Lutsen, Cook Co., Minn., Sept. 20, 1911.

61. *Scapania curta* (Mart.) Dumort.

- No. 738 Superior, Wis., Sept. 12, 1909.  
No. 750 Oneota, Duluth, Minn., June 27, 1909.  
No. 651 Carlton, Minn., Sept. 26, 1909.  
No. 711 French River, Minn., Oct. 3, 1909.  
No. 635 Black River, Douglas Co., Wis., Oct. 5, 1909.  
No. 836 Knife River, Minn., Aug. 1, 1909.  
No. 899 Chester Creek, Duluth, Minn., July 20, 1909.  
No. 390 Copper Creek, Douglas Co., Wis., Oct., 1907.  
No. 1193 Lutsen, Cook Co., Minn., Sept., 1911.

62. *Scapania glaucocephala* (Tayl.) Aust.

- No. 620 Black River, Douglas Co., Wis., Oct., 1909.  
No. 1112 Solon Springs, Douglas Co., Wis., Aug. 6, 1911.  
No. 1195 Lutsen, Cook Co., Minn., Sept. 20, 1911.

63. *Scapania irrigua* (Nees.) Dumort.

- No. 735 Superior, Wis., Sept. 12, 1909.  
No. 1019 Superior, Wis., Oct. 20, 1908.  
No. 1009 Black River, Douglas Co., Wis., Oct. 3, 1910.

64. *Scapania nemorosa* (L.) Dumort.

- No. 643 Black River, Douglas Co., Wis., Oct. 5, 1909.  
No. 911 Oneota Cliff, Duluth, Minn., July 27, 1909.

65. *Scapania umbrosa* (Schrad.) Dumort.

- Nos. 347-825-827 Knife River, Minn., Aug. 1, 1909.

66. *Scapania undulata* (L.) Dumort.

- No. 1156 Lutsen, Cook Co., Minn.

The *Scapaniae* have been the most interesting species to study in the Duluth-Superior District.

*S. apiculata* grows on bare moist wood not too old, in a spreading layer, usually gemmiferous and conspicuously alone. It was collected at Spirit Lake however in a thin mat, covering an old log, much mixed with mosses and *Harpanthus scutatus*. In this instance the plants were crowded and upright and had much enlarged upper leaves on the fruiting branches.

*S. curta* is very common in the rock crevices of all the streams cutting the North Shore and Copper Ranges. It also occurs on wood in the old swamps adjacent to Superior and on old logs

in deep woods about Solon Springs, Wis. It is very variable in size.

*S. irrigua* is strictly a bog plant, and is common in suitable places. It undoubtedly occurs in the Minnesota swamps, but has not yet been collected from the State.

*S. glaucocephala*, reported also from Minnesota by Prof. Holzinger in 1897 has occurred but rarely in this collection. It was found at Black River in the upland woods of the gorge, growing on old wood associated with gemmiferous form of *Harpanthus scutatus* and *Jamesonievilla autumnalis*,—also at Wentworth, Wis. It has been found only at higher altitudes of the District. At Lutsen it was collected in quantity, growing on old bare wet logs in deep woods.

*S. nemorosa* is not common. It is found sparingly along mossy banks of the rock streams. In one locality however, at Oneota Cliff, Duluth, Minn., it grows in abundance, covering the perpendicular wall of rock to a considerable extent.

*S. umbrosa* is the rarest of the *Scapaniae* in the District. A few plants only were found on the cliff one mile up stream from Knife River, St. Louis County, Minn.

*S. undulata* has been observed but once at Lutsen, growing with the rare *J. sphaerocarpa* on rocks in a small brooklet draining a cedar swamp.

67. *Radula complanata* Dumort.

No. 573 Copper Creek, Wis., Aug. 5, 1909, on rocks.

No. 751 Knife River, Minn., Aug. 1, 1909, on trees.

No. 915 French River, Minn., Oct. 3, 1909, on rocks.

No. 674 Carlton, Minn., Sept. 26, 1909, on rocks.

No. 156 Gordon, Wis., Sept. 10, 1906, on cedar trees.

No. 1197 Lutsen, Cook Co., Minn., Sept., 1911.

68. *Radula obconica* Sulliv.

No. 963 Wentworth, Wis., Oct. 19, 1910, on tree in balsam swamp.

No. 1137 Lutsen, Cook Co., Minn., Sept. 22, 1911.

69. *Porella pinnata*.

No. 958 Carlton, Minn., on rocks, Sept., 11, 1910.

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70. *Porella platyphylla* (L.) Lindb.

- No. 841 Knife River, Minn., Aug. 1, 1909.
- No. 922 Albert, Minn., Aug., 1905.
- No. 325 Lester Park, Duluth, Minn.
- No. 1023 Solon Springs, Wis., May, 1907.
- No. 324 Superior, Wis.
- No. 1196 Lutsen, Cook Co., Minn., Sept., 1911.

71. *Cololejeunea Biddlecomiae* (Aust.) Evans.

- No. 549 Copper Creek, Douglas Co., Wis.
- No. 384 Copper Creek, Douglas Co., Wis.
- No. 1055 Black River, Douglas Co., Wis., Oct. 3, 1910.  
Carlton, Minn., Sept. 26, 1907, rocks.

72. *Lejeunea cavifolia* (Ehrh.) Lindb.

- No. 674 Carlton, Minn., Sept. 26, 1909, rocks.
- No. 547 Knife River, Minn., Aug. 1, 1909, rocks.
- No. 1163 Lutsen, Cook Co., Minn., Sept., 1911.

*Radula complanata* is common on rocks and humus cliffs and will sustain quite a full exposure to the sun. It grows on trees, cedar, balsam, tamarack, and birch.

*R. obconica* has been found only on trees in dense wooded swamps at the higher altitudes.

*Porella platyphylla* grows on rocks in shade, or mossy banks, at the base of trees in dense woods.

*Porella pinnata* grows only on rocks just above the high water line. Associated hepatics are, *Frullania inflata* and *R. complanata*.

*Cololejeunea Biddlecomiae*, is one of the smallest species in the District and grows on bare rocks and loose stones preferring a damp almost dark recess or cave or pile of stones deeply shaded by the overhanging bank. In these places it spread a thin film of grey green over large surfaces. The plants are almost impossible to remove from the substratum. Once only was it found growing on humus ground. It was at the base of a densely wooded cliff at Copper Creek, with a trout pool and rapid at its base, that the patch of pale green showed itself, surrounded by flowering plants of *Moneses grandiflora*. One has only to add to the scene the murmuring of the wind through the pine tops, the splashes of brilliant sunshine and

dense shadow of a summer's day and the rippling of the brook to visualize the wood picture. There are many moments of exaltation that are never forgotten by the collector, and it is the recollection of these which adds half of the pleasure of determining the specimens themselves in later days.

*Lejeunea cavifolia* has been collected only on the face of perpendicular cliffs of sandstone at Knife River on the Huronian slate at Carlton, Minn., and on the crumbling amygdeloid cliffs at Lutsen, Cook Co., Minn. It has not been found on the Copper Range, Wis. It would appear that the Copper Range has less stability of the cliff wall. At Black River and Copper Creek cleavage and fracture occur so frequently that the cliff loving species such as *Frullania Asagrayana*, *Lejeunea cavifolia*, *Lophozia ventricosa*, *L. alpestris* and *L. bicrenata* fail to attach themselves. The other conditions of habitat such as altitudes, rock formation, dryness and moisture are similar on the two ranges. On the North Shore Range where these species occur, the rock surface shows from the weather staining and moss flora, evidence of great age.

73. *Frullania Asagrayana* Mont.

No. 957 Carlton, Minn., Sept. 11, 1910, rocks.

No. 498 Knife River, Minn., Aug. 1, 1909, rocks.

No. 1142 Lutsen, Cook Co., Minn., Sept. 23, 1911, trees.

74. *Frullania Bolanderi* Aust.

No. 1150 Lake Nebagamon, Douglas Co., Wis., Sept. 3, 1911.

75. *Frullania Brittoniae* Evans.

Nos. 362-481 Solon Springs, Oct. 7, 1907, birch.

No. 362 Gordon, Wis., Sept. 15, 1906, cedar trees.

No. 1148 Lake Nebagamon, Sept. 3, 1911.

76. *Frullania eboracensis* Gottsche.

No. 367 Gordon, Wis., Sept. 15, 1906, cedar bark.

No. 506 Copper Creek, Sept. 1, 1907, poplar bark.

No. 402 Albert, Minn., Aug., 1904, cedar bark.

No. 355 Lester River, Oct. 7, 1906, rocks.

No. 357 Nemadji River, Superior, Wis., ash trees.

No. 360 Nemadji River, Superior, Wis., balsam bark.

No. 1151 Lutsen, Cook, Co., Minn., Sept. 20, 1911.

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77. *Frullania inflata* (Gottsche) Evans.

No. 995 Carlton, Minn., rocks, Oct. 11, 1910; also Sept. 11, 1910.

78. *Frullania Oakesiana* Aust.

No. 661 Carlton, Minn., rocks, Oct. 11, 1910.

No. 1143 Lutsen, Cook Co., Minn., Sept. 23, 1911, trees.

79. *Frullania Selwyniana* Pears.

No. 1140 Lutsen, Cook Co., Minn., Sept. 23, 1911, cedar trees.

ORDER 5. ANTHOCEROTACEAE.

80. *Anthoceros laevis* L.

No. 459 Black River, Douglas Co., Wis., Oct., 1906.

No. 79 Billings Park, Superior, Wis.

No. 1005 Black River, Douglas Co., Wis., Oct. 3, 1910.

*Frullania eboracensis* is common throughout the range, and has the usual habitat of trees and rocks. Along the North Shore Range it is common on the cliff walls. Along the Copper Range it is found only on trees.

*F. Brittoniae* is rare. It was collected at Solon Springs on a living but fallen tree growing about 20 feet from the ground, and on a fallen dead birch above Indian Spring at Lake Nebagamon, Douglas Co. Wis.; also at Gordon, Wis. in a dense cedar swamp on living trees. Near Carlton, Minn. at Thompson on the St. Louis River an immense concrete dam has diverted the water through a canal to the lower levels. The season of 1910 was usually dry and when the place was visited in September and October practically all the water was thus diverted. For the first time perhaps the river channel was dry, and one could walk dry shod down the west gorge over burnished boulders, and collect along the water and spray lines of the river wall. It was here that *F. inflata* was found, covering the perpendicular wall of the shady side of the gorge with patches four and six inches across, now dry and dusty with silt. It will undoubtedly disappear from the higher surfaces and become rare in a few years. Growing within a few feet, on the higher shaded rocks where collected *F. inflata*, *F. Asagrayana*, *F. eboracensis*, and *F. Oakesiana* growing on rock. This is the first record observed of such habitat for *F. Oakesiana*. As the ledges where



it grew once supported large trees, the occurrence of the species on rocks could easily come from contact.

*Frullania Asagrayana* at Lutsen was found growing in dense mats on birches. At Carlton and Thompson it was collected on rocks in thin spreading colonies on the wall of cliffs. At Lutsen *F. Oakesiana* grew on trees at the higher altitudes. Growing in a cedar swamp near Lutsen was found glistening patches of the rare *F. Selwyniana*, which looks in the field like a miniature *F. Asagrayana*. *F. Bolanderi* very rare East of the Rocky Mts. was found growing on white ash at Lake Nebagamon, Douglas Co. Wis., Sept. 26, 1911.

*Anthoceros laevis* L. is the only species of this genus yet found. Many sterile colonies of *Anthoceros* have been observed and other species doubtless occur.

Superior, Wisconsin,  
December 31, 1911.

**Additions.**

During 1912 two additional species have been found—

81. *Lophoria longiflora* (Nees) Schiffn.

No. 1208 In swamp near Black River, Douglas Co., Wis.,  
Oct. 3, 1912.

82. *Scapania subalpina* (Nees) Dumort.

No. 1206 On logs head of stream, Manitou Falls. Black  
River, Douglas Co., Wis., Oct. 5, 1912.

The following species are either rare or newly reported for Wisconsin or Minnesota.

No. 1244 *Scapania glaucocephala* (Tayl.) Aust. on logs,  
Cusson, Wis., July 25, 1913.

No. 1240 *Cololejeunea Biddlecomiae* (Aust) Evans. on  
cedar bark head of St. Croix Lake, Solon Springs,  
Wis., June 28, 1913.

No. 1229 *Cephalozia Macounii* Aust. Lake Nebagamon,  
Wis., May 10, 1913.

No. 1228 *Cephalozia serriflora* Lindb. Lake Nebagamon,  
Wis., May 10, 1913, and

No. 1223A Briery, Pike Lake Road, Minn., St. Louis Co.,  
July 13, 1913.

No. 1239 *Frullania Selwyniana* Pears. Head of St. Croix  
Lake, Solon Springs, Wis., June 28, 1913. New to  
to Wisconsin

No. 1238 *Frullania Bolanderi* Aust. Lutsen, Cook Co., Minn.,  
Sept. 20, 1911. New to Minnesota.



