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*Memoirs on Canadian Fungi*

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THE FUNGI OF  
NEW BRUNSWICK,  
NOVA SCOTIA,  
AND  
PRINCE EDWARD ISLAND

BY  
LEWIS E. WEHMEYER



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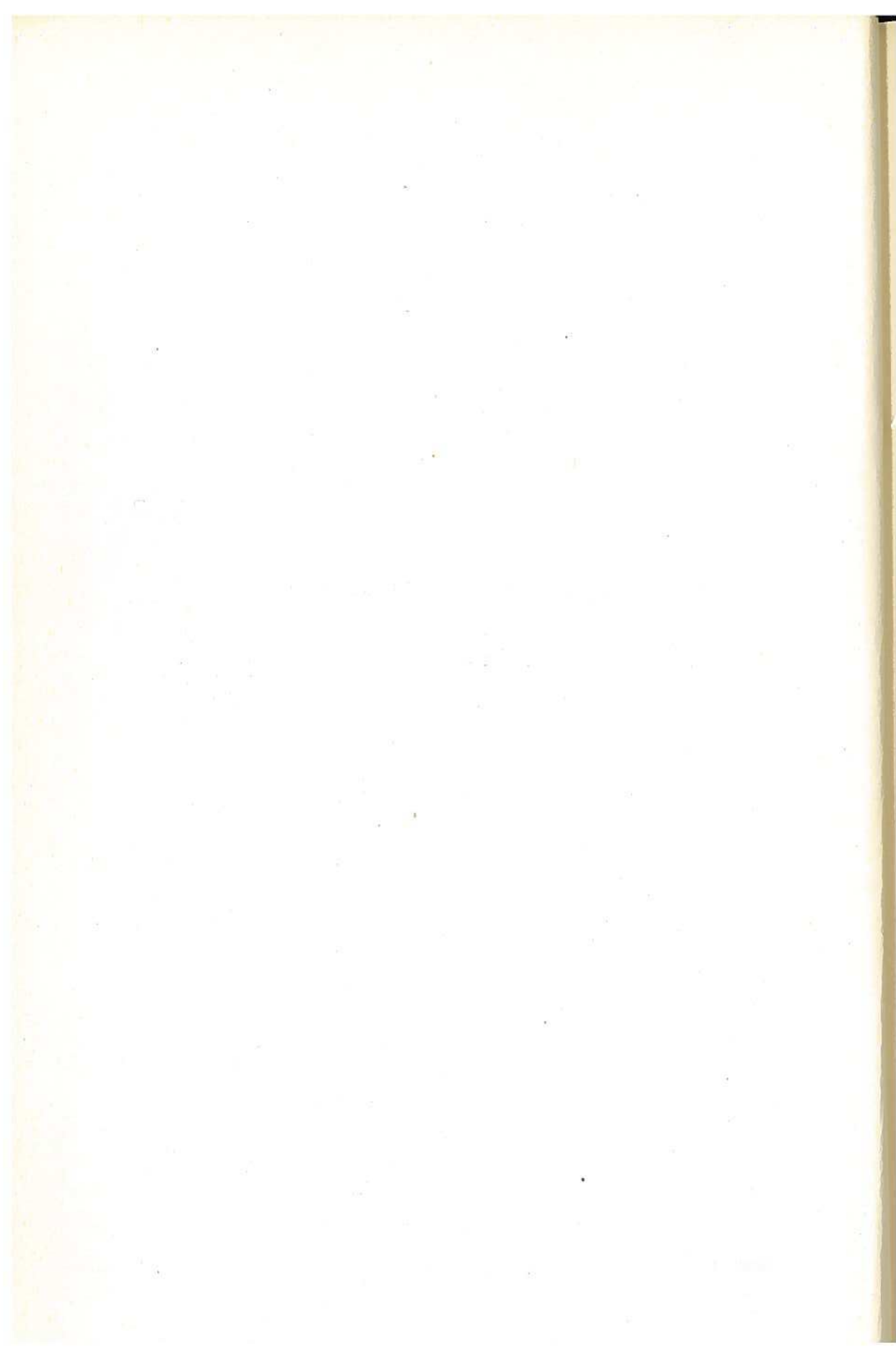
OTTAWA, CANADA  
1950

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OTTAWA  
EDMOND CLOUTIER, C.M.G., B.A., L.Ph.,  
KING'S PRINTER AND CONTROLLER OF STATIONERY  
1950

To  
ELAINE PRINCE WEHMEYER,  
*the original source of our interest  
in the Maritime Fungi*





## PREFACE

The present volume, "The Fungi of New Brunswick, Nova Scotia, and Prince Edward Island", by L. E. Wehmeyer, is the second of the *Memoirs on Canadian Fungi* published by the National Research Council of Canada. The first one was "The Fungi of Manitoba and Saskatchewan", by G. R. Bisby and others. Mycologists and plant pathologists will welcome the appearance of this new regional flora and will be deeply grateful to the National Research Council for its continued interest in the publication of such works.

Dr. Wehmeyer is well known for his mycological studies, particularly for his monograph on the genus *Diaporthe*. For a number of years it was his custom to spend his vacation in alternate years in Nova Scotia, and, either alone or with a colleague, to collect fungi assiduously. His interest in mycology was so keen that, as a result of this activity during these vacation periods, he published a series of valuable and interesting papers on the fungus flora of Nova Scotia. In the present Memoir, he brings together, not only the records obtained by him personally, but also those of fungi in the Mycological Herbarium, Division of Botany and Plant Pathology, Ottawa, and those in smaller herbaria in the Maritime Provinces. He includes also records obtained from the literature of an earlier period and gives his assessment of their accuracy.

A regional flora, such as this one, serves a number of useful purposes. It stimulates the interest of local collectors and also of collectors in adjacent or similar areas. It brings together records that are scattered through the literature and is especially valuable when it gives, as the present one does, a critical appraisal of early records. It brings to light specimens that might otherwise have remained buried in herbaria. Such specimens then become accessible to specialists in the various groups. It aids in building up a knowledge of the distribution of the fungi. In these days, when a good many mycological studies are limited to one or a relatively few species, it is about the only medium available for recording a large number of fungi.

This Memoir fills one of several major gaps in our knowledge of the distribution of fungi in Canada. It will be invaluable as a reference work in the region concerned, and even much farther afield. It should be particularly useful in Newfoundland, now the tenth province of Canada, where ecological conditions—and probably the fungus flora—are not greatly dissimilar to those of the Maritime Provinces. Personally, it is a pleasure for me to welcome this contribution by an American colleague to our knowledge of Canadian fungi.

J. H. CRAIGIE.

June 13, 1949.

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## INTRODUCTION

The compilation of the present list of the fungi of the Maritime Provinces was made at the suggestion of Dr. H. T. Güssow, formerly Dominion Botanist, and the National Research Council of Canada and was inspired by the work of Dr. G. R. Bisby and his collaborators on the fungi of Manitoba and Saskatchewan (4). It was based originally on collections made by the writer but has been expanded to include all authentic reports and collections for the Maritime Provinces. The result has been a predominance of reports from Nova Scotia, but inasmuch as the region shows a general unity as to phanerogamic flora, climate, and general topography, there is little doubt that most of the fungi of the region are generally distributed throughout.

The Maritime Provinces of Canada present a most interesting region to the mycologist. Although one of the first areas of settlement on this continent, large areas in this region have remained forested and are still covered with virgin or second growth forest.

There have been occasional reports upon the fungi of this area, but the exploration of the fungous flora has scarcely begun. It should be stated at the outset, therefore, that the present list represents probably only a fraction of the fungi that exist in this region of diversified environmental conditions and host flora. If it can serve as a stimulus for further study of these plants, the rewards should be great.

Bisby (4) has discussed the geographical distribution of the fungi in relation to his flora of Manitoba and Saskatchewan. This field of study has been a comparatively sterile one for several reasons. Most fungi are widely distributed and neighboring local floras show only minor differences. Apparent or sizeable changes occur only in widely separated regions. The occurrence and diversity of the fungi is such that collections even over a long period of time can never approach the completeness that do those of a phanerogamic flora, for instance. Even such incompletely known floras are scattered and confined to certain areas of the earth, where intensive collecting has occurred. As a result, the absence of a species is more likely to be due to its escaping observation than its actual nonoccurrence. Again, the taxonomy of the fungi is not yet upon a firm enough basis for distributional studies. Collections are often incorrectly determined. Because of lack of comparative studies between distant regions, as Europe and America, for instance, species are often regarded the same when actually they are different, or are described as new merely because they are found in a new area. These difficulties are gradually being overcome as the intensive and comparative study of the fungi progresses, and it is here that careful regional studies will be of value.

The factors affecting distribution are the phanerogamic flora, climate, soil, and avenues of migration. The fungous flora of this maritime region of Canada may be considered as an extension of that of the coniferous regions of northern Canada on the one hand and of the New England and Atlantic mountain region on the other. For this reason, this area is of particular interest. Elsewhere, the author (61, 64) has discussed the probable path of migration of fungous spores as being from west to east, across Europe, northern Asia, and Canada to the Atlantic Coast of North America. The greater similarity of the fungi of the Pacific coast of North America to those of Europe than to those of the American Atlantic Coast could be explained in this way. If this be true, one might expect certain circumpolar strays to wander across Canada into this Atlantic maritime area. The presence of the two western rusts, *Peridermium coloradense* Arth. & Kern and *Cronartium coleosporioides* (Diet. & Holw.) Arth. might be considered as such cases of migration.

The phanerogamic flora of the region is predominantly of the northern forest type, consisting of pure stands of conifers or hardwoods, or a mixed forest of both, each with its characteristic but overlapping fungus associations, especially rich in fleshy types during moist seasons.

The coniferous forests consist of pure or mixed stands of spruce, fir, and pine with occasional hemlock, which serve as hosts for the numerous gymnosperm rusts and such characteristic Ascomycetes as *Lophodermium*, *Dasyscypha*, *Dermea*, *Tympanis*, *Scolecocedria*, etc. On dead

and decaying coniferous wood, characteristic species of the Thelephoraceae, Polyporaceae, and Ascomycetes are to be found and on the soil of such conifer forests the typical flora of hydnums, agarics, boletes, and myxomycetes are abundant.

The hardwood forest of the uplands is predominantly a mixture of beech, birch, and maple, whereas along streams and in the low moist areas such shrubs or small trees as *Populus*, *Salix*, *Alnus*, *Amelanchier*, and the like are found. On the leaves of the upland hardwoods, the rusts are conspicuous by their absence. The alternate hosts of the conifer rusts are the shrubs and small trees of the lowlands and swamps, rather than this association. Many parasitic Ascomycetes and Fungi Imperfecti occur on all these hosts. The Nectria canker (*Nectria coccinea* (Pers.) Fr. var. *faginata* Lohm., Wats. & Ayers) and willow scab (*Fusicladium saliciperdu* (All. & Tub.) Lind.) have caused devastating losses of beech and willow, respectively, in this area. The dead wood of hardwoods supports a very rich flora of many types of fungi, mostly distinct from that found on coniferous wood. Likewise, the fallen leaves and leaf mold of hardwoods show a rather distinct group of Ascomycetes and fleshy fungi.

The deep humus litter, the abundant dead and down wood and debris, the hilly or rolling character of much of the land, giving many damp or even swampy pockets, make these wooded areas a happy hunting ground for the mycologist, particularly in wet weather when the fleshy forms are in great abundance.

In the numerous and often extensive bog areas, many shrub genera, as *Rhodora*, *Vaccinium*, *Ledum*, *Viburnum*, *Nemopanthis*, *Chamaedaphne*, etc., are associated and support many of the alternate stages of the coniferous rusts as well as many other interesting and characteristic fungi. In the rather extensive brackish tidal areas, about the Bay of Fundy, a characteristic association of sedges and herbaceous plants serve as hosts to another group of rusts and other parasites, whereas the other coastal areas are populated by a characteristic beach flora with their accompanying parasites and certain sand-loving saprophytes as *Bovista pila*, etc.

A rich and varied herbaceous flora is found in all these associations, except perhaps in pure stands of conifers, and also in the open and cut-over areas. These, of course, serve as hosts for many rusts, leaf spots, mildews, and the like and their dead stems serve as substrata for many saprophytes. The maritime area is also rich in its fern flora; these plants serve as hosts for a number of unique parasites as the fern rusts, certain taphrinids, *Herpobasidium filicinum*, *Cryptomycina Pteridis*, *Dothidella Osmundae*, and others.

The cultivated and crop plants, again, yield another set of parasites, which are of particular interest to the pathologist. Such crop plants are also likely to harbor introduced species that may spread to the native flora.

The climate of this region is comparatively mild for its latitude of 43° to 47°, which is approximately the latitude of Ottawa, Ont., St. Paul, Minn., and Portland, Ore., because of its maritime position. The two factors, temperature (mean daily temperature 40° to 44° F.), and rainfall (40 to 50 in.), which most affect fungus distribution, are favorable for a wide range of species. In dry seasons the fleshy fungi may be sparse and scattered, consisting largely of members of the Thelephoraceae and other Basidiomycetes to be found on down wood and the moist underside of decaying logs and branches. In moist seasons, on the other hand, these fleshy forms are very abundant, including numerous soil-inhabiting agarics, boletes, hydnums, clavarias, pezizas, etc.

## HISTORICAL

The first published reference to the fungi of Nova Scotia that has come to the author's attention is that of T. C. Haliburton, who, in 1829, in his *An historical and statistical account of Nova Scotia*\* (Vol. 1, p. 405), includes a list of plants collected by Rev. Dr. Cochran of Kings College, Windsor, that includes the following fungus names: *Agaricus campestris*, *A. aurantices*, *Boletus rebeolarius*, *B. edulis*, *B. sanguineus*, *B. igniarius*, *B. versicolor*, *B. rangiferinus*, *B. salicinus*, *B. suaveolens* (and 17 others not ascertained), and *Hydnum*.

In 1835, an article from the Monthly Magazine of Halifax (53) was reprinted in the Magazine of Natural History (54), as a dissertation on the natural history of Nova Scotia, by one Titus Smith, the "Philosopher of Dutch Village". This is a rambling account of natural phenomena in

\* Haliburton T. C. *An historical and statistical account of Nova Scotia*. Vol. 1. J. Howe, Halifax. 1829.



which the author refers to "the Fungi, those substances which we are accustomed to call mushrooms and touchwoods, are a family of vegetables which have a very different office: it is their business to assist in the changing of dead vegetable matter to mould and turf. Every dead vegetable . . . . . are immediately attacked by the Fungi and soon reduced to an elementary state in which they may serve again to become vegetables." In addition to this keen observation, the author states "like animal substances, some kinds of them are remarkably luminous when in a state of decay and it appears to be to them that the phosphorescence of rotten wood is to be ascribed." No species are mentioned, however.

In 1865, Watt (60) published a list of Canadian cryptogams, based on collections of W. P. MacLaggan (determined by Berkeley) and himself (mostly seen by Rev. Dr. Curtis). Although these collections were from eastern Canada, there is no evidence that any of them actually came from the Maritimes.

In 1879, Fowler (18) published a *List of New Brunswick Plants*, which includes 53 fungi collected in York, Kent, and Restigouche Co.

During the period of 1880-90, Somers (55, 56) published a series of lists of fungi collected in Nova Scotia. Nearly all of the species of these lists were fleshy forms of the Basidiomycetes. From 1901-1908, Hay (30, 31, 32) published three lists of the fungi of New Brunswick with a total of 321 species. These, again, were nearly all fleshy forms plus a few Ascomycetes. Many of these collections were sent to C. H. Peck, G. F. Atkinson, or C. G. Lloyd for determination, giving them added authenticity. In 1903, Halsted and Kelsey (28) visited Nova Scotia and published a list of the parasitic fungi of that province, which seems to be the first attention paid to the pathogenic fungi of this region.

In 1908 and 1913, MacKay's (37, 38) two extensive lists of the fungi of Nova Scotia appeared. These included the collections of Somers, Gates, Swaine, Moore, Miss Hewitt, Fraser, and MacKay, and for the first time gave a respectable number of the microscopic fungi, such as members of the Phycomycetes, Ascomycetes, and Uredinales. In 1914-15, the Misses Van Horne (58, 59) published upon the fleshy fungi of St. Andrews, N.B. A number of these collections were also checked by C. H. Peck.

Other papers of the early 1900's, concerned with special groups of fungi, are those of C. L. Moore on the Myxomycetes (39, 41) and aquatic fungi (42), and of Mussels and Parker (43) and Fraser (24) on the Erysiphaceae of Nova Scotia. The series of papers published by Fraser (19 to 23), from 1911-1914, give a very extensive knowledge, not only of the species, but also of the biology, of the rusts of this region, particularly the life histories of the numerous and interesting species of coniferous rusts.

In 1927, Harrison (29) published a preliminary paper on his collections of fleshy fungi of Nova Scotia, which have been retained in the Mycology Herbarium of the Pathological Laboratory at Kentville and have been greatly expanded since that date.

The author's (52, 61-64, 66) own collections, which were made during a series of summer excursions from 1927-1935, although general in character, left certain gaps in any complete survey of the fungi. They were made largely within a radius of 30 miles of the town of Truro, at the head of the Bay of Fundy, although trips were also made to Wolfville, into Halifax Co., and throughout the island of Cape Breton. The earliest arrival was about June 15, so that the early spring flora such as the sclerotinias, certain Helvellaceae, etc., was not obtained. Again, the latest collections were made early in September, resulting in a lack of many of the late fall fungi, which are probably quite plentiful. A lack of time and laboratory facilities also prevented the recording of many groups as the aquatic Phycomycetes, soil- and dung-inhabiting fungi, and numerous saprophytic Fungi Imperfecti. Little attention, also, was paid to the pathogenic species. During the wet season of 1931, Dr. A. H. Smith accompanied the author to Nova Scotia; this made possible a fairly extensive study of the fleshy fungi during one season.

Some of these gaps in our knowledge of the fungi of this area have been filled in by records and collections kindly sent by other workers in this region. The data and collections of the Pathological Herbarium of the Dominion Laboratory of Plant Pathology at Kentville, N.S., collected and determined largely by J. F. Hockey, and the collections of A. R. Prince and A. E. Roland from the Nova Scotia Agricultural College at Truro, have supplemented very nicely

the lack of parasitic and pathogenic fungi from Nova Scotia, whereas the Mycological Herbarium of the Kentville Laboratory, mostly collected and determined by Capt. K. A. Harrison has added many records to the other fungi from other parts of this province. The records of the collections in the Mycological Herbarium of the Department of Agriculture at Ottawa, kindly sent by I. L. Conners, and those of R. R. Hurst, from the Laboratory of Plant Pathology at Charlottetown, P.E.I., have filled in the lack of reports from the other maritime provinces.

Although a thorough search of the literature has not been made, the author has attempted to obtain as many as possible of the scattered records from the Maritimes, in the larger monographs and other pertinent papers.

The records of the Dominion Plant Disease Survey, although duplicating many of the records above mentioned, also give some additions and have been included for the benefit of pathologists who may wish to know the extent of such reports.

### REMARKS

With such a diversity of source material, there has been some difficulty in obtaining a uniformity of nomenclature and authenticity of determination. It has been impracticable to examine all collections, even if they were available. In order to obtain as complete a list as possible, all reasonably authentic and all published records have been included. For all published records, the literature citation (bibliographical number) and for all herbarium specimens, the herbarium number, is given in parenthesis. This will allow the interested reader to obtain further information as to determinations, or further discussion of each citation, if he so desires.

In the Dominion Plant Disease Survey, the commoner species are often cited repeatedly. In this publication, therefore, volume references are given only when a species has been reported only one or a few times. In referring to the various Herbaria, from which records and collections have kindly been supplied, the following abbreviations have been used.

B—Herbarium of Dow Vawter Baxter, School of Forestry and Conservation, University of Michigan, Ann Arbor, Mich.

KM—Herbarium of the Dominion Laboratory of Plant Pathology, Kentville, N.S.; mycological collections, collected and determined for the most part by K. A. Harrison.

KP—Same Herbarium; pathological collections, collected and determined, largely by J. F. Hockey.

O—Mycological Herbarium, Division of Botany and Plant Pathology, Science Service, Department of Agriculture, Ottawa, Ont.

OF—Numbers up to 8100 are repeated in the collections of the wood-inhabiting fungi in the Ottawa Herbarium, and are preceded by an F, to distinguish them from the parallel series of numbers.

R—Collections made by A. R. Roland, Nova Scotia Agricultural College, Truro, N.S.

W—Herbarium of Lewis E. Wehmeyer, Department of Botany, University of Michigan. (The collections of the Agaricaceae and Boletaceae, and duplicates of many others, are deposited in the Herbarium of the University of Michigan.)

In the older lists, the nomenclature is often at variance with modern usage and the identity of the fungus may well be in doubt. Where the synonymy is clear, an attempt has been made to list the record under the name used at present. Where the synonymy is not clear, the collection is cited under the original binomial with pertinent remarks. In this endeavor to bring the nomenclature up to present usage the author has called freely upon the aid of experts in the various groups. Without their generous response, the present list would lack much of the accuracy and comment, which the author feels is an important part of any regional list. He therefore takes this opportunity to extend his wholehearted appreciation to those mycologists who gave so much of their time and special knowledge. These individuals are designated in connection with the discussion of the various groups, which follows.

Nearly all of the records for the bacteria have been taken from the Plant Disease Survey (9) and the nomenclature as suggested by Burkholder\* and Dowson\*\* has been followed. The

\* Burkholder, W. H. *Phytopathology*, 128-136. 1939.

\*\* Dowson, W. J. *Zentr. Bakt. Parasitenk.* II, 100: 177-193. 1939.

Actinomycetes and Myxobacteriaceae are represented by only one species each, but could no doubt be greatly increased by cultural studies of soil and dung.

The Myxomycetes are quite well represented in the area, but the chief sources of determinations are those of Moore's list (39, 41) and the author's collections, which were determined by G. W. Martin. The Chytridiales and other aquatic Phycomycetes are represented only by a few pathogens and those from Moore's list (42) from Pictou, N.S. Here, again, cultural studies would no doubt greatly increase the number of species known. In the Peronosporales, a number of pathogenic species are known, but a number of other species must exist on noneconomic host plants. The Mucorales and Entomophthorales have also been badly neglected and would yield many species under careful cultural studies.

The Ascomycetes are well represented in this area, but many species are scattered and erratic in their occurrence, so that the number of species will be greatly increased by further collecting. Rehm's (46) arrangement of the Discomycetes has been followed, in general, but the Geoglossaceae and Helvellaceae are redistributed to the Inoperculatae and Operculatae, respectively. The generic name changes used by Seaver in his monograph of the operculates are given in parenthesis, in most cases. During moist seasons, the operculate Discomycetes are very numerous. Certain spring forms as *Urnula*, *Morchella*, and *Sarcoscypha*, which the author missed in his collecting, have been picked up by other collectors, but others as *Verpa* and *Sclerotinia*, which would be expected, have not as yet been collected. During wet periods, the soil-inhabiting pezizas occur in a variety of forms that would be well worth careful study. Many interesting dung-inhabiting species of *Lachnea*, the Ascobolaceae, etc., are also present. Most of the Operculatae were determined by the author, but F. J. Seaver has kindly identified several doubtful collections.

Among the Inoperculatae, the Geoglossaceae on soil and the Dermateaceae on twigs are particularly abundant in these provinces, as they probably are throughout northern Canada. Dr. J. W. Groves has studied the author's collections of the Dermateaceae and given much valuable information concerning them. The Patellariaceae, which are still poorly known, were determined by Mrs. Roger Wodehouse (née Butler). Miss E. K. Cash and Miss B. B. Kanouse have determined a number of the more difficult collections of the Mollisiaceae and Helotiaceae. The members of these two families are widely distributed on the plant parts of many hosts and are often erratic in their occurrence, and many more species will be turned up with further collecting in this area. These families also include a number of pathogens causing diseases of economic plants, particularly in their conidial stages.

The revisions of Höhnelt (33) and Nannfeldt (44) have left only remnants and confusion in the old order of the Phacidiales, but such genera as remain have been placed under this order. Dr. M. L. Lohman has kindly identified most of the author's collections of the Hysteriales and L. R. Tehon has checked several collections of the Hypodermataceae, members of which family are common on the needles of conifers and also on certain hardwood substrata in this region.

In the Pyrenomycetes, the representatives of the Myriangiales, Microthyriales, Perisporiales (with the exception of the Erysiphaceae), and Dothideales are comparatively few in this area and the differences of opinion concerning their classification are not of great importance. The Pseudosphaeriales are not recognized either as an order or family. Until the characters of this group are more clearly defined and the position of the bulk of the species of the Sphaeriales is determined, it is useless as a taxonomic unit.

The Hypocreales are well represented in the Maritime Provinces. This abundance of the Geoglossaceae and Hypocreales seems to be characteristic of the cool moist regions with a mixed conifer-hardwood forest that extend around the borders of the northern half of the North American continent. Seaver's (50) monograph of this order is followed, although a few of his generic names, as *Spermoedia* and *Creonectria*, are not used.

In the Sphaeriales, Winter's (67) arrangement is followed, except for the stromatic forms, where Höhnelt's Allantosphaeriaceae and Diaporthaceae are so much more useful than the older artificial family distinctions. This results in a few genera, as *Valsaria*, *Fenestella*, *Anthostoma* etc., whose position still remains undecided. These are arbitrarily included under the Diaporthaceae. The stromatic forms are abundant on twigs and branches and aid in the natural pruning and preliminary decay of these parts. The number of species is probably comparatively moderate because of the limited number of woody host species and is fairly well covered in the list. The



simple Sphaeriales, occurring on herbaceous stems and leaves as well as woody substrata are much greater in number of species and more scattered in their occurrence and, therefore, are probably not so completely represented. They also are often the cause of plant disease, especially in their conidial stages.

In the Basidiomycetes, the general arrangement of Engler and Prantl, second edition, is followed. For the sake of consistency, the binomials in the Ustilaginales are those of Clinton's (7) monograph, whereas those in the Uredinales are taken from Arthur's (2) manual of the rusts. The author is indebted to E. B. Mains for checking most of the rust collections and for reading the rust section of the manuscript. The rusts are abundant in this region and the many species occurring upon Gymnosperms are of special interest. The publications of Fraser (19-23) have given much information concerning the life histories of these coniferous rusts and of the general rust flora of Nova Scotia.

Several collections of the Auriculariaceae, Tremellaceae, and Dacryomycetaceae have been determined by Martin, McGuire, and Brasfield, to whom the author is indebted.

The Thelephoraceae are particularly abundant on dead wood of all sorts and are an unusually difficult group taxonomically. *Tomentella* has been substituted for the untenable name *Hypochnus*, and the genera *Pellicularia*, *Trechispora*, and *Vararia* have been recognized. Cejp, Donk, and Litschauer determined a number of the author's earlier collections of the Thelephoraceae. The author is indebted to Dr. H. S. Jackson, however, for his careful study and revision of the majority of the collections of this family and his critical reading of the manuscript. Several new reports for North America and apparent new species have turned up in these collections. The large amount of forest litter consisting of down, and decaying, branches in the mixed forests of this region, serves as an excellent substratum for these fungi and repeated finds of certain species will be made on any collecting trip, even during dry seasons.

The Clavariaceae are in great abundance during moist weather, but may be limited to a few species as *Clavaria cristata*, *C. cinerea*, *C. pyxidata*, etc., in dry seasons. The same is true of the fleshy, stipitate, soil-inhabiting Hydnaceae, whose attractive coloration and form make them a most interesting group, the members of which must be studied in their fresh condition, however. The resupinate Hydnaceae, with a habit more like that of the Thelephoraceae are abundant in dry weather, as well as in rainy seasons. The genus *Odontia*, is particularly abundant and difficult of separation into its component species. Cejp and Donk determined some of the earlier collections of this genus also, but Cain has recently made a comparative study of the author's collections of this genus, which is used as a basis for the arrangement in the present list.

Nearly all of the determinations of the Agaricaceae and Boletaceae have been made by Dr. A. H. Smith, who, as has already been mentioned, spent the summer of 1931 in Nova Scotia with the author. Dr. Smith has also checked the manuscript of the Agaricaceae, whereas Dr. W. H. Snell has read the section on the Boletaceae and given valuable information and suggestions concerning these records. Both these families are abundant in wooded areas, particularly in moist weather, and in late summer and fall.

Both J. L. Lowe and D. V. Baxter have given freely of their time and ability in the determination of many of the Polyporaceae, the latter particularly in the case of the genus *Poria*. The abundance of woody substrata in the mixed forests of this region together with the mild moist climate yields a large number of species of this family.

The Gasteromycetes are a minor component of the flora. The commonly occurring species are those of the genera *Scleroderma*, *Lycoperdon*, and *Calvatia*.

The Fungi Imperfecti in this list are mostly from the reports of plant pathogens and conidial stages connected with various Ascomycetes. No extensive attempt was made to collect miscellaneous conidial fungi and a very large number of these saprophytic species are extant and yet to be determined.

It may not be amiss to give a few statistics, here, for the mathematically inclined. In Table I an attempt is made to compare the flora of the Maritime Provinces with that of Manitoba and Saskatchewan, as given by Bisby (4). The number of species reported for these two regions, and the number of species common to both regions, for various families or groups of families are given. Bisby counted all varieties as species in his enumerations, and the same has been done for the present list.

TABLE I

Group	Species in Maritimes	Species in Manitoba	Species common to both areas
Schizomycetes.....	27	30	18
Myxomycetes.....	61	99	35
Chytridiales, etc.....	5	10	1
Oomycetes.....	41	53	18
Zygomycetes.....	9	47	7
Plectascales-Tuberales.....	4	12	1
Taphrinales.....	16	6	5
Helvellaceae.....	9	14	7
Pezizaceae.....	66	78	40
Geoglossaceae.....	31	7	5
Inoperculatae.....	82	94	28
Phacidiales.....	11	18	6
Hysteriales.....	20	22	7
Myriangiales-Microthyriales.....	3 (5)	4	0
Perisporiales.....	27	17	14
Hypocreales.....	42	32	19
Sphaeriales.....	165	280	51
Dothideales.....	10	8	3
Ustilaginales.....	30	48	18
Uredinales.....	154	193	98
Auriculariaceae-Tremellaceae- Dacryomycetaceae.....	32	24	15
Thelephoraceae.....	96	133	57
Clavariaceae.....	49	25	15
Hydnaceae.....	48	51	22
Polyporaceae.....	116	105	68
Boletaceae.....	63	19	14
Agaricaceae.....	564	563	268
Gasteromycetes.....	26	40	15
Moniliales.....	103	394	49
Melanconiales.....	53	67	15
Sphaeropsidales.....	100	255	37
Totals.....	2043	2749	956

These figures are very general and approximate, and must be used with caution. Differences in interpretation of species, in nomenclature, in arrangement of species, and changes in species concepts, make an exact comparison impossible. A few general conclusions can be drawn however. The greater number of species from Manitoba and Saskatchewan is no doubt due to the much more intensive study of the fungi of that region over a longer period, rather than to any actually greater number of species. The very large number of species of certain types, as soil- and dung-inhabiting fungi, leaf spots, and the like, which have been scarcely touched in the maritime region, are specific cases supporting this conclusion. It is the author's belief that the fungous flora of the Maritimes will prove to be richer in species than that of these western provinces, because of the moister climate and probably greater host variety.

It will be noted that the total number of species common to both regions (956) is approximately 50% of the smaller list, from the Maritimes (2043). If one glances through the figures for the various families, this holds approximately true for most cases. As the flora of the Maritimes becomes better known, and if a better correlation between determinations and names could be made, this proportion would no doubt be considerably higher, that is, more than 50% of the fungi of the Maritimes would be found in Manitoba. It is also interesting to note that this percentage is much higher than the number of species common to both Australia and Manitoba, as given by Bisby (4, p. 14) in a limited number of families.

An examination of the exceptions to the above two generalizations is also instructive. The families in which a greater number of species are reported from the Maritimes than from Manitoba are all those that flourish in a moist cool climate and wooded areas and reflect the difference in

climate and phanerogamic flora of these two regions. The Geoglossaceae and Hypocreales are fungi of this type. The Auriculariaceae, Tremellaceae, Dacryomycetaceae, Clavariaceae, Hydnaceae, Polyporaceae, and Boletaceae are all groups of fleshy fungi also affected by these climatic factors. The presence in the Maritimes of a greater variety of woody hosts with the accompanying dead wood and humus is also a distinct factor in the greater variety of fleshy forms. The number of Agaricaceae reported is only slightly greater for the Maritimes, but the actual number in this region is no doubt substantially greater. The greater number of Perisporiales in the Maritimes is probably due to the greater variety of host plants, although it is of interest to note that the rusts and smuts are reported in greater numbers from Manitoba.

Concerning the families that show less than 50% of the lower number of reports, common to the two regions, a few small groups as the Chytridiales, Plectascales, Dothideales etc., may be disregarded because of the very few reports from either territory. The small correlation in the Inoperculatae of the Discomycetes and the Sphaeriales is probably a result of the large number and erratic occurrence of the species in these groups and in part a result of the difference in host species. In the Hysteriales, the discrepancy appears to be due to the lack of collections of the saprophytic Hysteriaceae from the Maritimes and the abundance of the Hypodermataceae in this same region. The difference in the Melanconiales appears to be merely a matter of selection, most of the maritime reports being pathogens, whereas Bisby has paid more attention to the fungi on the noneconomic host plants.

The great excess in the number of Hyphomycetes and Sphaeropsidales from Manitoba is, again, a matter of more intensive study and collection of certain groups as soil fungi, leaf spots, and certain pathogens; witness the genera: *Fusarium* with 40 species, *Penicillium* with over 50 species, and *Septoria* with nearly 100 species, as well as other similar genera, in Bisby's list.

From this maritime region, 21 new species have been described, all but one from Nova Scotia. Five species have been described but not named and three new varieties named from New Brunswick, by Peck.

The author wishes at this point to express his indebtedness to I. L. Connors, Dr. J. W. Groves, Dr. Ruth Macrae, and Dr. Pauline Snure for their painstaking reading of the manuscript and their helpful suggestions and corrections of numerous details.

## LIST OF SPECIES

## SCHIZOMYCETES

## EUBACTERIALES

*Bacteriaceae*

- Agrobacterium tumefaciens** (E. F. Smith & Towns.) Conn. Crown gall has been reported (9) from various hosts as follows: from N.B., on raspberry and mangel; from N.S., on apple, raspberry, rose, and rhubarb; and from P.E.I., on apple, mangel, raspberry, and rose. The Kentville Herbarium contains specimens on apple (KP-306), blackberry (KP-77), dahlia, Lombardy poplar (KP-923), raspberry (KP-668), and rhubarb (KP-263), from Kings Co.; and on marigold (KP-991), from Cumberland Co., N.S.
- Bacillus sorghi** Burrill. Reported once, on Sudan grass, from N.S. [9(15)]\*. I. L. Connors comments that this species is poorly known and should remain under this name for the present.
- Corynebacterium sepedonicum** (Spieck. & Kotth.) Skapt. & Burkh. This species has been reported on potato from all three Maritime Provinces (9). According to Connors (in litt. see [9(24)]), "Bacterial ring rot has never gained a foothold in N.S. and although it threatened the potato industry in P.E.I., it has since been virtually stamped out. On the other hand, ring rot continues to be a destructive disease in N.B."
- Erwinia amylovora** (Burr.) Winslow *et al.* Reported by J. F. Hockey, on apple nursery stock, from Annapolis Co., N.S. (KP-994); also from N.B. (9), on apple and pear; and from P.E.I. (9), on apple, pear, *Crataegus*, and *Sorbus*.
- **carotovora** (L. R. Jones) Holland. Reported (9) from N.B., on beets, cabbage, cauliflower, celery, *Iris*, and turnip; from N.S., on cabbage, turnip, and *Iris*; and from P.E.I., on *Asparagus*, cauliflower, celery, *Iris*, mangel, melon, and turnip.
- **Lathyri** (Manns & Taub.) Holland. Reported on sweet pea, from P.E.I. [9(16, 17)].
- **phytophthora** (Appel) Bergey *et al.* Reported (9) on potato, from N.B., N.S., and P.E.I. The reports [9(4, 5)] of *Bacillus solanisaprus* Harrison, on potato, from all three provinces, should also be referred to this species for the present, according to I. L. Connors.
- **tracheiphila** (E. F. Smith) Holland. Reported on cucumber [9(6, 9)], from N.B.; and on vegetable marrow (KP) [9(14)] and squash [9(21)], from N.S.
- Pseudomonas angulata** (Fromme & Murray) Holland. The report [9(20)] of this species, on cucumber, from N.B., is an error and should read *P. lachrymans*, according to I. L. Connors (in litt.).
- **atrofaciens** (McCull.) F. L. Stev. Reported on wheat, in the rust nurseries at Kentville, N.S. [9(7)].
- **berberidis** (Thornb. & And.) Stapp. On *Berberis Thunbergii* DC., from Meteghan Centre, N.S. (O-4988), det. I. L. Connors.
- **coronafaciens** (C. Elliott) Stapp. Reported from N.B. and P.E.I., on oats (9).
- **delphinii** (E. F. Smith) Stapp. Reported (9) from N.B., N.S. (KP-1149), and P.E.I. on *Delphinium*.
- **erodii** Lewis. On cultivated geranium, Centreville, Kings Co., N.S. (KP) [9(7)].
- **glycinea** Coerper. Reported on soybeans, from Nappan, N.S. [9(21)].
- **lachrymans** (E. F. Smith & Bryan) Carsner. Reported on cucumber, from N.B. [9(11)], and N.S. (KP-301).
- **marginata** (McCull.) Stapp. Reported from all three provinces, on *Gladiolus* (9).
- **phaseolicola** (Burkh.) Dowson. Reported from Sackville and Port Elgin, N.B. [9(22)], on beans; and from P.E.I. [9(23)], on the same host.
- **mori** (Boyer & Lamb.) F. L. Stev. Reported on mulberry, from P.E.I. [9(21)].

\* The number (or numbers) given in parentheses after the reference number (9 in this instance) indicates the particular report to which reference is made.



- Pseudomonas syringae** van Hall. Reported on lilac (9) and *Rhus Cotinus* L. (KP-562), from N.S. Reports of *Pseudomonas Holci* Kendrick, on sorghum, from N.B. [9(18)] and on sorghum and Sudan grass, from Kentville, N.S. (KP-834, 835), may be referred to this species according to I. L. Connors.
- Xanthomonas campestris** (Pammel) Dowson. Reported (9) from N.B., on cauliflower and turnip; from N.S. on turnip; and from P.E.I. on cabbage and turnip.
- **phaseoli** (E. F. Sm.) Dowson. Reported from all three provinces, upon beans (9) (KP).
- **translucens** (Jones, Johnson & Reddy) Dowson. Reported on barley, from N.B. [9(7)].
- **translucens** var. **undulosa** (Smith, Johnson & Reddy) Stapp. Reported on wheat from N.B. [9(7, 9)] and Kentville, N.S. (KP-292).
- **vesicatoria** (Doidge) Dowson. Reported on tomato, from N.S. [9(21)].

## MYCOBACTERIALES

*Actinomycetaceae*

- Streptomyces** (**Actinomyces**) **scabies** (Thaxter) Bergey *et al.* There have been numerous reports (9) of *Actinomyces* scab from N.B., on beets, mangel, potato, sugar beet, and turnip; from N.S., on potato; and from P.E.I., on beets, parsnip, potato, radish, and turnip. Potato scab was also reported by Halsted and Kelsey (28) and by Hockey (KP-665), from N.S.

## MYCOBACTERIALES

*Mycobacteriaceae*

- Chondromyces indivisus** Wehm. Described as a new species on decayed wood, infected with *Chlorosplenium*, from Colchester Co., N.S. (61).

## MYXOMYCETES

- Arcyria cinerea** (Bull.) Pers. Reported, by Moore (39, 41), from Pictou, N.S. and collected on decayed wood, about Truro, N.S. (61).
- **denudata** (L.) Wettst. Reported, by Moore (39, 41), from Pictou, N.S., and on decayed wood, from Folley Lake (61), N.S.
- **ferruginea** Sauter. Reported from Pictou, N.S., by Moore (39).
- **incarnata** Pers. Reported on decayed wood near Truro, N.S. (61) and on *Populus* and *Fagus* from Pictou and Saltsprings by Moore (39, 41).
- **nutans** (Bull.) Grev. On decayed logs, from Truro (61), New Glasgow (61), and Pictou (39, 41), N.S.
- **pomiformis** (Leers) Rost. On cow dung, Northeast Margaree, Inverness Co., N.S., Sept. 4, 1927 (W-1693).
- Badhamia decipiens** (Curt.) Berk. On bark of *Fagus*, Truro, N.S. (61).
- Ceratiomyxa fruticulosa** (Muell.) Macbr. Collections from Truro, N.S. (61), on decayed wood, were of the long filiform type and were referred to the variety *flexuosa* List., which Macbride and Martin refer to the variety, *filiforme* Berk. & Br. Moore (39, 41) reports this species on conifer wood and *C. porioides* (Alb. & Schw.) Schroet., on hemlock blocks, from Pictou, N.S. This latter species is usually considered a variety, var. *porioides* Alb. & Schw., of *C. fruticulosa*. Moore gives the plasmodium as "watery white".
- Comatricha nigra** (Pers.) Schroet. Reported by Moore (41) on wood of *Abies balsamea* (L.) Mill. and other conifers, from Pictou, N.S. His description of the sporangia as "scattered, erect, ovoid, stipitate", distinguishes this species from the following one, which has cylindric, clustered sporangia.
- **subcaespitosa** Pk. On decayed wood, near Truro, N.S. (61).
- **typhoides** (Bull.) Rost. Reported on decayed wood, from Green Oaks and Truro, N.S. (61), and on decayed conifers, from Pictou Co., N.S., by Moore (39, 41) (sub *C. Stemonitis* (Scop.) Sheldon).

- Cribraria argillacea** Pers. Reported by Moore (39, 41), on *Abies balsamea* (L.) Mill., from Pictou Co., N.S. Given as rare.
- **dictydioides** Cke. & Balf. Reported on decayed timbers, Truro (61) and on decayed conifers, by Moore (39, 41).
- **elegans** Berk. & Curt. Reported from Nova Scotia by Macbride and Martin (36).
- **macrocarpa** Schrad. Reported by Moore (39, 41) on conifers, from Pictou Co., N.S.
- **piriformis** Schrad. On decayed wood, in the vicinity of Truro, N.S. (61).
- **rufa** (Roth) Rost. This species is reported by Macbride and Martin (36) from P.E.I.
- **splendens** (Schrad.) Pers. Reported by Macbride and Martin (36) from N.S.
- Diachaea leucopodia** (Bull.) Rost. On dead and decaying leaves, Truro, N.S. (61).
- Dictydium cancellatum** (Batsch) Macbr. On decayed wood, from Colchester (61) and Pictou (39, 41) Co., N.S. Very common on the decorticated surfaces of well decayed logs, no doubt throughout the Maritimes.
- Diderma spumarioides** Fr. On dead leaves and beech bark, Colchester and Victoria Co., N.S. (61).
- **testaceum** (Schrad.) Pers. On porcupine dung, Pictou Co., N.S. (61).
- Didymium melanospermum** (Pers.) Macbr. On dead leaves, wood, moss, etc., Colchester (61) and Pictou (39, 41) Co., N.S. Common on deep growths of mosses and lichens, often forming striking growths on *Polytrichum*.
- **minus** Morgan. Reported by Moore (41) on fallen leaves of beech, from Pictou Co., N.S.
- **nigripes** (Link) Fr. var. **xanthopus** (Ditm.) List. On spruce duff, Colchester Co., N.S. (61). Although this variety is regarded as a species, *D. xanthopus* (Ditm.) Fr., by Macbride and Martin (36), this collection was identified as the variety by Martin. It is quite common and often found over wide areas on the forest litter under conifers.
- Enerthenema papillatum** (Pers.) Rost. On decayed wood, Colchester Co., N.S. (61).
- Fuligo muscorum** Alb. & Schw. On moss, Colchester Co., N.S. (61). Reported by Hay (32) from N.B. (sub *F. ochracea* Pk.).
- **septica** (L.) Weber. Reported on various substrata, by Wehmeyer (61) from Colchester Co., by Somers (55c, sub *Aethalium septicum*) from Halifax Co., by MacKay (37) and Moore (39, 41, sub *F. ovata*) from Pictou Co., N.S.; and by Hay (32), from N.B. Very common and widespread.
- **septica** var. **laevis** Pers. On old log, Colchester Co., N.S. (61).
- Hemitrichia stipata** (Schw.) Macbr. Reported on decaying *Populus grandidentata* Michx., from Pictou Co., N.S., by Moore (39, 41).
- **stipitata** (Mass.) Macbr. Reported on decayed wood, Colchester Co. (61), and on decayed *Populus* and *Fagus*, Pictou Co., N.S., by Moore (39, 41). Some of the earlier collections sent to Martin by the writer were determined as *H. clavata* (Pers.) Rost., because *H. stipitata* was considered by Lister as a synonym of this former species. Since then, Macbride and Martin (36, p. 302) have considered these two species as distinct, so all collections have been placed here under *H. stipitata*. Hay (31) also reports *H. clavata* (sub *Hemiarcyria clavata*), from N.B.
- **vesparium** (Batsch) Macbr. Reported on decaying *Populus tremuloides* Michx., from Pictou Co., N.S., by Moore (39, 41).
- Lamproderma arcyryonema** Rost. Reported on *Abies balsamea* (L.) Mill., from Pictou Co., N.S., by Moore (39, 41).
- Leocarpus fragilis** (Dicks.) Rost. On decaying wood, moss, leaves, etc., Colchester (61) and Pictou (39, 41) Co., N.S. Common.

## FUNGI OF MARITIME PROVINCES

- Licea variabilis** Schrad. On decaying coniferous wood, Pictou Co., N.S. (41, 61).
- Lindbladia effusa** (Ehr.) Rost. Reported by Moore (39, 41) on decaying logs and leaf mold, in coniferous woods, Pictou Co., N.S.
- Lycogala epidendrum** (L.) Fr. Reported from N.S., in Colchester Co. by the writer (61), in Halifax Co. by Somers (55b), and in Pictou Co. by MacKay (37) and Moore (39, 41); and from N.B., by Fowler (18) and Hay (32). Common everywhere. Moore says it is particularly common on coniferous wood, appearing early in June.
- Margarita metallica** (Berk. & Br.) List. Moore (41) described a new species, *Margarita pictoviana* Moore, on decaying hemlock, from Pictou, N.S., which has been referred, as a synonym, to this species by Macbride and Martin (36).
- Mucilago spongiosa** (Leyss.) Morgan. Specimen in the Ottawa Herbarium, collected by Miss G. E. Fisher at Coates Mills, Kent Co., N.B., determined by John Dearnness.
- Physarum cinereum** (Batsch) Pers. Reported on decaying wood, leaves, and grass, by Moore (41), from Pictou Co., N.S. This species was reported as smothering lawn grass at Fredericton, N.B. [9(21, p. 26)].
- **confertum** Macbr. On fir twigs and moss, Colchester Co., N.S. (61).
- **contextum** Pers. On beech bark, Folley Lake, Colchester Co., N.S. (61).
- **galbeum** Wingate. Reported on *Abies balsamea* (L.) Mill., by Moore (39), from Pictou Co., N.S.
- **globuliferum** (Bull.) Pers. On decayed *Abies balsamea* (L.) Mill. (39, 41), and porcupine dung (61), from Pictou Co., and on decayed wood, from Colchester Co. (61), N.S.
- **lateritium** (Berk. & Rav.) Morgan. On dead wood, leaves, moss, etc., Colchester and Pictou Co. (61), N.S.
- **mutabile** (Rost.) List. On leaves, Colchester Co. (61), N.S. Determined by H. C. Gilbert; a note by Martin says "may be an aberrant form of something else".
- **nutans** Pers. On decayed wood, Colchester and Pictou (61) Co., N.S. Listed by Moore (39, 41), on conifer wood, from Pictou Co., as *Tilmadoche alba* (Bull.) Macbr.
- **pulcherrimum** Berk. & Rav. On decayed log, Colchester Co., N.S. (61).
- **rubiginosum** Fr. On moss and decayed logs, Colchester Co., N.S. (61).
- **virescens** Ditmar. On moss, twigs, leaves, etc., Colchester, Inverness (61), and Pictou Co. (39, 41), N.S. Quite common.
- var. **nitens** Ditmar. On mosses and lichens, Colchester Co., N.S. (61).
- **viride** (Bull.) Pers. On decayed wood, twigs, and leaves, Colchester Co., N.S. (61). Reported by Moore (39, 41) under the name *Tilmadoche viridis* (Bull.) Sacc., from Pictou Co., N.S. Very abundant on the decorticated surfaces of limbs and branches.
- Stemonitis axifera** (Bull.) Macbr. On old logs, Colchester Co., N.S. (61). Quite common. Moore (39, 41) reports *S. Smithii* Macbr., on conifer wood, from Pictou Co., N.S. Lister (35, p. 150) gives this species as a variety of *S. ferruginea* Ehr. (*S. axifera*), but Macbride and Martin (36, p. 168) make it a separate species on the basis of the smaller sporangia (2-5 mm.), and spores (4-5 $\mu$ ). Inasmuch as Moore gives the sporangia of his collection as 12 mm. and the spores as 6-7 $\mu$  in diameter, he no doubt had the common *S. axifera*.
- **flavogenita** Jahn. On conifer log, Colchester Co., N.S. (61).
- **fusca** Roth. On decayed *Fagus*, Colchester (61), and on moss and decayed *Pinus* and *Fagus* (sub *S. mazima*), from Pictou Co. (39, 41), N.S. There is some confusion concerning the collections placed here. Moore describes his *S. fusca* as having smooth spores, 7-8 $\mu$  in diameter. He also reports *S. mazima* Schw. on decaying *Fagus* from Pictou Co. The spores of this collection are given as "beautifully reticulated" and 7-8 $\mu$  in diameter. Lister (35, p. 145) considers this species a variety of *S. fusca*, but Macbride and Martin (36, p. 166) consider it a synonym of *S. splendens* Rost. The writer's collections (61), determined by Martin as *S. fusca*, also have spores 7-8 $\mu$  in diameter and reticulate with projecting spines. The variety *trechispora* Torr., under which these collections were previously listed (61) and which is made a species by Macbride and Martin (36, p. 160), has larger spores (10-12 $\mu$ ) and it seems probable that all these collections are *S. fusca*.

- Trichia decipiens** (Pers.) Macbr. Moore reports both *T. decipiens* (39, 41) and *T. fallax* (39), which are synonymous, from Pictou Co., N.S.
- **inconspicua** Rost. On beech bark, Pictou Co., N.S. (41). Moore says this collection is somewhat intermediate between this species and *T. conlorta* (Ditm.) Rost.
- **persimilis** Karst. On decayed wood, Halifax Co., N.S. (61).
- **varia** Pers. Reported by Moore (39, 41), on *Populus grandidentata* Michx., from Pictou Co., N.S.
- Tubifera Casparyi** (Rost.) Macbr. Reported by Macbride and Martin (36) from N.B.
- **ferruginosa** (Batsch) Gmel. On decayed logs, from Colechester and Pictou Co. (61) and on hemlock from Pictou Co. (39, 41), N.S.

## PHYCOMYCETES

## PLASMODIOPHORALES

*Plasmodiophoraceae*

**Plasmodiophora Brassicae** Woronin. This species was reported by Moore (39) from Salt-springs, Pictou Co., N.S. It is in the Kentville Herbarium on turnip (KP-291), cabbage, black mustard, Brussels sprouts, cauliflower, and radish, from N.S.; and in the Ottawa Herbarium (O-908), on *Brassica oleracea capitata*, from Summerside, P.E.I. In addition, it is reported (9) from N.B., on Brussels sprouts, cabbage, cauliflower, rutabaga, and turnip; from N.S., on Brussels sprouts, cabbage, cauliflower, radish, and turnip; and from P.E.I., on cabbage, cauliflower, radish, turnip, *Brassica arvensis* (L.) Kuntze, *Barbarea vulgaris* R. Brown, *Camelina microcarpa* Andr., *Conringia orientalis* (L.) Dumort., *Iberis*, *Lepidium sativum* L., *L. virginicum* L., and *Thlaspi arvense* L.

**Spongospora subterranea** (Wallr.) Lagerh. Reported repeatedly (9) on potato from N.B. (O-2681), N.S. (KP-106), and P.E.I.

## LAGENIDIALES

*Olpidiopsidaceae*

**Olpidiopsis Saprolegniae** A. Braun. Moore (42) reports a parasite similar to or identical with this species, as attacking his new species, *Achlya acadensis*, from N.S.

## CHYTRIDIALES

*Synchytriaceae*

**Synchytrium aureum** Schroet. Collections of this species and *S. Vaccinii* have been made repeatedly, by a number of collectors, in a bog near Port Mouton, Queens Co., N.S. [9 (13, 17, 18, 19)], on a number of hosts. These two species are very similar and Connors (in litt.) states that an examination of the collections mentioned, of these two species, by himself and Groves, indicates that the specimens on *Vaccinium* differ chiefly in the large flaring margins of the galls. This character, together with the host difference, led to the placement under *S. aureum* of the collections on *Amelanchier* sp. (KP-1052; O-5864), *Ilex* sp. (KP-1055; O-5968), *Lysimachia terrestris* (L.) BSP. (KP-973), *Rubus hispidus* L. (O-5863), and *Spiraea* sp. (KP-1050; O-5865). Connors places the rest of the collections in *S. Vaccinii* (see that species) but expresses the opinion that there may be more than two species concerned in this complex, and believes that the position of the collections on *Myrica* and *Pyrus* remains in doubt.

- **endobioticum** (Schilb.) Perc. Reported [9(21)] on potato tubers from a small garden in Halifax, N.S., in 1941. The garden was at once put under quarantine and no additional cases have been found.
- **Vaccinii** Thomas. Specimens collected in a bog near Port Mouton, N.S. (see under *S. aureum*) and referred to this species were on *Andromeda glaucophylla* Link (KP-1053), *Chamaedaphne calyculata* (L.) Moench. (KP-958), cranberry (*Vaccinium macrocarpon* Ait.) (KP-927, -960; O-3061, -5956), *Kalmia angustifolia* L. (KP-1048), *K. polifolia* Wang. (KP-1049), *Gaylussacia baccata* (Wang.) K. Koch [9(18)], *Ledum groenlandicum* Oeder (KP-1054), *Myrica Gale* L. (KP-960), *Pyrus* (*Aronia*) *arbutifolia* L. (KP-959), and *Rhodora canadensis* L. (KP-1047).



## LEPTOMITALES

*Leptomitaceae*

**Leptomit** *lacteus* (Roth.) Agardh. Reported by Moore (42) from cultures made in tap water from the water supply of Sydney, N.S.

*Rhipidiaceae*

**Sapromyces** sp. Moore (42) describes and figures a species of this genus obtained from Gilholme's Lower Lake near Sydney, N.S., but does not identify it specifically.

## SAPROLEGNIALES

*Saprolegniaceae*

**Achlya acadensis** Moore. This species was described as new by Moore (42) from the vicinity of Sydney and Pictou, N.S., as "largest and most striking of *Achlyas* observed".

— **americana** Humphrey. From Mt. Thom, Pictou Co., and Sullivan's Brook, near Sydney, N.S., by Moore (42).

— var. **cambrica** Trow. Material obtained from Cossit's Lake, near Sydney, by Moore (42) appeared to be this variety. It showed constant differences in the short supporting branches and short blunt warts on the walls of the oogonia.

— **apiculata** de Bary. Common about Mt. Thom, Pictou Co., and near Sydney, N.S., according to Moore (42).

— **colorata** Pringsh. Moore (42) reports a variety *stelligera* Cornu of *Achlya racemosa*, which had larger eggs than the species and rounded outgrowths on the walls of the oogonia. This variety was reported as commoner than the species about Sydney, N.S. Coker\* has placed this variety as a synonym of *A. colorata*.

— **deBaryana** Humphrey. Collected from a pool near Grand Lake road near Sydney, N.S., by Moore (42).

— **polyandra** Hild. Common near Lower Mt. Thom, Pictou Co., N.S., according to Moore (42).

— **racemosa** Hild. Obtained by Moore (42) in the vicinity of Sydney, N.S.

— var. **stelligera** Cornu. See under *Achlya colorata*.

**Aphanomyces stellatus** de Bary. Collected at Cossit's Lake, Sydney, N.S., by Moore (42).

**Saprolegnia diclina** Humphrey. Reported by Moore (42) from Kehoe's and Cossit's Lakes, Sydney, N.S.

— **monoica** Pringsh. Collected from a swamp and pool at Sydney, N.S., by Moore (42).

## PERONOSPORALES

*Pythiaceae*

**Phytophthora cactorum** (Leb. & Cohn) Schroet. Reported [9(23)] as causing a brown rot of the fruit of pears, at Kentville, N.S.

— **infestans** (Mont.) de Bary. This species was reported by MacKay (37), on potatoes from N.S., in 1908. Late blight, caused by this organism, has been reported (9) from all three provinces on potato and tomato and, in addition, on egg plant and *Petunia* from P.E.I.

**Pythium deBaryanum** Hesse. Reported (9) from N.B., on cucumber; from N.S., on beet and potato; and from P.E.I., on potato.

*Peronosporaceae*

**Bremia Lactucae** Regel. On *Lactuca* sp. (61), *Sonchus oleraceus* L. (KP-833; O-2980), from N.S. Reported (9) on lettuce from N.S. (KP-781, -1151) and P.E.I.

Gäumann (26) has described a large number of new species of *Peronospora* on the basis of infection and biometric criteria and considers many of the old species names as indicative of a collective species. In order to align the somewhat variable use of names on various hosts, the names used in the original reports are given below and the probable Gäumann name is given in parentheses after the citation of each host report.

**Peronospora Alsinearum** Casp. Reported from P.E.I. on *Spergula arvensis* L. [9(5)]. Gäumann places the *Peronospora* on this host under *P. obovata* Bon. (see).

— **Antirrhini** Schroet. Collected by J. F. Hockey (KP-520) on *Antirrhinum* at Yarmouth, N.S.

\* Coker, W. C. *Saprolegniaceae* (p. 108). *Univ. of N.C. Press, Chapel Hill, N.C. 1923.*

- Peronospora Arthuri** Farl. Reported on *Oenothera* from P.E.I. [9(5)]; and on *Oenothera biennis* L., from N.S. [9(23)].
- **Brassicae** Gäum. Reported on turnip [9(20)] and *Raphanus Raphanistrum* L. [9(22)], from N.S. See also *P. parasitica*.
- **effusa** (Grev.) Rabh. The species name *effusa* is discarded by Gäumann and various other new names are applied to the strains occurring on various hosts. This species is reported as follows: on *Chenopodium album* L. (*P. variabilis* Gäum.), from N.S. (KP-249), N.B. (9), and P.E.I. (9); on spinach (*P. Spinaciae* Laub.), from N.S. (KP-524, -778), N.B. (9), and P.E.I. (9); on *Oenothera biennis* L. (*P. Arthuri* Farl.), from N.S. (KP-1165); and on *Plantago major* L. (*P. alba* Fck.), from N.S. (KP-407, -787).
- **Ficariae** Tul. This species is reported from P.E.I. on *Ranunculus acris* L. (*P. hiemalis* Gäum.) [9(6)].
- **grisea** (Unger) de Bary. Collected by J. A. Boyle on *Veronica* (*Veronicastrum*) *virginica* L. at Kentville, N.S. (KP-849), det. I. L. Connors. Gäumann splits *P. grisea* into a number of species, on various species of *Veronica*, but describes none on *V. virginica*.
- **manschurica** (Naum.) Syd. Collected by J. F. Hockey on soybean, at Nappan, N.S. (O-7524) [9(21)].
- **obovata** Bon. On *Spergula arvensis* L., from Kentville (KP-1159) and Nappan (O-4993, det. I. L. Connors).
- **parasitica** (Pers.) Fr. Gäumann limits this species name to the form on *Capsella*. It has been reported as follows: on *Capsella Bursa-pastoris* (L.) Medic., from N.S. (O-4508, det. I. L. Connors) and P.E.I. [9(5)]; on *Alyssum* (*P. Alyssi calycini* Gäum., *P. Alyssi incanum* Gäum.), from N.B. [9(21)]; on *Raphanus Raphanistrum* L. (*P. Brassicae* Gäum.), from N.S. (KP-343) [9(9)]; on Swede turnip, from N.S. (KP-1164); and on turnip (*P. Brassicae*), from N.B. [9(7)] and P.E.I. [9(19)].
- **Pisi** (de Bary) Syd. Reported [9(22)] on peas, from P.E.I.
- **Potentillae** de Bary. Reported [9(11)] on *Potentilla*, from P.E.I. Gäumann has split up this species into a number of varieties.
- **Schleideni** Unger. Reported on onion, from all three provinces (KP-80) (9).
- **sordida** Berk. Reported [9(6)] from P.E.I., on *Veronica serpyllifolia* L. (*P. verna* Gäum.). Gäumann limits *P. sordida* to collections on *Scrophularia*.
- **Spinaciae** Laub. Reported on spinach, from N.S. [9(16)]. See *P. effusa*.
- **Trifoliorum** de Bary. Reported on alfalfa, from N.B. [9(6, 9)] and P.E.I. [9(5, 10)], and on clover, from P.E.I. [9(9, 11)]. Gäumann considers this binomial to represent a collective species. He puts the parasite on *Medicago* under *P. aestivalis* and recognizes a number of species of *Peronospora* on different species of clover.
- Plasmopara Halstedii** (Farl.) Berl. & de Toni. On *Ambrosia* (KP-822) and *Helianthus annuus* L. (KP-365) (9).
- **viticola** (Berk. & Curt.) Berl. & de Toni. Reported from Yarmouth, N.S., on grape [9(18)].

#### Albuginaceae

- Albugo Bliti** (Biv.) Kuntze. Reported on *Amaranthus retroflexus* L., from N.S. (KP-544), N.B. (9), and P.E.I. (9).
- **candida** (Lév.) O. Kuntze. On *Alyssum*, from N.B. [9(21)]; *Capsella Bursa-pastoris* (L.) Medic., from N.S. (38) (KP-828; O-4522), N.B. [9(9)], and P.E.I. [9(12)]; *Dentaria diphylla* Michx., from N.S. (61) (KP-1148; R-June 3, 1940); and *Raphanus Raphanistrum* L., from N.S. (KP-837) [9(6)].
- **Portulacae** (DC.) Kuntze. On *Portulaca oleracea* L., from N.B. (9) and N.S. (KP-370) (9). J. F. Hockey says it is very common and frequently injurious to this weed in N.S.
- **Tragopogonis** (Pers.) S. F. Gray. On *Cirsium arvense* (L.) Scop., from Debert, Colchester Co., N.S. (KP-1170).

## MUCORALES

*Mucoraceae*

**Mucor hiemalis** Wehmer. From moose dung, Killag Mines, and cap of *Mycena haematopa* Fr., Folley Lake, N.S. (61).

— **Mucedo** (L.) Fr. Common according to MacKay (37, sub *Ascophora Mucedo*). There is some doubt what species he had.

**Rhizopus nigricans** Ehr. Reported as a bread mold by MacKay (38), as causing decay of apple fruits in N.B. and N.S. (9) and on the bases of diseased raspberry canes from Truro, N.S. (KP-1268). No doubt common throughout the area.

**Sporodinia grandis** Link. On caps of *Boletus scaber* Fr., *Amanita flavoconia* Atk. and *Inocybe* sp., from Colchester Co. (61) and from New Glasgow and Pictou, N.S. (37, 38). Common on decaying fleshy fungi.

*Pilobolaceae*

**Pilobolus crystallinus** (Wiggers) Tode. Sporangia of this species were reported [9(24)] as adhering to rose leaves and the adjoining woodwork of a greenhouse, in Glen Falls, N.B.

— **longipes** Tiegh. On horse dung, from Halifax and Colchester Co., N.S. (61).

*Kickxellaceae*

**Martensella Corticii** Thaxter. On *Corticium* sp., Campobello, N.B. This is the type collection of this species, made by W. G. Farlow (see Linder, Farlowia, 1: 59). According to Jackson and Dearden (Mycologia, 40: 172) the host is *C. radiosum* Fr.

## ENDOGENALES

**Endogone pisiformis** Link. On tips of *Sphagnum* moss, New Glasgow Rd., Colchester Co., N.S. (61). A collection (KM-1150), on *Sphagnum*, from Nine Mile River, Hants Co., N.S., collected by K. A. Harrison, determined by H. T. Güssow and labelled *E. muscicola* Atk., is no doubt a mistake for *E. sphagnophila* and appears to be this species.

## ENTOMOPHTHORALES

**Empusa Aphidis** Hoffm. On *Myzus persicae* Sulzer, Fredericton, N.S., leg. and det. J. L. Howatt (O-6685) [9(21)].

— **Muscae** Cohn. Reported by Fraser, in MacKay's list (38) as common around Pictou, N.S., on the housefly.

## ASCOMYCETES

## PLECTASCALES

*Elaphomycetaceae*

**Elaphomyces cervinus** (Pers.) Schroet. Reported under beech and pine trees, from Pictou, N.S., by Moore and Fraser in MacKay's list (38).

— **muricatus** Fr. Specimens found in Colchester and Pictou Co., N.S. (63) were determined by C. W. Dodge. K. A. Harrison also has collected this species, from Aylesford Lake, N.S. (KM-1229).

*Onygenaceae*

**Onygena equina** (Willd.) Pers. ex S. F. Gray. Occurring on the horns and hoofs of cattle and horses. Reported by Hay (31) (fide Patouillard per C. G. Lloyd), from N.B., and by MacKay (38), from N.S.

## TAPHRINALES

*Taphrinaceae*

**Taphrina Alni-incanae** (Kühn) Magn. This species was reported [9(11)] as occurring in Quebec and as common in New Brunswick. The following year, I. L. Connors [9(12, p. 99)] pointed out that the Quebec collections showed stalk cells beneath the asci and that the proper binomial is *T. Robinsoniana*, which Ray has pointed out is the fungus commonly occurring in America on catkins of *Alnus*, whereas *T. Alni-incanae* occurs in Europe. No doubt the same is true of the N.B. reports, and a previous one [9(9)] from P.E.I.

— **aurea** Fr. Reported from P.E.I., on Lombardy poplar [9(16)].

- Taphrina caerulescens** (Mont. & Desm.) Tul. On leaves of *Quercus* sp., Pictou Beach, Pictou Co., N.S. (63).
- **cecidomophila** (Atk.) Giesenh. Collected by J. F. Hockey on *Prunus virginiana* L., at River John, Pictou Co., N.S. (KP-864).
- **Cerasi** (Fck.) Sadeb. Reported on cherry, from New Brunswick [9(9)].
- **communis** (Sadeb.) Giesenh. On fruits of *Prunus americana* Marsh., from Halifax Co., N.S. (63); and on plums, from P.E.I. (O-6469) [9(21)].
- **confusa** (Atk.) Giesenh. On *Prunus virginiana* L., from Aylesford (O-5459), Elliot Vale (O-2636), and Brooklyn (KP-941), Hants Co., N.S.; and from Kedgwick, N.B. (O-3934).
- **deformans** (Fck.) Tul. On peach leaves, from Kentville (KP-36) and Morristown (R-June, 1932), N.S., and Shediac, N.B. [9(22)].
- **flava** Farl. On *Betula papyrifera* Marsh., from Tremont, Kings Co., N.S. (KP-555; O-3065) (9), det. I. L. Connors. Also reported by Faull (16) on *Betula populifolia* Marsh., from N.S.
- **fusca** Giesenh. Mix (Mycologia, 30: 570) reports a collection of this species, in the Farlow Herbarium, from Campobello, N.B., on *Dryopteris spinulosa* (Muell.) Kuntze.
- **Insititiae** (Sadeb.) Johans. On *Prunus pennsylvanica* L.f., from Antigonish, N.S. (KP-755; O-3613) [9(14)], det. I. L. Connors, and on "wild cherry", from Blomidon, Kings Co., N.S. (KP-195).
- **minor** Sadeb. Reported as causing a leaf curl of cherry, in Kings Co., N.S. [9(7)].
- **mirabilis** (Atk.) Giesenh. On *Prunus Besseyi* Bailey (?), Covehead Rd., P.E.I. (O-4610), det. A. J. Mix.
- **Polystichi** Mix. This species has been collected in Nova Scotia and New Brunswick according to Mix (Mycologia, 30: 572). It occurs on the Christmas fern (*Polystichum acrostichoides* (Michx.) Schott.).
- **Pruni** Tul. On plum, from Kentville, Kings Co. (KP-48) and Middleton, Annapolis Co. (KP-532), N.S. and from N.B. and P.E.I. (9).
- **Robinsoniana** Giesenh. Collected on *Alnus incana* (L.) Moench., in N.B. (O-4518); and in N.S. (38, 63), from Cape North (KP-646), Mahone Bay (O-4527), and Kentville (O-4309), but no doubt widespread throughout all three provinces, causing a striking hypertrophy and reddish coloration of the female catkins of alder.

## TUBERALES

- Delastria rosea** Tul. Found in the soil of a tulip bed, Eldon, P.E.I. (O-2249) and determined by John Dearness [9(14)].

## PEZIZALES

### OPERCULATAE

#### *Pezizaceae*

- Acetabula sulcata** (Pers.) Fck. (*Paxina sulcata* (Pers.) Kuntze). On soil under conifers, Colchester Co., N.S., July 1933 (W-1581).
- **vulgaris** Fck. (*Paxina Acetabulum* (L.) Kuntze.). On soil and duff, by Harrison, from Hants (KM-1107, -1108, -1171) and Kings (KM-1169, -1170) Co., N.S., and by Hay (32) from N.B. This species and the species listed under *Macropodia* are placed in the genus *Helvella* by Nannfeldt, who considers the large central oil globule and nuclear position in the spore more constant than variations in form of the apothecium.
- Aleuria aurantia** (Pers.) Fck. Reported from Kentville, N.S., by Harrison (29) (KM-1130); and from Minister's Island, N.B., by Van Horne (59).
- Ascobolus stercorarius** (Bull.) Schroet. Collected on cow dung, from Kentville (KM-1133) and Evangeline Beach (KM-1116), N.S., by Harrison.
- Ascophanus carneus** (Pers.) Boud. Reported on bear dung, from Colchester Co. by Wehmeyer (63), and on moose dung, from Smeltzer's Lake, Hants Co., N.S., by Harrison (KP-1117).



**Ascophanus granulatus** (Bull.) Spig. Collected by Harrison at Iona, Cape Breton Is., N.S. (KM-1134); and on cow dung, from Brackley Pt., P.E.I., by Macoun (Canadian Fungi 403) (fide J. Dearness) in 1888.

— **var. cervorum** Rehm. A collection on cow dung, from Colchester Co., N.S. (63), that was intermediate between this species and *A. granuliformis* (Crouan) Boud. was referred to this variety with shorter spores.

— **lacteus** (Cke. & Phill.) Phill. On cow dung, Colchester Co., N.S. (63).

— **ochraceus** (Crouan) Boud. Reported from Iona, Cape Breton Is., by K. A. Harrison (KP-1135).

**Discina ancilis** (Pers.) Sacc. Reported by MacKay (37) from Pictou, N.S., as *Peziza Warnei* Pk., and by Harrison (KM-1141, -1142), from Kentville and Clarence, N.S. A specimen sent by Groves and collected at Kentville, N.S., on dead wood, by R. M. Lewis, shows the large, variable ( $21.5-42.5 \times 8.5-9\mu$ ) spores and other characters of this species, but no apiculus on the spores. It is placed under this species provisionally, as an immature collection.

**Geopyxis Catinus** (Holmsk.) Sacc. On soil, under spruce, Colchester Co., N.S. (63).

— **cupularis** (L.) Sacc. (*G. carbonaria* (Alb. and Schw.) Sacc.). Collected on burnt soil, forest mold, fir twigs, etc., by Harrison, from Kentville, N.S. (KM-1103, -1149, -1150), and by MacKay (38), from Middleton, N.S.

— **vulcanalis** (Pk.) Sacc. Collected under pines, Brackley Beach, P.E.I., Aug. 18, 1888, by Macoun (Can. Fung. 132). This seems correctly determined. The spores show no guttulae and are  $11-14 \times 5.5-7\mu$ , as given by Peck ( $10-15 \times 7\mu$ ) and not as given by Seaver ( $14-18 \times 8-10\mu$ ). Also reported from N.B., by Fowler (18), in 1879.

**Humaria aggregata** Sacc. (*Humarina aggregata* (Berk. & Br.) Seav.). Collected on newly burned ashes, by Harrison, from N.S. (KM-1104).

— **xanthomela** Cke. var. **americana** (Rehm) Sacc. & Trott. On mossy soil, Colchester Co., N.S. (63), det. by E. K. Cash.

**Lachnea albospadicea** (Grev.) Phill. (*Patella albospadicea* (Grev.) Seav.). Quite common on bare soil, Colchester Co., N.S. (63).

— **alpina** (Fck.) Sacc. On moose and porcupine dung, from Colchester Co., N.S. (63). Seaver gives this species as a doubtful synonym of *L. stercorea*. This collection has definitely smaller spores ( $12-14 \times 7-8\mu$ ) and apothecia (0.5-2 mm.), however, and agrees with this species as described by Cooke.

— **coprinaria** (Cke.) Phill. (*Patella coprinaria* (Cke.) Seav.). On cow dung, from Colchester (63), Hants (KM-1161), and Kings (KM-1160) Co., and on bear dung, from Pictou (63) Co., N.S.

— **erinaceus** (Schw.) Sacc. (*Patella erinaceus* (Schw.) Seav.). On wet sticks, Colchester Co., N.S. (63). These collections have spores ( $19-21 \times 8-9\mu$ ) slightly smaller than those placed under *L. albospadicea* ( $21-24 \times 8-11\mu$ ), and occur upon wood instead of soil.

— **fimetaria** (Seav.) n. comb. (*Patella fimetaria* Seav.). Reported by Harrison on cow dung, from Aylesford Lake, Kings Co., N.S. (KM-1162).

— **gregaria** (Rehm) Phill. (*Patella gregaria* (Rehm) Seav.). Collected at Evangeline Beach, Kings Co., N.S., by Harrison (KM-1119).

— **hemisphaerica** (Weber) Gill. (*Patella albida* (Schaeff.) Seav.). On moss, from Inverness and Wentworth Co., N.S. (63).

— **irregularis** (Clem.) Sacc. & D. Sacc. (*Patella irregularis* (Clem.) Seav.). Collected near Gospel Wood Rd., Kings Co., N.S., by Harrison (KM-1120).

— **scutellata** (L.) Gill. (*Patella scutellata* (L.) Morg.). On decayed wood, from Colchester (63) and Kings (KM-1163, -1118) Co., N.S.; and from N.B. by Fowler (18).

— **setosa** (Nees) Gill. (*Patella setosa* (Nees) Seav.). On *Betula* sp., from Colchester Co., N.S. (63).

— **stercorea** (Pers.) Gill. (*Patella stercorea* (Pers.) Weber). On cow dung, from Colchester Co., N.S. (63).

- Lachnea thelebeloides** (Alb. & Schw.) Gill. (*Patella thelebeloides* (Alb. & Schw.) Seav.). On moose dung, from Stillwater Lake, Hants Co., N.S. (KM-1164).
- **umbrorum** (Fr.) Gill. (*Patella umbrorum* (Fr.) Seav.). On bare soil, from St. Peter's, Richmond Co., N.S. (63).
- Lamprospora Crec'hquercultii** (Crouan) Boud. Collected by Harrison (KM-1154), at Black River, N.S.
- **polytrichina** (Rehm) Seav. On bare soil and among mosses, Colchester Co., N.S. (63).
- **trachycarpa** (Curr.) Seav. On burned ground, at the Dominion Agricultural Experimental Station, Kentville, N.S. (KM-1155).
- **wisconsinensis** Seav. On soil, by Harrison, at the Dominion Agricultural Experimental Station, Kentville, N.S. (KM-1102).
- Lasiobolus equinus** (Müll.) Karst. On rabbit dung, Colchester Co., N.S. (63).
- Macropodia macropus** (Pers.) Fck. (*Paxina hispida* (Schaeff.) Seav.). Collected on soil and decaying logs, from Colchester, Inverness, and Pictou Co., N.S., by the author (63); from Kings Co., N.S., by Harrison (KM-1105, -1106, -1172); and from Brackley Pt., P.E.I., by John Macoun, in 1888, det. J. Dearness (O-Herbarium). This, and the following species of *Macropodia*, are included in the genus *Helvella* by Nannfeldt (see *Acetabula*).
- **platypodia** (Boud.) Dodge (*Paxina platypodia* (Boud.) Seav.). On soil, from Colchester Co., N.S. (63). Determined by F. J. Seaver.
- **subclavipes** (Phill. & Ell.) Rehm (*Paxina subclavipes* (P. & E.) Seav.). On moist soil, Truro, Colchester Co., N.S. (63).
- Otidea grandis** (Pers.) Massee. (*Scodellina grandis* (Pers.) Seav.). From Kings (KM-1200) and Annapolis (KM-1198) Co., N.S., collected by Harrison.
- **leporina** (Batsch) Fck. (*Scodellina leporina* (Batsch) Seav.). On soil and decayed wood, Colchester Co. (63) and Kings Co. (KM-1199), N.S.; and from P.E.I., by John Macoun (O-Herbarium).
- Peziza ampelina** Quél. On rocky bank, Colchester Co., N.S. (63). Seaver (51) gives this species as a synonym of *P. violacea* Pers. but this collection has definitely larger spores ( $14-17 \times 7.5-9.5\mu$ ), as given for *P. ampelina*.
- **arenaria** Alb. & Schw. This name occurs in Hay's list (31) of New Brunswick fungi. The only fungus of this name to be found is *P. arenaria* Osbeck. This may be a misprint for *P. arenula* Alb. & Schw., which is *Mollisia arenaria* (Alb. & Schw.) Karst.
- **atrovinosa** Cke. (*Aleurina atrovina* (Cke.) Seav.). On soil, from Annapolis (KM-1131d), Colchester (63), and Kings (KM-1131, etc.) Co., N.S.; and on old log, from Brackley Pt., P.E.I., by Macoun, under the name of *P. badia* (O-Canadian Fungi). This species has the general appearance of *P. badia* and *P. brunneo-atra* but differs in the smaller, very coarsely tuberculate spores.
- **badia** Pers. On soil or much decayed wood, from Annapolis (38), Colchester (63), Kings (KM-1122, -1256, etc.), and Pictou (37) Co., N.S.; from N.B. by Hay (32); and from P.E.I. by Hurst. This is the commonest of the large dark brown pezizas and is widely distributed.
- **brunneo-atra** Desm. On soil and sawdust, from Colchester (63) and Kings (KM-1174) Co., N.S.; and from Brackley Pt., P.E.I., by John Macoun (sub *P. caligans*). This species differs from *P. badia* only in the smaller apothecia, which are 1.2-2.5 cm. in diameter.
- **domiciliana** Cke. Reported by Harrison, from a greenhouse at the Dominion Experimental Station, Kentville (KM-1125) and from a cellar, at Middleton (KM-1175), N.S.
- **fimeti** (Fck.) Seav. On cow dung, Colchester Co., N.S. (63).
- **griseorosea** Ger. From Kings Co., N.S. (KM-1176, -1177), det. K. A. Harrison.
- **Howsei** Roze & Boud. On soil, Colchester Co., N.S. (63). These plants have the violet colors of *P. violacea*, but the spores are larger ( $14-19 \times 7-10\mu$ ) and more strongly roughened. They also lack the violet-colored curved paraphyses of this species and *P. ampelina*.
- **melaleuca** (Bres.) Seav. Collected on soil, near Cloud Lake, Annapolis Co., N.S., by Harrison (KM-117).

- Peziza proteana** (Boud.) Seav. Reported by Harrison (KM-1124), from a pasture near Grand Pré, Kings Co., N.S.
- **pustulata** (Hedw.) Pers. On soil, Colchester Co., N.S. (63).
- **repanda** Pers. On decayed logs, from Inverness (63) and Kings (KM-1180) Co., N.S., and from P.E.I. (Hurst).
- **sepiatra** Cke. A collection on decayed sticks, from Colchester Co., N.S., is referred to this species (see 63, p. 539).
- **succosa** Berk. On bare soil, from Colchester (63) and Kings (KM-1181, -1182) Co., N.S. Characterized by a yellowish milky juice in the hymenium.
- **sylvestris** (Boud.) Sacc. & Trott. On soil, from Colchester (63) and Kings (KM-1183) Co., N.S. This species differs from *P. vesiculosa* in the smaller apothecia and spores ( $17-19 \times 10 \mu$ ) and from *P. fimeti*, on dung, only in the habitat.
- **vesiculosa** Bull. On soil, from Annapolis (38), Colchester (63), Hants (KM-1126), and Kings (KM-1184, -1186) Co., N.S.; and from P.E.I. (R. R. Hurst). The apothecia and spores of this species ( $19-23 \times 10-11 \mu$ ) are, on the average, larger than those of *P. sylvestris*.
- Pseudoplectania fulgens** (Pers.) Fck. Reported by MacKay (37), from Pictou Co., N.S., as *Peziza fulgens* Pers.
- **nigrella** (Pers.) Fck. Collected on leaf mold, from Clarence, Annapolis Co., N.S., by Harrison (KM-1113, -1190).
- **vogesiacae** (Pers.) Seav. Reported by K. A. Harrison, on fir, etc., from Kentville, N.S. (KM-1114, -1115, -1191, -1192).
- Psilopezia aquatica** (DC.) Rehm. Collected on rotten birch, near a stream, Kentville, N.S., by K. A. Harrison (KM-1193).
- **hydrophila** (Pk.) Seav. On submerged wood of *Alnus*, etc., from Kentville, N.S. (KM-1194, -1197); and Didgdeguash River, Charlotte Co., N.B. (O-2072), det. I. L. Connors.
- **nummularia** Berk. Collected on rotten water-soaked wood, from Kings Co., by Harrison (KM-1195, -1196).
- Rhizina inflata** (Schaeff.) Karst. Reported from P.E.I., by R. R. Hurst.
- Saccobolus Keverni** (Crouan) Boud. On bear (?) dung, from Colchester Co., N.S. (63).
- Sarcoscypha coccinea** (Scop.) Sacc. (*Plectania coccinea* (Scop.) Fck.). Reported in MacKay's list (37) as collected by Lawson, from Beaver Bank, Halifax Co., N.S.
- Sphaerospora brunnea** (Alb. & Schw.) Masee. Among moss, on charred logs, Victoria Park, Truro, N.S. (63).
- Urnula craterium** (Schw.) Fr. On dead log, Kentville, N.S. (KM-1201).

#### Helvellaceae

- Gyromitra esculenta** Fr. Reported on soil, by the author (63), from Colchester Co., by Harrison (KM-1151), from Kings Co., and by MacKay (37, 38), from Antigonish, Dartmouth, Middleton, and Pictou, N.S.; by Van Horne (58, 59) and Hay (31), from N.B.; and by Hurst and Macoun (Can. Fung. 401; fide J. Dearness), from P.E.I. Seaver (51, p. 252) considers this as merely a more convolute form of *G. infula*, which may be correct, but these records have been segregated here.
- **gigas** (Krombh.) Cke. R. R. Hurst (in litt.) reports a *Gyromitra gigas* Cke. from P.E.I. There is some question as to the identity of this binomial, but it is placed as a synonym of *Elvela caroliniana* (Bosc.) Nees by Seaver (51, p. 253).
- **infula** (Schaeff.) Quél. (*Elvela infula* Schaeff.). On conifer duff and rotten birch wood, from Colchester (63) and Kings (KM-1144, -1146) Co., N.S. Seaver (51) includes under this name a wide variety of ascocarp forms, the more convolute of which are here included under *G. esculenta*.
- Helvella crispa** (Scop.) Fr. On an old stump, from Colchester Co. (63) and from Middleton (38), N.S., and P.E.I. (R. R. Hurst, sub *H. fusca*).
- **elastica** Bull. On soil from Colchester (63) and Kings (KM-1143) Co., N.S.

**Helvella lacunosa** Afzel. (*H. mitra* L.). Reported on soil and amongst moss, from Colchester (63) and Kings (KM-1110, -1111, -1112, -1147) Co., N.S.; and from N.B., by Van Horne (58, 59) and Hay (32).

— **pulla** Holmsk. Reported from Kings Co., N.S., by Harrison (KM-1148) who says, "very close to *H. elastica* and probably that species".

**Morchella conica** Pers. Reported from Antigonish, Middleton, and Truro, N.S., in MacKay's lists (37, 38); and from P.E.I., by R. R. Hurst.

— **esculenta** (L.) Pers. Given in MacKay's list (37), from Antigonish, Halifax, and Truro, N.S. and reported by Harrison (KM-1109, -1156), from White Rock and Kentville, N.S., and by Hay (31) from N.B.

## INOPERCULATAE

### Patellariaceae

**Calicium abietinum** Pers. On coniferous wood, Colchester Co., N.S. (63), det. J. L. Lowe.

**Durella compressa** (Pers.) Tul. On decorticated hardwood, from Colchester Co., N.S. (63), det. Mrs. Wodehouse (née E. T. Butler).

— **lecideola** (Fr.) Rehm. On coniferous wood, Colchester Co., N.S. (63), det. Mrs. Wodehouse (née Butler).

**Hysteropatella minor** (Cke.) Rehm. On decorticated birch and beech, Colchester Co., N.S. (63), det. Mrs. Wodehouse (née Butler).

**Karschia lignyota** (Fr.) Sacc. On fruiting bodies of *Peniophora* spp., Colchester Co., N.S. (63).

**Mycocalicium pallescens** (Nyl.) Vain. On decorticated birch, Colchester Co., N.S. (63), det. J. L. Lowe.

**Patinella punctiformis** Rehm. On decorticated wood of fir, etc., Colchester Co., N.S. (63).

### Dermateaceae

**Ascocalyx Abietis** Naum. On twigs of *Abies balsamea* (L.) Mill., from Colchester Co., N.S. (63). The conidial stage, *Bothrodiscus pinicola* Shear, was found associated with these collections. Determined by J. W. Groves.

**Cenangium Fuckelii** Sacc. On *Corylus cornuta* Marsh., from Casey's Corners, N.S. (O-4646), det. J. W. Groves.

— **furfuraceum** (Roth) de Not. Reported on decaying trunks, by Fowler (18), from N.B.; and by R. R. Hurst, from P.E.I.

— **Pinastri** Fr. On bark of spruce, N.B. This binomial is given in Fowler's list (18). Rehm places this under *Tryblidiopsis Pinastri* (Pers.) Karst. It is difficult to say what Fowler had. Probably a *Tympanis* (*Pinastri*?).

— **populneum** (Pers.) Rehm. On *Populus tremuloides* Michx. (O-4637) and fallen *Populus* sp. (KM-1251), from Kings Co., N.S. (both det. by J. W. Groves); and from P.E.I., according to R.R. Hurst.

**Dermea acerina** (Pk.) Rehm. On *Acer rubrum* L., from Casey's Corners, N.S. (O-4652), leg. K. A. Harrison, det. J. W. Groves. The conidial stage, *Sphaeronema acerinum* Pk., was also present.

— **Ariae** (Pers.) Tul. On *Sorbus americana* Marsh., Truro, N.S. (fide J. W. Groves) (63). Commonly found as the associated conidial stage, *Micropera Sorbi* Sacc. (*Sphaeronema pallidum* Pk.).

— **balsamea** (Pk.) Seav. On *Abies balsamea* (L.) Mill., from Colchester (63) and Kings (O-3977) Co., N.S., det. J. W. Groves and on *Tsuga canadensis* (L.) Carr., from Truro, N.S. (63). Accompanied by the conidial stage, *Gelatinosporium abietinum* Pk. Quite common on fir in both stages and no doubt to be found throughout all three provinces.

— **Cerasi** (Pers.) Fr. On *Prunus pennsylvanica* L. f., from Glenmont, N.S. (O-4630, -4632, -4635) and on *Prunus* sp., from Colchester Co., N.S. (63). All these collections show the accompanying conidial stage, *Micropera drupacearum* Lév.



- Dermea molliuscula** (Schw.) Cash. On *Betula* spp. from Colchester (63) and Kings (O-4694) Co., N.S., det. J. W. Groves. This and the associated conidial stage, *Gelatinosporium fulvum* Pk., are quite common on birch throughout Nova Scotia and no doubt are found in the other two provinces as well.
- **Peckiana** (Rehm) Groves. A collection (KP-886; O-3784), on *Nemopanthus mucronata* (L.) Trel., from Oxford, Cumberland Co., N.S., determined by J. W. Groves, is largely the conidial stage, *Micropera stellata* (Ell.) Jacz.
- Durandiella Fraxini** (Schw.) Seav. (*Tympanis Fraxini* (Schw.) Fr., *Durandia Fraxini* (Schw.) Rehm). The conidial stage, *Sphaerographium Fraxini*, of this species has been collected by I. L. Conners and determined by J. W. Groves (O-4633), from Casey's Corners, N.S., on *Fraxinus pennsylvanica* Marsh.
- Godronia turbinata** (Schw.) Farl. On *Diervilla Lonicera* Mill., Colchester Co., N.S. (63), det. E. K. Cash. Quite common on the lower dead branches of this host.
- **urceolus** (Alb. & Schw.) Karst. var. **conferta** Hone. On *Prunus* sp., Colchester Co., N.S. (63). Determined by Miss E. K. Cash who writes that "although collections on *Prunus* usually have shorter spores than the typical *G. urceolus*, they appear to be the same or merely a var. of this species".
- Ocellaria ocellata** (Fr.) Schroet. On *Populus tremuloides* Michx. and *Salix* sp., Colchester Co., N.S. (63). This species was formerly placed in the Stictidaceae, but its conidial stage (*Cryptosporiopsis scutellata* (Otth.) Petr.) indicates its relationship to the genus *Pezicula*.
- Pezicula acericola** (Pk.) Sacc. On *Acer saccharum* Marsh. and *A. spicatum* Lam., Colchester Co., N.S. (63). Reported by J. W. Groves (Mycologia, 30: 425), on *A. spicatum*, from St. Leonards, N.B. (O-4680, -4696). Common on the dead or living bark of maple trees.
- **Alni** (Fck.) Rehm. On *Alnus crispa* (Ait.) Pursh var. *mollis* (Fern.) Fern., from Colchester (63) and Kings (KP-888; O-3799, -4648, -5349) Co., and on *Alnus* sp., from Colchester Co., N.S.
- **Corni** Petr. The conidial stage of this species (*Cryptosporiopsis cornina* Petr.) was reported by Groves (Can. J. Research, C, 17: 136), from Casey's Corners, N.S. (O-4650).
- **corylina** Groves. The conidial stage, *Catinula turgida* (Fr.) Desm., was collected by I. L. Conners (O-4631) on *Corylus cornuta* Marsh. (*C. rostrata* Ait.), from Casey's Corners, N.S., and determined by J. W. Groves. (See Mycologia, 30: 46.)
- **Grovesii** Wehm. This species was described (63) from material collected on *Rhodora canadensis* L., from Colchester Co., N.S.
- **minuta** Pk. On *Viburnum Lentago* L., Colchester Co., N.S. (63), det. J. W. Groves.
- **pruinosa** Farl. The conidial stage, *Sphaeronema pruinosum* Pk., was collected on *Amelanchier* sp., at Casey's Corners, N.S., by K. A. Harrison (O-4634).
- Sclerodermis Spiraeae** Rehm. On *Spiraea tomentosa* L., from Halifax Co. and on *Spiraea* sp., from Colchester Co. (63), N.S. Determined by Miss E. K. Cash, who points out that this genus and *Godronia* are united by Nannfeldt and Seaver. She states (in litt.) "I have thought of *Sclerodermis* as having a tougher, hornier consistency and more widely opened apothecium than *Godronia*".
- Tympanis acericola** Groves. This species was described from material collected on *Acer spicatum* Lam., from Colchester Co., N.S. (63).
- **alnea** (Pers.) Fr. Collected on branches of alder, in Colchester and Richmond Co., N.S. As previously stated (63, p. 545), two distinct growth forms occur in these collections; the first has larger apothecia (0.5–1 mm. in diameter), which are shiny black with very little incurving of the margin and occur in small groups of 2 to 3 with short somewhat fused stalks; the second has smaller (0.3–0.5 mm.) apothecia, occurring in larger clusters of 5 to 20; they are cup-shaped with inrolled margins and often show an external whitish pulverulence. Groves, who examined these collections, was in doubt as to their specific validity, for cultures from both types were identical. If distinct, the first type mentioned would represent *Tympanis hysterioides* Rehm.
- **fasciculata** Schw. On *Viburnum Lentago* L., Colchester Co., N.S. (63), fide J. W. Groves. The *Pleurophomella* stage of this species was also collected from this same locality (W-1001) and determined by Groves.

**Tympanis hysterioides** Rehm. See *T. alnea* above.

— **Pinastri** Tul.\* On *Abies balsamea* (L.) Mill., from Colchester and Halifax Co., N.S. (63). Sometimes causing cankers on the trunks of living fir. The conidial stage, *Pleurophomella eumorpha* (Penz. & Sacc.) Höhn., has also been collected on *Abies*. Here again, two growth forms were found. The first, with larger clusters (3 to 10) of smaller (0.5–0.8 mm.) apothecia with a concave surface, slight margin, and elongate stalks (1–1.2 mm.), fits this species, whereas the second, with smaller (2 to 3) clusters of larger (0.6–1 mm.) apothecia that are flat-topped with a raised and sometimes serrate margin and short stalks agree with *Tympanis pithya* (Fr.) Karst. Groves (in litt.) believes, however, that these are merely growth forms for cultures from both types are identical.

— **pithya** (Fr.) Karst. See *Tympanis Pinastri*, above.

— **Prunastri** Rehm. An immature conidial stage of this species has been collected by I. L. Conners and determined by J. W. Groves (O-4698), on *Prunus* sp., from Kentville, N.S.

— **spermatiospora** Nyl. On *Populus* sp., from Truro (63) and Casey's Corners (O-4651), N.S., det. J. W. Groves. The conidial stage is *Pleurophomella spermatiospora* Höhn. (see).

#### Bulgariaceae

**Coryne sarcoides** (Jacq.) Tul. Collected by Harrison (KM-1254), on beech, at Kentville, N.S.

**Ombrophila clavus** (Alb. & Schw.) Cke. Collected on dead wood, by Harrison, from Kentville (KM-1137, -1159) and White Rock (KM-1158), N.S.

#### Orbiliaceae

**Orbilia inflatula** Karst. On *Fagus grandifolia* Ehrh., Truro, N.S. (63), det. E. K. Cash.

— **leucostigma** Fr. var. **xanthostigma** (Fr.) Rehm. On *Polyporus betulinus* (Bull.) Fr., Colchester Co., N.S. (63). This plant is listed by Phillips (45, p. 329) as *Calloria xanthostigma* (Fr.) Phill. and a collection so labelled is to be found in the Ottawa Herbarium, collected by John Macoun in 1888, at Brackley Pt., P.E.I. and determined by John Dearnness.

— **luteo-rubella** (Nyl.) Karst. On decayed limb, Colchester Co., N.S. (63), det. E. K. Cash.

#### Mollisiaceae

**Belonidium pruinsum** (Jerd.) Rehm. On stromata of *Hypoxyton* sp., on branches of *Fagus* sp., Truro, N.S. (63).

**Diplocarpon Earliana** (Ell. & Ev.) Wolf. On strawberry, from Kentville, N.S. (KP-423), and reported (9) from N.B. and P.E.I. as the cause of leaf scorch of this host. Nannfeldt (44), in his rearrangement of this group of herbaceous parasites, transfers several genera (*Diplocarpon*, *Higginsia*) from the Phacidiales to the Mollisiaceae, and his disposition is followed here.

— **Rosae** Wolf. On rose, Yarmouth, N.S. (KP-88), and reported (9) from all three provinces, as the cause of black spot of roses.

**Drepanopeziza Ribis** (Kleb.) Höhn. (*Pseudopeziza Ribis* Kleb.). On currant, from Kentville N.S. (KP-57); and on currant and gooseberry, from N.B. and P.E.I. (9). This species was shown by Klebahn to possess a host specialization and Nannfeldt (44, p. 170) has created the names f. sp. *nigri* (Kleb.) Nannf. and f. sp. *Grossulariae* (Kleb.) Nannf. for the forms on black currant and gooseberry respectively. The conidial stage, *Gloesporium* (*Gloesporidiella*) *Ribis*, has also been reported from N.S.

**Fabraea maculata** (Lév.) Atk. On *Amelanchier canadensis* (L.) Medic., from Kentville, N.S., by D. E. McCuish (KP-406). The conidial stage, *Entomosporium maculatum* Lév., has also been reported from N.S. and P.E.I. Nannfeldt (44) gives this plant the new combination, *Diplocarpon Soraueri* (Kleb.) Nannf.

**Higginsia hiemale** (Higg.) Nannf. (*Coccomyces hiemale* Higg.). On cherry and sweet cherry (*Prunus avium* L.), from Digby and Kings Co. (KP-56, -137, -948, etc.) N.S. Reported (9) as causing shot hole of wild and cultivated cherry in N.B. and P.E.I. Also found in the conidial stage, *Cylindrosporium hiemale* Higg., on cherry, at Kentville, N.S. (O-Aug. 1919, det. J. Dearnness).

\* The binomial *Tympanis Pinastri* has been shown to be invalid for this species (*Mycologia*, 41:60). Groves (in litt.) states that there are two species involved in these collections on *Abies*. Nos. 90 and 1658 are one species, No. 1717 a second species, and No. 36 too immature for determination. The proper binomials, if any, have not as yet been determined.

- Higginsia Prunophorae** (Higg.) Nannf. (*Coccomyces Prunophorae* Higg.). Reported (9) as the cause of shot hole of plum, from N.B. and P.E.I. The conidial stage, *Cylindrosporium Prunophorae* Higg., is represented by a collection (O-Sept. 27, 1918) on plum, from Bay du Vin, N.B., determined by F. L. Drayton.
- Mollisia arenula** (Alb. & Schw.) Karst. This may be the fungus referred to by Hay (31) as *Peziza arenaria* (q.v.).
- **benesuada** (Tul.) Phill. On *Betula* sp., Truro, N.S. (63), det. E. K. Cash.
- **caespiticia** Karst. On the stromata of a *Nectria* and on the adjacent bark of *Acer* sp., Colchester Co., N.S. (63).
- **cinerea** (Batsch) Karst. On decayed wood of *Alnus*, *Fagus*, etc., Colchester Co., N.S. (63). The common *Mollisia* on wet decorticated sticks, and no doubt common in all three provinces, even though not reported.
- **melaleuca** (Fr.) Sacc. On decayed wood, Colchester Co., N.S. (63), det. E. K. Cash.
- **stictella** Sacc. & Speg. On the twigs of standing trees or shrubs (*Spiraea* sp., *Cornus allernifolia* L. f., *Acer spicatum* Lam.), Colchester Co., N.S. (63), det. E. K. Cash.
- **uda** (Pers.) Gill. On wood blackened by a surface growth of hyphae, Colchester Co., N.S. (63), det. E. K. Cash.
- Naevia Oxyccoci** Dearn. On *Vaccinium macrocarpon* Ait., Kent Co., N.B., collected by S. F. Clarkson (O-7632) [9(22)], det. by J. L. Howatt.
- Pseudopeziza Medicaginis** (Lib.) Sacc. On alfalfa, from Yarmouth (63) and Kings (KP-44) Co., N.S.; frequently reported (9) as the cause of leaf speck of alfalfa, from all three provinces.
- **Trifolii** Fck. On *Trifolium pratense* L., from Colchester (KP-841; O-2976) and Kings (KP-405) Co., N.S., and from Fredericton, N.B. (O-7745), det. I. L. Connors. Frequently reported (9) as the cause of leaf spot of clover, from all three provinces.
- Pyrenopeziza Artemisiae** (Lasch) Rehm. On stems of *Solidago*, Truro, N.S. (63).
- var. **Solidaginis** Rehm. On stems of *Solidago* sp., Colchester Co., N.S. (63).
- **Rubi** (Fr.) Rehm. On stems of *Rubus* sp., Victoria Park, Truro, N.S., June 24, 1929 (W-5). This collection has the narrow spores and small superficial apothecia of the variety *tenerior*, mentioned by Rehm (46, p. 612).
- Tapesia fusca** (Pers.) Fck. On decayed birch, Colchester Co., N.S. (63), det. E. K. Cash.
- **melaleucoides** Rehm. On decorticated hardwood, Truro, N.S. (63).

#### Helotiaceae

- Chlorociboria aeruginascens** (Nyl.) Seav. (*Chlorosplenium aeruginascens* (Nyl.) Karst.). On decayed hardwood, from Cape Breton and Colchester Co., N.S. (63); and collected by John Macoun, in 1888, at Brackley Pt., P.E.I. (O-Canadian Fungi) and determined by John Dearnness. In the author's collections the asci were  $35-48 \times 3-5 \mu$  and the spores  $6-7 \times 1.5-2 \mu$ , which measurements distinguish this species from the following one, although some writers consider them the same species. Both Nannfeldt (44, p. 312) and Seaver (*Mycologia*, 28: 390) restrict the genus name *Chlorosplenium* to the type species, *C. Schweinitzii* (Schw.) Fr. and Seaver (*Mycologia*, 28: 390) creates the new genus *Chlorociboria* for the species commonly placed in *Chlorosplenium*.
- **aeruginosa** (Oed.) Seav. (*Chlorosplenium aeruginosum* (Oed.) de Not.). On rotten wood of beech, birch, poplar, etc., from Annapolis and Pictou (38), Colchester (63), and Kings (KM-1128, -1129, -1137 to -1139) Co., N.S.; and from N.B. by Hay (31). Fairly common. The author's collection of this species shows asci that are  $60 \times 7 \mu$  and spores that are  $10.5 \times 2-2.5 \mu$ .
- **strobilina** (Alb. & Schw.) Seav. On cones of *Picea* sp., from Kentville, N.S., by K. A. Harrison (O-June 8, 1932, fide Seaver).
- **versiformis** (Pers.) Seav. (*Chlorosplenium versiforme* (Pers.) de Not.). On rotten wood, from Colchester Co., N.S. The spores of this species are also quite variable (63, p. 547).

- Dasyscypha Agassizii** Berk. & Curt. On *Abies balsamea* (L.) Mill., from Colchester and Halifax Co. (63) and on *Picea* (KM-118; O-2747, det. G. G. Hahn), from Kings Co., N.S. This is the common saprophytic *Dasyscypha* on dead, down, and standing fir and is no doubt found throughout all three provinces. The *Peziza calycina* Schum., reported by MacKay (37), is probably this species.
- **calyciformis** (Willd.) Rehm. Reported on *Abies concolor* Lindl. & Gord. by R. R. Hurst, from P.E.I., and determined by G. G. Hahn (O-14360).
- **cerina** (Pers.) Fck. Reported from P.E.I., by R. R. Hurst, and determined at Ottawa.
- **flammea** Mass. R. R. Hurst (in litt.) reports this binomial and authority from P.E.I. The author has been unable to locate this in the literature, although *D. flammea* Schroet. is given as a synonym of *Lachnella flammea* (A. & S.) Fr.
- **occidentalis** Hahn & Ayers. On *Larix laricina* (DuRoi) Koch, Colchester Co., N.S. (63).
- Erinella rhabdocarpa** (Ell.) Sacc. On *Comptonia asplenifolia* (L.) Gaertn., Berwick, N.S. (O-5105), det. J. W. Groves.
- Helotium citrinum** (Hedw.) Fr. On *Alnus* sp., from Colchester Co. (63), and without host from Pictou Co., N.S., by MacKay (37); from N.B., by Hay (32); and from P.E.I., by R. R. Hurst (det. at Ottawa). No doubt widely distributed on wood.
- **epiphyllum** (Pers.) Fr. On leaves of beech and maple, Colchester Co., N.S. (63).
- **pallascens** (Pers.) Fr. (?). On fir, from Kentville, N.S., det. K. A. Harrison (KM-1152).
- Lachnella corticalis** (Pers.) Fr. On bark of *Populus* sp., Colchester Co., N.S. (63). The spores ( $16-22 \times 2-3\mu$ ) of this collection are somewhat longer and narrower than given for this species. The apothecia are subglobose, becoming flat disc-shaped, 0.5-1 mm. in diameter, pale pinkish-tan and clothed on the exterior with an interwoven felt of hyaline to light brown, sparingly septate hairs.
- **tricolor** (Sow.) Phill. var. **microspora** Kanouse. On decorticated scar areas of beech, Colchester Co., N.S. (63), det. B. B. Kanouse. The spores of this collection are ellipsoid, tapered toward one end, and  $3.5-4.5 \times 1.5\mu$ .
- Lachnum virgineum** (Batsch) Karst. On bark and decayed wood of beech and maple and on stems of *Spiraea* sp., etc., Colchester Co., N.S. (63). Common and widely distributed, no doubt found throughout the Maritimes.
- Rutstroemia macrosporus** (Pk.) Kanouse. On the blackened surface of decayed stumps and roots (63).
- Sclerotinia fruticola** (Wint.) Rehm (*S. americana* (Worm.) Nort. & Ezek.). In using the above binomial, the policy of the Canadian Plant Disease Survey of considering the American form of the brown rot fungus as a separate species has been followed. Specimens are represented in the Kentville Herbarium on apple from Kentville (KP-1002), on cherry from Digby (KP-950), and on *Prunus Besseyi* Bailey from Wolfville (KP-956), N.S. This species has frequently been reported (9) as the cause of brown rot of plum and cherry, from all three provinces; on apple, from N.B. and N.S.; on sandcherry, from N.S.; and on peach, from P.E.I. [9(22)].
- **Gladioli** Drayton. The imperfect stage, *Sclerotium Gladioli* Massey, has been reported [9(7)], from N.B., as the cause of a dry rot of *Gladiolus* bulbs.
- **Oxycocci** Wor. Reported [9(18)] as causing a hard rot of cranberry in N.S.
- **sclerotiorum** (Lib.) de Bary. This species has been reported (9), from all three provinces, on a large number of herbaceous hosts. Specimens are deposited in both the Ottawa and Kentville herbaria. J. F. Hockey states that apothecia were produced from some of the Kentville collections.
- Geoglossaceae**
- Apostemidium fuscillum** Karst. On submerged sticks in cold water, Colchester Co., N.S. (63). The asci ( $120-150 \times 5-6\mu$ ) and spores ( $85-100 \times 1\mu$ ) of this species are shorter than those of the following species; this is apparently the first report from North America.
- **vibriseoides** (Pk.) Boud. On twigs and log, in brook, Kentville, N.S. (KM-1001 to -1003, -1068).



- Corynetes arenarius** (Rostr.) Dur. Collected by K. A. Harrison at Kentville, N.S. (KM-1004).
- **atropurpureus** (Pers.) Dur. Collection by K. A. Harrison (KM-1042), from Kentville, N.S.
- **robustus** Dur. On soil and duff, from Colchester Co. (63) and Kentville (KM-1005, -1043, -1044), N.S.
- Cudonia circinans** (Pers.) Fr. On moss and duff under conifers, from Colchester and Victoria (63) and Kings (KM-1001, -1069a) Co., N.S. Abundant, in large troops, under spruce and fir, in moist seasons. The asci of these collections were often filled with small ellipsoid secondary conidia. Durand (Ann. Mycol. 6: 459) reports a collection of this species, from P.E.I., as being in the New York Botanical Gardens.
- **lutea** (Fr.) Sacc. On leaves of beech, from Colchester (63) and Kings (KM-1007, -1070) Co., N.S. Quite common on leaf litter under hardwoods during moist seasons.
- Geoglossum fallax** Dur. On moss, under hardwoods, from Inverness Co. (63) and from Kentville (KM-1045), N.S.
- **glabrum** Pers. Represented by many collections throughout N.S. (63) (KM-1008, -1053, etc.), and from Fredericton, N.B. (O-5500). The most common and widely distributed *Geoglossum*, occurring on humus, soil, and well decayed wood.
- **nigritum** Cke. On soil, from Colchester (63), Hants (KM-1013), and Kings (KM-1051, -1056, -1057) Co., N.S.
- **affine** Dur. In a mossy creek bottom, Cumberland Co., N.S. (63).
- **difforme** (Fr.) Dur. On humus and much decayed stumps, from Colchester, Cumberland (63), Hants (KM-1015), and Kings (KM-1014, -1047 to -1050), Co., N.S.; and from Fredericton, N.B. (O-5499).
- **glutinosum** (Pers.) Dur. On humus soil, Colchester (63), Hants (KM-1016), and Kings (KM-1054, -1055a) Co., N.S.
- Leotia chlorocephala** Schw. Collected by Harrison (KM-1017, -1038, -1039), at Kentville, N.S., and reported by Hay (32), from N.B.
- **lubrica** (Scop.) Pers. Very widely distributed and common on soil and duff. Reported from N.S., by Somers (55c), MacKay (37, 38), Harrison (29), and the author (63); from Prince Edward Island, by John Macoun (O-Can. Fung., det. J. Dearness); and from N.B., by Hay (32). The variety *Lloydii* Rehm, with greenish punctate stem, has been collected by Harrison (KM-1034) and the author (63) and the variety *Stevensonii* (Berk. & Br.) Massee, with clustered firm olivaceous plants, by Harrison (KM-1019, -1037), in N.S.
- **stipitata** (Bosc) Schroet. On humus among moss, Colchester (63) and Kings (KM-1020, -1040, -1041) Co., N.S. A striking plant with bright green cap and bright yellow stem.
- Microglossum fumosum** (Pk.) Dur. On rotten wood, Waverly Park, Halifax Co., N.S. (KM-1021).
- **olivaceum** (Pers.) Gill. On soil, Kings Co., N.S. (KM-1022, -1060).
- **rufum** (Schw.) Underw. On soil, from Cape Breton, Colchester (63), Halifax (KM-1023), and Kings (KM-1059) Co., N.S. Fairly common in moist situations.
- **viride** (Pers.) Gill. On soil, in mixed woods, Cumberland (63) and Kings (KM-1024, -1058) Co., N.S.
- Mitruia irregularis** (Pk.) Dur. On damp soil, from Kentville, N.S., by Harrison (KM-1025, -1065); and from Brackley Beach, P.E.I., by Blythe Hurst (O-1030, det. I. Mounce). Reported by MacKay (37, 38), under the names of *Geoglossum irregulare* Pk., and *M. vitillina* var. *irregulare* Pk., and under this latter varietal name, by Harrison (29), from N.S.; and by Hay (31) and the Misses Van Horne (58, 59) and Farlow (15), from N.B.
- **phalloides** (Bull.) Chev. Collected on leaves on swampy ground, from Hants Co., N.S. (KM-1026), by Harrison; and from P.E.I. by R. R. Hurst.
- Spathularia clavata** (Schaeff.) Sacc. Collected on soil and duff, from Colchester (63) and Kings (KM-1027, -1255) Co., N.S.; from N.B., by Hay (31); and from Brackley Pt., P.E.I., by John Macoun (O-Canadian Fungi, sub *S. flavida* Pers.). This species, found in troops on soil, has a lighter stipe than the following one.

- Spathularia velutipes** Cke. & Farl. On much decayed logs or debris from them, Annapolis (38), Antigonish (37), Colchester, Halifax (63), and Kings (29) Co., N.S.; and Minister's Island, N.B. (58, 59). Stipes darker in color than the last species.
- Trichoglossum Farlowii** (Cke.) Dur. On soil, Cumberland (63) and Kings (KM-1029, -1061, -1062) Co., N.S.
- **hirsutum** (Pers.) Boud. On soil, Cumberland (63), Hants (KM-1030), and Kings (KM-1067) (29) Co., N.S.; and by Macoun, from Rustico Bay, P.E.I. (O-Canadian Fungi 321; det. J. Dearness). Quite common.
- **velutipes** (Pk.) Dur. On soil, from Annapolis (KM-1031), Colchester (63), and Kings (KM-1064, -1066) Co., N.S. Fairly common and no doubt found throughout the Maritimes.
- **Walteri** (Berk.) Dur. Collections by Harrison, from Kings Co., N.S. (KM-1063, -1063a).
- Vibrissea truncorum** (Alb. & Schw.) Fr. On submerged wood in cold streams, Halifax (37, 56, 63) and Kings (KM-1033) Co., N.S. Not uncommon in this habitat.

## PHACIDIALES

### Phacidiaceae

- Coccomyces Cembrae** Rehm. On *Larix laricina* (DuRoi) Koch., Colchester Co., N.S. (63).
- **coronatus** (Schum.) de Not. On dead leaves of beech, poplar, and maple, Colchester Co., N.S. (63). Quite common on dead leaves and showing a wide variation in appearance; some collections fitting the variety *trigonus* (Schm. & Ktze.) Karst. with fusoid, sharply margined apothecia on small brown spots, also with a marginal line, and somewhat shorter spores ( $25-37 \times 2-3\mu$ ).
- Coccophacidium Pini** (Alb. & Schw.) Rehm. On dead stems of *Pinus Strobus* L., Truro, N.S. (63). No doubt widely distributed throughout the Maritime Provinces.
- Cryptomyces Pteridis** (Reb.) Höhn. (*Cryptomyces Pteridis* (Reb.) Rehm). On *Pteridium aquilinum* (L.) Kuhn var. *latiusculum* (Desv.) Underw., by A. Roland (R-129), from Morris-town N.S.; and by G. C. Warren, from North River, P.E.I. (det. W. G. Farlow). Also in MacKay's list (38) as *Dothidea Pteridis*.
- Rhytisma acerinum** (Pers.) Fr. On *Acer rubrum* L., from Kentville (KP-873) and Cape Breton Is. (O-5221) and *A. saccharinum* L. var. *Wierii* Schwerin, from Grand Pré (KP-1202), N.S.; and on *A. rubrum*, *A. saccharinum* L., and *A. spicatum* Lam., from P.E.I. [9 (18, 22)].
- **Illicis-canadensis** Schw. On *Nemopanthus mucronata* (L.) Trel., from Colchester (63), Queens (O-5120; det. I. L. Connors), and Richmond (63) Co., N.S.; from Bocabec, N.B. (O-Aug. 1883). This seems to be common on *Nemopanthus* and is probably found throughout this region.
- **punctatum** (Pers.) Fr. On leaves of *Acer spicatum* Lam., Victoria Park, Truro, N.S. (W-278), and Hastings, N.B. [9(22)]. This is considered as merely a form of *R. acerinum* by some writers.
- **salicinum** Fr. On leaves of *Salix* sp., from Oxford, Cumberland Co., N.S., by J. F. Hockey (KP-883). Not plentiful.

### Stictidaceae

- Propolis faginea** (Schröd.) Karst. On wood of oak, beech, etc., from Colchester (63) and on *Populus tremuloides* Michx., from Kings Co., N.S. (O-4634; det. H. T. Güssow).
- **Leonis** (Tul.) Rehm. On twigs and cone scales of spruce, Colchester Co., N.S. (63).
- Stictis radiata** (L.) Pers. On the bark or wood of *Acer spicatum* Lam., *A. saccharum* Marsh., and *Betula* sp., Colchester Co., N.S. (63). Common, and widely distributed on dead wood and bark.

## HYSTERIALES

### Hysteriaceae

- Graphis scripta** (L.) Ach. On bark of *Abies balsamea* (L.) Mill., Victoria Co., N.S. (63). The variety *topographica* (Willd.) Zahlbr. was found on the bark of *Betula* spp., in Colchester Co., N.S., and determined by M. L. Lohman.
- Hysterium pulicare** (Pers.) Fr. Collected on bark of *Betula* sp., from Colchester and of *Populus nigra* L. var. *italica* Dor., from Victoria Co., N.S. (63), det. M. L. Lohman; reported from Pictou Co., N.S., by MacKay (37) and on maple bark, from N.B., by Fowler (18).
- Hysterographium Mori** (Schw.) Rehm. On *Populus* and *Fagus*, Colchester Co., N.S. (63), det. M. L. Lohman.

*Hypodermataceae*

- Bifusella Faullii** Darker. Collected on *Abies balsamea* (L.) Mill., in an immature condition, from P.E.I., by R. R. Hurst, and identified by I. L. Connors [9(20)]. Also reported by Darker (11) in the Faull Herbarium, from Guysborough and Lunenburg Co., N.S.
- **linearis** (Pk.) Höhn. Collected on *Pinus Strobus* L., by J. F. Hockey, in Hants Co., N.S. and determined by John Dearness.
- Hypoderma Desmazierii** Duby. Darker (11, p. 26) reports this species, on *Pinus Strobus* L., from Digby Co., N.S.; and from N.B.
- **ruflabrum** (Berk. & Curt.) Sacc. On twigs of *Acer spicatum* Lam., Colchester Co., N.S. (63), fide L. R. Tehon.
- Hypodermella ampla** (Davis) Dearn. Darker (11, p. 43) reports this species, on *Pinus Banksiana* Lamb., from Waverly Sanctuary, Halifax Co., N.S.
- **nervata** Darker. Forming elongate apothecia along the midrib of killed leaves on living branches of *Abies balsamea* (L.) Mill., Inverness Co., N.S. (63), det. M. L. Lohman.
- Lophodermium autumnale** Darker. Reported by Darker (11, p. 78) on *Abies balsamea* (L.) Mill., from Guysboro Co., N.S.
- **brachysporum** Rostr. This species, which was reported [9(9)] as the cause of a needle blight of white pine in N.B., is considered as a synonym of *Hypoderma Desmazierii* Duby by Darker (11, p. 25).
- **cladophilum** Rehm. On *Vaccinium pennsylvanicum* Lam., by G. W. Hope, at Kentville, N.S. (KP-1236). This species is transferred to the genus *Bifusella*, as *B. Vaccinii* (Carm.) Tehon, by Tehon (57, p. 117). Boughey (5) says that the type of this species is a good *Lophodermium*, that *Hysterium Vaccinii* Carm. is a *Gloniopsis*, and that Tehon has a third fungus. This collection was not examined, but probably is the *Lophodermium* as stated.
- **exaridum** (Cke. & Pk.) Sacc. (*Lophodermina exarida* (Cke. & Pk.) Tehon). On leaves of *Kalmia angustifolia* L., Colchester Co., N.S. (63) (KP-643). The black fusoid hysterothecia are formed on light tan-colored dead spots on the leaves.
- **filiforme** Darker (*Dermascia filiiformis* (Dark.) Tehon). Reported by Darker (11, p. 86), from Fredericton, N.B., on *Picea glauca* (Moench.) Voss.
- **juniperinum** (Fr.) de Not. (*Lophodermina juniperina* (Fr.) Tehon). On *Juniperus communis* L., Colchester Co., N.S. (63), det. M. L. Lohman.
- **melaleucum** (Fr.) de Not. (*Lophodermina melaleuca* (Fr.) Höhn.). On leaves of *Rhodora canadensis* L., Colchester Co., N.S. (63), det. M. L. Lohman.
- **nitens** Darker (*Lophodermina nitens* (Darker) Tehon). Collected on leaves of *Pinus Strobus* L., Truro, N.S., by the author (63) and also by R. D. and I. H. Crowell [9(20)] (Macdonald College No. 559). Reported by Darker (11, p. 75), from Digby Co., N.S.
- **Piceae** (Fck.) Höhn. (*Lophodermellina Pinastri* (Chev.) Höhn.). On leaves of *Picea glauca* (Moench.) Voss., Truro, N.S. (63), det. M. L. Lohman.
- **Pinastri** (Fr.) Chev. On leaves of *Pinus Strobus* L., from Colchester (63) and Kings (KP-530) Co., N.S. Tehon (57, p. 285) gives this species the new binomial *L. pinicolum* Tehon. Also reported as the cause of needle cast, from N.S. (9) and from N.B. [9(18)] on *Pinus resinosa* Ait.
- **tumidum** (Fr.) Rehm. (*Lophodermellina tumida* (Fr.) Höhn.). On petioles of *Sorbus americana* Marsh., Truro, N.S. Also reported by Tehon (57), from N.B. (Rel. Farl. 51).

*Dichaenaceae*

- Dichaena faginea** (Pers.) Fr. On bark of living *Fagus grandifolia* Ehrh., Victoria Co., N.S. (W-1687). As is usually the case, this collection shows no ascospores, but appears to be this species.

## MYRIANGIALES

- Elsinoe veneta** (Speg.) Jenk. (*Plectodiscella veneta* (Speg.) Burkh.). On raspberry, from Kings (KP-96) and Digby (KP-611) Co., N.S. Reported (9) from all three provinces as the cause of raspberry anthracnose.

MICROTHYRIALES

- Asterina rubicola* Ell. & Ev. (*Stigmatea rubicola* (Ell. & Ev.) Theiss.). On *Rubus idaeus* var. *strigosus* (Michx.) Maxim., from Glenmont, N.S. (O-4073), det. I. L. Connors.
- Dimerina* sp. Collected by J. A. Boyle, on *Thalictrum polygamum* Muhl., at Bridgewater, N.S. (KP-1200).

PERISPORIALES

*Perisporiaceae*

- Meliola Penzigii* Sacc. Reported [9(5)] as common on alders, in P.E.I.
- Phaeocryptopus nudus* (Pk.) Petr. (*Adelopus balsamicola* (Pk.) Theiss.). On the killed needles of living *Abies balsamea* (L.) Mill., Colchester (64) and Kings (O-3118) Co., N.S. Hahn (Mycologia, 39:487) has questioned the synonymy of *Phaeocryptopus* and *Adelopus* and has used the combination, *Adelopus nudus* (Pk.) Höhn. for this fungus.
- Saccardia quercina* Schw. Reported, on *Bidens*, by Mussels and Parker (43), from Pictou Co., N.S. The determination seems doubtful.

*Capnodiaceae*

- Scorias spongiosa* (Fr.) Schw. On fir leaves and branches, from Yarmouth Co. (37), determined by Peck, and on living branches of *Alnus*, from Colchester (64), and Halifax (37, 38) Co., N.S.; reported from N.B., by Hay (32), and collected at Fredericton, N.B. (O-1968), det. I. L. Connors. Fairly common, forming a black, coarse, tomentose growth on twigs, chiefly of *Alnus*. Both pycnidia and perithecia are formed.

*Erysiphaceae*

- Erysiphe aggregata* (Pk.) Farl. Reported from Pictou Co., N.S., on *Alnus incana* (L.) Moench (24, 38) (O-1929), *A. crispa* (Ait.) Pursh (24), and *A. viridis* (*A. crispa* or var. *mollis* (Fern.) Fern.) (38). Common on female catkins, which do not mature seed nor attain full size, according to Fraser (24).
- *Cichoracearum* DC. This species has been reported from N.S., on *Aster* spp. (24), *Eupatorium perfoliatum* L. (24), *E. purpureum* L. (O-1931), *Phlox paniculata* L. (KP-1294), *Phlox* sp. (KP-765), *Plantago decipiens* Barn. (KP-906), *P. major* L. (24) (KP-880), *Scutellaria laterifolia* L. (24), *Solidago* sp. (38), and *Solidago flexicaulis* L. (24); from N.B. on *Aster* [9(13)], cucumber [9(13)], *Dahlia* [9(13)], larkspur [9(7, 17)], *Phlox* [9(14)], pumpkin [9(13)], *Chelone glabra* L. [9(14)], *Plantago major* [9(10, 11)], and *Rudbeckia laciniata* L. [9(13)]; and from P.E.I., on *Chelone glabra* [9(14)], *Chrysanthemum* [9(8, 17)], cucumber [9(5)], *Eupatorium purpureum* [9 (10)], *Oenothera* [9(5)], *Phlox* [9(12, 19)], *Plantago major* [9(12)], and *Solidago* [9(12)]. (The report of *E. lamprocarpa* (Wallr.) Lév., on *Plantago major*, from P.E.I. [9(6)], is probably this species.)
- *Galeopsidis* DC. On leaves of *Chelone glabra* L., by Mussels & Parker (43), MacKay (38), and by Fraser (24) from Pictou and by the author (64) from Colchester Co., N.S. The above reports of *E. Cichoracearum* from this host are very likely this species, which differs only in the lack of spores and the presence of lobed haustoria.
- *graminis* DC. This species has been reported (9) from all three provinces on wheat (O-7738), barley (KP-1044, -1121), and *Agropyron repens* (L.) Beauv. (W-458; KP-752; R-126). It has also been reported from N.B., on oats [9(21)]; from N.S., on grass (24) and rye [9(20)]; and from P.E.I., on *Poa pratensis* L. [9(5)].
- *Polygoni* DC. This species is reported from N.S., by Mussels and Parker (43, sub *E. communis* Wallr.), MacKay (38), Fraser (24), and the author (64), on *Aquilegia vulgaris* L., *Oenothera biennis* L., *Ranunculus acris* L., *R. repens* L., *Scutellaria laterifolia* L., *Thalictrum* sp., and *Trifolium* sp.; and is represented by collections on *Delphinium* (KP-796), *Lathyrus odoratus* L. (KP-5), *Pisum sativum* L. (KP-1120) [9(22)], *Polygonum aviculare* L. (KP-1281), *Trifolium pratense* L. (O-1204), and turnip (KP-415, -1162). From N.B., there are collections on *Pisum sativum* (O-fide Dearness) and *Trifolium pratense* (O-7746) and reports on *Aquilegia* [9(6, 13)], *Delphinium* (9), *Oenothera biennis* [9(10)], pea (9), *Ranunculus acris* [9(13)], and sweet pea [9(5)]. From P.E.I. there are reports on clover (9), *Delphinium*



[9(10)], pea [9(9, 10)], *Poa pratensis* L. [9(5)], *Polygonum aviculare* [9(12)], *P. Persicaria* L. [9(5)], *Ranunculus acris* [9(12)], *Raphanus raphanistrum* L. [9(12)], sweet pea (9), *Trifolium pratense* (9), *Thalictrum polygamum* Muhl. [9(14)], and *Vicia Cracca* L. [9(6, 10)].

**Microsphaera Alni** (Wallr.) Wint. This third, ubiquitous species is reported as follows: from N.S. on *Alnus* sp. (KP-140), *Alnus crispa* (Ait.) Pursh (24), *A. incana* (L.) Moench. (24, 38, 64), *Betula lutea* Michx. (24), *Corylus cornuta* Marsh. (24), *Fagus grandifolia* Ehrh. (28) (sub *M. erineophila* Pk.), *Ilex verticillata* (L.) Gray (24), lilac (*Syringa*) [9(5), 24, 38, 43, 64] (KP-130; R-230, -373), *Viburnum cassinoides* L. (38, 43); from N.B., on *Ligustrum* [9(24)], lilac (9), and sweet pea [9(5)]; and from P.E.I., on *Evonymus* [9(6)], lilac (9), *Ligustrum* [9(18)], and sweet pea [9(6)]. The following varieties have also been reported.

— var. **extensa** (Cke. & Pk.) Salm. On *Quercus* sp., from Charlottetown, P.E.I., by R. R. Hurst (O-2287) [9(14)].

— var. **Lonicerae** (DC.) Salm. On *Lonicera* spp., from N.S. (KP-762); and from P.E.I., on *Lonicera tatarica* L. (9).

— var. **Vaccinii** (Schw.) Salm. On *Epigaea repens* L. (24, 38, 43, 64), *Gaylussacia baccata* (Wang.) K. Koch (24; 38; 43, as on *G. resinosa*), *Vaccinium canadense* Kalm. (24), *V. pennsylvanicum* Lam., and *Vaccinium* sp. (KP-865; O-4505) [9(20)], from N.S.

— **diffusa** Cke. & Pk. Reported by Fraser (24), on *Desmodium canadense* (L.) DC., from Durham, N.S.

— **Grossulariae** (Wallr.) Lév. Reported by Fraser (24), on *Sambucus canadensis* L., from New Glasgow and Pictou, N.S.

— **Russellii** G. W. Clinton. Reported by Fraser (24), on *Oxalis corniculata* L. var. *stricta*, from New Glasgow and Scotsburn, N.S.

**Phyllactinia corylea** (Pers.) Karst. This species has been reported on *Alnus crispa* (Ait.) Pursh (24), *A. incana* (L.) Moench (24, 38, 64) (KP-141; A. Roland 323), *A. mollis* Fern. (*A. crispa* var. *mollis* (Fern.) Fern.) (O-6077), *Corylus cornuta* Marsh. (24), and *Ostrya virginiana* (Mill.) Willd. (24), from N.S. It is most commonly found on *Alnus* and no doubt exists in both N.B. and P.E.I.

**Podosphaera leucotricha** (Ell. & Ev.) Salm. On apple, from N.S. (KP-78) (9), N.B. [9(5)], and P.E.I. [9(20)].

— **Oxycanthae** (DC.) de Bary. On *Aronia (Pyrus) melanocarpa* (Michx.) Ell. (24), *Crataegus* sp. (KP-1222), *Spiraea latifolia* Borkh. (24), *S. salicifolia* L. (*S. alba* DuRoi) (38), and *S. tomentosa* L. (24, 38, 43), from N.S.

**Sphaerotheca Humuli** (DC.) Burr. Reported from N.S., on *Agrimonia gryposepala* Wallr. (24) and *Bidens frondosa* L. (38; 43, sub *S. Castagnei*) from Pictou Co., on *Potentilla palustris* (L.) Scop. (O-4942) from Inverness Co., on *Rubus* (raspberry) (KP-885; O-1930) (9) from Pictou and Kings Co., *Rubus idaeus* L. var. *aculeatissimus* (Mey.) Reg. & Tiling (24) from Pictou Co., *Sanguisorba canadensis* L. (KP-989) from Cape Breton Co., strawberry (KP-300) from Kings Co., and on *Taraxacum officinale* Weber (38) from Pictou Co.; from N.B., on raspberry [9(7)], strawberry [9(4, 9)], and *Taraxacum* [9(10)]; and from P.E.I., on rose [9(19)] and strawberry (9). Fraser (24) also reports a form of this species on *Rosa* sp., but says it is *S. pannosa* with white shining appendages.

— var. **fuliginea** (Schlecht.) Salm. Reported by Fraser (24), from N.S., on *Bidens frondosa* L., *B. cernua* L., *Prenanthes altissima* L., *Prunella vulgaris* L., and *Taraxacum officinale* Weber. It is quite possible that some of the collections listed under the species may be this variety.

— **mors-uvae** (Schw.) Berk. & Curt. On *Ribes nigrum* L. (24), from Pictou, and on gooseberry (KP-236, -952) from Kings Co., N.S.; and on currant and gooseberry, from N.B. (9) and P.E.I. (9).

— **pannosa** (Wallr.) Lév. On roses from Lunenburg (KP-388) and Kings (KP-345) Co., N.S. (9), N.B. (9), and P.E.I. (9).

**Uncinula circinata** Cke. & Pk. On *Acer rubrum* L., from Pictou (38, 43) and Scotsburn (24), N.S.

— **flexuosa** Pk. On *Aesculus Hippocastanum* L., from Pictou, N.S., by Fraser (0-1928).

— **necator** (Schw.) Burr. On grape vines, from Kings Co., N.S. [9(9)]; and on *Ampelopsis*, from P.E.I. [9(6)].

— **Salicis** (DC.) Wint. On *Salix discolor* Muhl. (38, 43) and *Salix* sp. (24), from N.S.; and on willow, from P.E.I. (9).

## HYPOCREALES

### Nectriaceae

**Acrospermum cuneolum** Dearn. & House. On *Acer spicatum* Lam., from St. Leonard, N.B. (0-4714), determined by J. W. Groves. The genus *Acrospermum* has been placed in the Hypocreales, Coryneliaceae, and Pseudosphaeriales by various writers (see Mycologia, 28 : 228). It is retained here in the same position as in Bisby's list (4).

**Creonectria** Seav. In order to avoid confusion and creation of new combinations, the species of this genus are listed under *Nectria*.

**Gibberella Zeae** (Schw.) Petch. On wheat (KP-69,-70,-71) and *Trifolium repens* L. (KP-876), from N.S. and reported (9) as the cause of head blight of oats and wheat from all three provinces. The conidial stage, *Fusarium graminearum* Schw., is also reported from all three provinces on wheat [9(18, 19)]. Petch (Ann. Mycol. 34: 257) says that the old name (*G. Saubinetii* (Mont.) Sacc.) is a synonym of the saprophytic *G. cyanogena* (Desm.) Sacc. and gives the correct binomial as that given above.

**Letendreaa luteola** Ell. & Ev. On decayed wood, Colchester Co., N.S. (64).

**Nectria cinnabarina** (Tode) Fr. (*Creonectria purpurea* (L.) Seav.). This species has been reported by MacKay (37) on dead twigs and is represented by collections at Kentville, on apple (KP-79,-438, etc.), black currant (KP-9), horse chestnut (KP-396), *Hydrangea* (KP-395), *Sorbus Aucuparia* L. (KP-1061), *Ulmus americana* L. (KP-1075), and *U. pumila* (KP-564), from N.S. It is reported from N.B. by Fowler (18) on southernwood and is represented from P.E.I. on *Ulmus* (O-F1270). In addition it has been reported as causing cankers of *Acer* [9(16)], currant [9(16)], gooseberry [9(18)], and *Spiraea* [9(14)] in N.S.; of apple (9) and *Aesculus* [9(21)], in N.B.; and of apple [9(13)], elm [9(9)], and maple [9(13)], in P.E.I. This binomial has been applied to almost any red *Nectria* occurring on old stems, with the result that these American *Nectrias* are very poorly known. Two collections made by the writer (64) from N.S. were tentatively identified by Dr. Seaver as his *Creonectria purpurea*, but seemed to differ in certain respects and were referred to as *Nectria* spp. as follows:

A- On *Betula* sp. Perithecia bright, then dull red, 300-350  $\mu$  in diameter, crowded upon an orange-red erumpent stroma, smooth, becoming collapsed in age. Ascospores variable, cylindric to ellipsoid, straight to curved, usually constricted, two-celled at first, finally becoming three- to four-celled, (13) 15-22  $\times$  4-7 $\mu$ . The two collections placed here both showed numerous allantoid, one-celled, hyaline conidia, 5-7  $\times$  1.5-2 $\mu$ , which might be sprout conidia, although no budding of ascospores was seen. One collection showed long lunate, *Fusarium*-like conidia, 40-63  $\times$  2.3 $\mu$ .

B- On *Acer* sp. Perithecia pale-red to orange-red, 300 $\mu$  in diameter, thickly clustered on a cream to yellowish stroma, very slightly roughened, with an umbilicate ostiole; finally somewhat collapsed. Asci 53-63  $\times$  8.5-10 $\mu$ . Spores long cylindric, straight or slightly curved, only slightly constricted, two-celled, septum faint, hyaline, 12.5-14.5  $\times$  3.5-4.5 $\mu$ . Typical *N. cinnabarina* perithecia are coarsely tuberculate, whereas both these fungi have comparatively smooth perithecia and differ in other respects. The collections listed under this name no doubt represent a mixed species.

— **coccinea** (Pers.) Fr. var. **faginata** Lohm., Wats. & Ayers (*Creonectria coccinea* (Pers.) Seav.). On cordwood or standing trees of birch, beech, and maple (64) (O-2284; R-28), throughout N.S. and on beech and *Aesculus*, in N.B. [9(12, 15)]. This is the fungus that, in association with the scale insect (*Cryptococcus fagi*), is the cause of the beech canker,

resulting in the death of large numbers of these trees throughout northeastern Canada and the United States. Ehrlich (14, p. 654) considered this fungus a variety of *N. coccinea* and Wollenweber has identified collections from this area as *N. coccinea* [9(14, p.72)]. In a recent paper by Lohman and Watson (Lloydia, 6: 100), it was described as a variety *faginata*. The perithecia are small, dark to purple-red, crowded on a very scant stroma that is almost invisible to the naked eye. A collection on *Malus pumila* L., from Bridgetown, N.S., by H. T. Güssow, in the Ottawa Herbarium, labelled *N. ditissima*, appears identical except that the spores are, on the average, somewhat larger.

**Nectria Coryli** Fck. (*Creonectria Coryli* (Fck.) Seav.). On twigs of *Salix* sp., Colchester Co., N.S. (64).

- **episphaeria** (Tode) Fr. Found on the old fruiting bodies or stromata of various pyrenomycetes, *Dermalea*, etc., on old wood and stems. Collections are from N.S. (64) (O-4641) only, but this is the common, small, red, superficial *Nectria*, in this habitat, and is no doubt found in all three provinces.
  - **galligena** Bres. Reported on apple (9), from N.B. and N.S. There are collections in the Kentville Herbarium, from N.S., on apple (KP-116-262-903), beech (KP-518), filbert (KP-930), mountain ash (KP-933), and poplar (KP-749). This is the cause of the canker of fruit trees in Europe. The only one of the above collections examined (KP-262, on apple) shows small, clustered, orange-red, pyriform perithecia,  $250 \times 200\mu$ , borne superficially on a flat orange-yellow stroma. The few spores seen were mostly one-celled and  $10-14 \times 3.5-4.5\mu$ . All of these species of *Nectria* need careful checking.
  - **lactea** Ell. & Morg. Growing on Myxomycetes and adjacent decayed wood, Colchester Co., N.S. (64). The perithecia are minute, white, cottony, tomentose and resemble, superficially, the tufts of a parasitic hyphomycete.
  - **Peziza** (Tode) Fr. On decayed wood and fungi, such as *Polyporus*, Colchester Co., N.S. (64).
  - **pithoides** Ell. & Ev. (*Creonectria pithoides* (Ell. & Ev.) Seav.). On *Betula* sp., Colchester Co., N.S. (64). Both the author and Seaver (64) consider this collection *N. pithoides*. Wollenweber gives this species as a synonym of *N. applanata* Fck. The perithecia are deep to blood-red and have a characteristic, prominent, ringlike thickening around the upper portion, with the ostiole erumpent in the center. The asci are  $50-60 \times 3.5\mu$  and the spores are ellipsoid, with a very faint septum and  $7-9 \times 2.5-3.5\mu$ .
  - **sanguinea** (Bolt.) Fr. On pine stump, Colchester Co., N.S. (64). The only real difference between this species and *N. episphaeria* is the occurrence on dead wood instead of fungus stromata.
- Passerinula candida** Sacc. Imbedded in the apothecia of a Discomycete on *Abies balsamea* (L.) Mill., Colchester, N.S. (64). This collection shows certain minor differences from the original description and has not been compared with authentic material, but seems to be this species.
- Scoleonectria balsamea** (Cke. & Pk.) Seav. On *Abies balsamea* (L.) Mill., Colchester Co., N.S. (64). The spores of these collections are, on the average,  $14-23 \times 3.5-5\mu$ .
- **scoleospora** (Bref.) Seav. On *Abies balsamea* (L.) Mill., Halifax and Colchester Co., N.S. (64). The spores of this species are  $30-60 \times 2-3\mu$ . Both this and the preceding species show numerous sprout conidia in the asci, and are fairly common on fir twigs.

#### *Hypocreaceae*

**Balansia Hypoxylon** (Pk.) Atk. Collected on *Danthonia spicata* (L.) Beauv., from Blomidon, N.S., by John Macoun (O-Canadian Fungi No. 1; det. John Dearness), from Hillcrest, Kings Co., N.S., by R. M. Lewis (KP-1368), and from Pictou Co., N.S., by R. R. Hurst (O-7528).

**Byssonectria violacea** (J. C. Schm.) Seav. On *Fuligo septica* (L.) Gmel., Pictou, N.S. (64).

**Chromocrea gelatinosa** (Tode) Seav. (*Hypocrea gelatinosa* Fr.). On *Alnus* sp., Truro, N.S. (64).

- Claviceps microcephala** (Wallr.) Tul. J. F. Hockey reports occasional specimens from Kentville, N.S. (KP-390), on *Phleum pratense* L.
- **nigricans** Tul. One report, on *Eleocharis acicularis* (L.) R. & S., from Port Mouton, N.S. (O-5942), coll. J. Adams, det. I. L. Connors.
- **purpurea** (Fr.) Tul. The first report of this fungus, the ergot of grasses, seems to be that of Fowler (18), on grasses, from N.B., in 1879, as *Ergotaetia abortifaciens* Quek. Since then it has been reported upon a variety of hosts as follows: *Agropyron repens* L., from Colchester (64), Kings (KP-894; O-5145), and Pictou (38) Co., N.S., N.B. (O-5047) (9), and P.E.I. (9); *Alopecurus aequalis* Sobol., from Cape Blomidon, N.S. [9(22)]; *Agrostis stolonifera* auct. (non L.), from Cumberland Co. [9(24)], N.S.; *Avena sativa* L. [9(7)], from N.B.; *Bromus inermis* Leyss., from N.B. [9(14)]; and P.E.I. [9(6)]; *Calamagrostis canadensis* (Michx.) Beauv., from S. Alton [9(23)], N.S.; *Dactylis glomerata* L., from N.B. [9(17)]; and P.E.I. [9(6)]; *Hordeum vulgare* L., from Cumberland (KP-1122), Colchester (O-5091) [9(17)], and Pictou (38) Co., N.S.; Fredericton (O-5505), St. Quentin (O-5097), and elsewhere (9) in N.B., and P.E.I. (9); *Phleum pratense* L., from Kings Co., [9(7)], N.S. and P.E.I. (9); *Poa pratensis* L., from P.E.I. [9(6)]; *Secale cereale* L. from Kings Co. (KP-955, -1115) (9), N.S.; Fredericton (O-5098) and Green River (O-5464), N.B., and P.E.I. [9(16)]; *Triticum aestivum* L., from Cumberland (KP-1123) [9(19)] Co., N.S. (9), and Charlotte-town (9), P.E.I.; *Zizania aquatica* L., from Amherst (O-2633) [9(18)], N.S., and Shediac [9(18)], N.B.; and on *Z. palustris* L., from Fredericton, N.B.
- Cordyceps capitata** Link (*C. agariciformia* (Bolt.) Seav.). Parasitic upon subterranean *Elaphomyces*, Cumberland (64) and Kings Co. (KM-1222), N.S. The head of this species is globose-capitate, yellow-brown to black, and the stem dirty bluish-olive above.
- **entomorrhiza** (Dicks.) Link. Reported by MacKay (37), under the name *Torrubia*, on the larvae of June beetles, from Pictou, N.S.
- **militaris** (L.) Link. On pupae of beetles and various cocoons, from Colchester (64), Inverness (64), and Kings (KM-1223) Co., N.S.
- **ophioglossoides** (Ehr.) Link (*Cordyceps parasitica* (Willd.) Seav.). Parasitic upon *Elaphomyces muricatus* Fr., from Hants (KM-1225), Inverness (64), and Kings (KM-1101, -1224, -1226 to -1228) Co., N.S. Often found in rich humus soils.
- **stylophora** Berk. & Br. On beetle larvae, Colchester Co., N.S. (64), det. E. B. Mains.
- **viperina** Mains. On beetle larvae, Colchester Co., N.S. (64), det. E. B. Mains.
- Hypocrea citrina** (Pers.) Fr. On *Fomes applanatus* (Pers.) Gill. and *F. pinicola* (Swartz) Cke., from Colchester Co., N.S. (64).
- **patella** Cke. & Pk. On decayed beech log, Colchester Co., N.S. (64). The stromata of this collection vary from white through brilliant yellow to ochraceous.
- **Richardsonii** Berk. & Mont. Fowler (18) reports this species on decaying bark from N.B. Ellis (14, p. 86) says all the specimens that he has seen of this species were sterile and Seaver (50) excludes the species. It is difficult to say what Fowler had; probably *H. rufa*.
- **rufa** (Pers.) Fr. On alder and beech, from Colchester Co., N.S. (64); and on *Alnus incana* (L.) Willd., from Fredericton, N.S. (O-4994), det. J. W. Groves. Quite common on old decayed wood in moist weather.
- Hypomyces apiculatus** (Pk.) Seav. On humus of old stump, Colchester Co., N.S. (64).
- **aurantius** (Pers.) Tul. On *Exidia* (W-1689), *Irpez*, and *Polyporus versicolor* (L.) Fr., from Colchester (64) and on *Boletus*, from Halifax (64) Co., N.S. An entry in Hay's New Brunswick list (31), "*D. aurantia* (Schw.)", under *Hypomyces*, may refer to this species.
- **chrysospermus** (Bull.) Tul. *sensu* Seaver. A collection (W-1455) on *Boletus*, from Colchester Co., N.S., with spores  $9-12.5 \times 3.5-4.5\mu$ , was placed here (64). (See comments under *H. hyalinus*.) A collection on mushroom, from St. Leonard, N.B., determined by I.L. Connors (O-5440), has very immature spores ( $6-7 \times 3.5-4\mu$ ), but these small spore measurements, and also the conidia, agree with the above collection from N.S.
- **deliquescent** (Bull.) Duby. This name occurs in Hay's (31) list of the fungi of New Brunswick.



- Hypomyces hyalinus** (Schw.) Tul. (*H. apiosporus* Cke.). On various agarics, from Annapolis (KM-1249), Colchester (64), and Kings (KM-1204,-1205) Co., N.S. Previously (64), two collections were reported, under *H. chrysospermus*, which had light-colored stromata and reddish-brown perithecia in common, but differed widely in spore size. The small-spored form (W-1455) is here referred to *H. chrysospermus sensu* Seaver. An examination of the collections in the Kentville Herbarium (KM-1204,-1249), yielded spores that were  $13-19.5 \times 4-5.5\mu$  and smooth-walled, and  $14-20 \times 4-5.5\mu$  and distinctly rough-walled at maturity, respectively. It seems probable that the spores of both these and the larger, smooth-walled Colchester collection (W-1350) are variations of the rough-walled spores of *H. hyalinus*.
- **lactifluorum** (Schw.) Tul. Reported on *Cantharellus* and *Gomphidius*, by Somers (55d) and MacKay (37), from Halifax Co., and on various agarics by MacKay (38), from Annapolis and Pictou Co., by Harrison (KM-962,-1206,-1207) (29), from Kings Co., and by the writer (64) from Colchester Co., N.S.; by the Van Hornes (58,59), from Minister's Island, N.B.; and by John Macoun (O-Canadian Fungi, det. J. Dearness), from Brackley Pt., P.E.I. The large, orange-colored, distorted, agaric fruit bodies, caused by the parasitism of this fungus, are common and striking objects in moist open woods, often occurring in large troops.
- **polyporinus** Pk. On *Polyporus versicolor* (L.) Fr., Colchester Co., N.S. (64).
- **rosellus** (Alb. & Schw.) Tul. On decayed *Poria* sp., Colchester Co., N.S. (64). Perithecia brilliant dark red on a faint tan subiculum.
- Ophiocordyceps clavulata** (Schw.) Petch. On scale insect (*Lecanium Corni* (Bouche)) on *Ostrya virginiana* (Mill.) Willd., from Fredericton, N.B. (O-5027), leg. and det. I. L. Connors and S. F. Clarkson (insect det. by H. Morrison, U.S. Bureau Entomol.).
- Peckiella viridis** (Alb. & Schw.) Sacc. Reported (64) on *Russula* sp., from Colchester Co., and, under the name of *Hypomyces viridis*, on *Hygrophorus pudorinus*, from Annapolis Co., N.S., by MacKay (38).
- Podostroma alutaceum** (Pers.) Atk. On moss and duff under conifers, Annapolis and Colchester Co. (64), N.S.

## SPHAERIALES

### Chaetomiaceae

- Chaetomium cochlioides** Palliser. On seedlings of Swede turnips, from N.B. (O-7397), leg. and det. by J. W. Groves.
- **globosum** Kze. In gross cultures of dung (grouse?), from Colchester Co., N.S. (64).
- **indicum** Corda. In gross cultures of deer dung, from Colchester Co., N.S. (64), det. Ralph Bennett.

### Sordariaceae

- Acanthorhynchus Vaccinii** Shear. On *Vaccinium macrocarpon* Ait. In his original discussion, Shear (Bull. Torrey Botan. Club, 24:314) refers to a collection of this species, from N.S. He relates the genus to other genera in the Sordariaceae. Also reported on cranberry, from P.E.I., by Hurst.
- Bombardia coprophila** (Fr.) Kirschst. On cow dung, from Colchester and Inverness Co., and on porcupine dung, from Colchester Co., N.S. (64).
- **lutea** (Ell. & Ev.) Wehm. (*Sordaria lutea* Ell. & Ev.). On decayed wood, Colchester and Halifax Co., N.S. (64).
- Sordaria appendiculata** Auersw. On rabbit and porcupine dung, from Pictou (38, sub *Podospora ampicornis*) and Colchester Co., N.S. (64). Quite common.
- **fimicola** (Rob.) Ces. & de Not. On moose dung, from Halifax Co., N.S. (64), det. Ralph Bennett.
- Sporormia ambigua** Niessl. On horse dung, Colchester Co., N.S. (64).

### Trichosphaeriaceae

- Apiosporina Collinsii** (Schw.) Höhn. (*Dimerosporium Collinsii* Schw.). Causing a witch's broom on species of *Amelanchier*. Reported from N.S., on *Amelanchier canadensis* (L.) Medic. (38, 43, 64), *A. intermedia* Spach. (KP-1126), and *A. oblongifolia* (T. & G.) Roem. (O-887; KP-531); and from N.B., on *A. canadensis* (O-2065) [9(14)].

**Chaetosphaeria multiseptata** Wehm. This species was described from material collected on a dead stump, in Colchester Co., N.S. (64).

**Helminthosphaeria Clavarium** (Tul.) Fck. Occurring as a parasite on *Clavaria cristata* (Holmsk ex Fr.) Pers. and *C. rugosa* Bull., Colchester Co., N.S. (64). This fungus causes a distortion and blackening of the *Clavaria* plants and is usually accompanied by the conidial stage, *Scolecotrichum Clavarium* (Desm.) Sacc. The spiny black perithecia occur all over the host plants. (This fungus is usually referred to under the species name *Clavariae*. The Tulasnes, however, definitely described its perithecial and ascus stage under the name *Sphaeria Clavarium* (Ann. sci. nat., ser. 4, 5:113), in 1856, which has priority over the *S. Clavariae* Auersw. of 1860).

**Herpotrichia pezizula** (Berk. & Curt.) Ell. & Ev. On *Acer spicatum* Lam., Colchester Co., N.S. (64). Perithecia borne on a black subiculum of coarse, branching, spinelike hyphae bearing the conidial stage, *Helicoma Curtisii* Berk.

**Lasiosphaeria hirsuta** (Fr.) Ces. & de Not. On an old log, Colchester Co., N.S. (64).

**Pseudotrichia viridicoma** (Cke. & Pk.) Wehm.\* On decayed stromata of various Pyrenomycetes or on wood infected by these fungi, Colchester Co., N.S. This little yellow-green plant is fairly common on the substrata mentioned and has been described under a variety of genera (64).

#### *Melanommeae*

**Bertia moriformis** (Tode) de Not. On decorticated wood of *Acer spicatum* Lam. and other species, Colchester Co., N.S. (64).

**Melanomma disjectum** (Karst.) Sacc. On decayed stump, Colchester Co., N.S. As previously pointed out (64), this fungus is of the *Leptosphaeria* type.

— **pulvis-pyrius** (Pers.) Fck. On decorticated wood and sticks, Colchester Co., N.S. (64). Collections of *Melanomma* on dead wood are common and often show minor variations that are recognized by some and not by other determiners. This binomial is a common dumping place for such collections. The collections placed here are limited to those with spores  $12-16 \times 3-5\mu$  as delimited by Chesters.

— **subparsum** Fck. On decorticated wood and on the bark of *Sorbus americana* Marsh. and *Betula* sp., Colchester Co., N.S. (64). Under this binomial are placed a number of collections similar to *M. pulvis-pyrius* but with shorter spores ( $10-14 \times 3-5\mu$ ).

**Rosellinia conglobata** (Fck.) Sacc. var. **microtricha** (Felt.) Höhn. On *Fagus grandifolia* Ehrh., Victoria Co., N.S. (64).

**Zignoella aterrima** (Fck.) Sacc. On decorticated hardwood, Victoria Co., N.S. (64). Accompanied by two- to four-celled, brown, cylindric conidia,  $12.5-18 \times 4.5-5.5\mu$ .

— **pulviscula** (Curr.) Sacc. On decorticated beech wood, Colchester Co., N.S. (64). Conidia accompanying one of these collections, were four- to many-celled, ellipsoid to cylindric, sometimes curved,  $21-45 \times 7\mu$ , and with the end cells hyaline and the central cells brown.

#### *Lophiostomataceae*

**Lophidium compressum** (Pers.) Sacc. var. **microscopicum** Karst. On decorticated birch, Colchester Co., N.S. (64).

#### *Amphisphaeriaceae*

**Amphisphaeria Juniperi** Tracy & Earle. On weathered or rotten wood of *Abies* or other conifers, Colchester Co., N.S. (64).

**Strickeria obducens** (Fr.) Wint. On *Spiraea* sp., Colchester Co., N.S. (64).

— **vilis** (Fr.) Wint. On *Fagus grandifolia* Ehrh., Colchester Co., N.S. (64).

**Trematosphaeria callicarpa** Sacc. On decayed wood, Colchester Co., N.S. (64). This species has characteristic spores that are large ( $75-89 \times 14-16\mu$ ), eight-celled, brown, and with the cells successively smaller toward the ends.

— **faginea** Morg. On bark of *Fagus grandifolia* Ehrh., Colchester Co., N.S. (64). The infected areas are speckled with the black papillate perithecia. The spores are one-celled at first, becoming four-celled at maturity. It is easily mistaken for an *Anthostoma* or *Anthostomella*.

\*Petrak (Ann. Mycol. 38: 201) states that *Sphaeria mutabilis* is a synonym of this species and that the correct binomial is *Khekia mutabilis* (Pers.) Petr. The genus *Khekia*, however, is based on a misidentification (Mycologia, 33: 67) and is not available. The proper binomial, if *S. mutabilis* is a synonym, should be *Pseudotrichia mutabilis* (Pers.) Wehm.

*Ceratostomataceae*

**Ceratostoma parasiticum** Ell. & Ev. On *Fomes fomentarius* (L.) Gill., Colchester Co., N.S. (64).

*Mycosphaerellaceae*

**Ascospora Ruborum** (Oud.) Zeller. The *Coryneum ruborum* Oud. stage of this species was reported [9(9)] as causing cane blight of raspberry in Digby (KP-603) and Kings (KP-604) Co., N.S., by J. F. Hockey.

**Guignardia Aesculi** (Pk.) V. B. Stewart. Reported (9) as the cause of leaf blight of horse chestnut, in all three provinces, and as very common in N.S. (KP-127).

— **Vaccinii** Shear. On *Vaccinium macrocarpon* Ait. In his original discussion, Shear (Bull. Torrey Botan. Club, 34:316) refers to a collection of this species from Arichat, N.S.

**Mycosphaerella carinthiaca** Jaap. Reported (9), from Woodstock (O-4663, det. E. W. Mason) and Fredericton (O-7747), N.B., as a cause of midvein spot of *Trifolium pratense* L.

— **colorata** (Pk.) Earle. On leaves of *Kalmia angustifolia* L., Colchester Co., N.S. (64).

— **Coptis** (Schw.) House. On leaves of *Coptis groenlandica* Oed., Halifax Co., N.S. (64). Accompanied by a pycnidial stage that is probably *Septoria Coptidis* Berk. & Curt.

— **Fragariae** (Tul.) Lindau. A collection on strawberry, from Hants Co., N.S. (KP-17). Also reported (9) on strawberry, from all three provinces.

— **Grossulariae** (Fr.) Lindau. Reported on leaves of gooseberry, from all three provinces (KP- Cambridge, Kings Co.) (9) and on currant, from N.B. [9(10)] and P.E.I. [9(10)].

— **pinodes** (Berk. & Blox.) R. E. Stone. Collected on pea, from Kings Co. (KP-66); and reported from P.E.I. [9(6)], as a cause of leaf and pod spots of pea.

— **punctiformis** (Pers.) Schroet. On leaves of *Fagus grandifolia* Ehrh., Colchester and Kings Co., N.S. (64).

— **Rubi** Roark. Collections by J. F. Hockey, on blackberry (KP-608), dewberry (KP-59), and raspberry (KP-606,-607,-609,-610) and reports on blackberry [9(11)], from N.S.; and reports (9), on raspberry from all three provinces.

— **Sarraceniae** (Schw.) House. On leaves of *Sarracenia purpurea* L., Castle Rey Lake, N.S. (64).

— **sentina** (Fr.) Schroet. Reported (9) as the cause of a leaf spot of pear, from N.S. and P.E.I.

— **Virgaureae** Krieg. On stems of *Solidago* sp., Colchester Co., N.S. (64).

**Phaeosphaerella macularis** (Fr.) Trav. On leaves of *Populus tremuloides* Michx., Colchester Co., N.S. (64). This collection was previously listed as *Didymosphaeria populifolia* Ell. & Ev., but Ellis's name is a synonym of this species, according to an examination of the type (Dearness No. 2263).

— **pheidasca** (Schroet.) Sacc. On stems of *Juncus* sp., Truro, N.S. (64). Very common on the somewhat discolored stems of this host.

**Rehmiellopsis balsameae** Waterman. Reported, sub *R. bohémica* Bub. & Kab., from Richmond Co. and elsewhere on Cape Breton Island, N.S. [9(24)].

*Pleosporaceae*

**Didymella appplanata** (Niessl) Sacc. (*Mycosphaerella rubina* (Pk.) Jacz.). Reported (9) from N.S. (KP-?), N.B., and P.E.I., as the cause of spur blight of raspberry.

— **tosta** (Berk. & Br.) Sacc. (*Paradidymella tosta* (Berk. & Br.) Petr.). On stems of *Epilobium angustifolium* L., Colchester Co., N.S. (64).

**Didymellina macrospora** Kleb. Reported (9) from all three provinces, as causing a leaf spot of *Iris*.

**Didymosphaeria Thalictri** Ell. & Dearn. On *Thalictrum* sp., Colchester Co., N.S. (64). The spores of this collection are four-guttulate and often appear four-celled, but only one true septum is present.

- Halophiobolus halimus** (Diehl & Mounce) Linder. This species was described (Can. J. Research, 11: 242-248) as *Ophiobolus halimus* Diehl & Mounce from a collection of *Zostera marina* L., from St. Andrews, N.B. (O-3584). It was transferred by Linder (Farlowia, 1: 419) to his new genus *Halophiobolus*.
- Leptosphaeria anisomeres** Wehm. This species was described from material collected on *Agropyron repens* (L.) Beauv., from Colchester Co., N.S. (64).
- **avenaria** Weber. Reported (9) on oats, from all three provinces.
  - **Coniothyrium** (Fck.) Sacc. Collections on *Rubus* spp., from Colchester (64), Digby and Yarmouth Co., N.S. (KP-95, 620, 622), and on apple (KP-31, 932) and rose (KP-619), from N.S. Reported (9), as a cane blight of raspberry, from N.B. and P.E.I. Common and widely distributed on canes of *Rubus* spp. Hockey notes "Occasional on apples, common on raspberries and roses" in N.S.
  - **culmicola** (Fr.) Auersw. On *Elymus arenarius* L., from Joe's Pt., St. Andrews, N.B. (O-2568), leg. I. Mounce, det. W. W. Diehl.
  - **dolioloides** Auersw. On *Tanacetum vulgare* L., Colchester Co., N.S. (64).
  - **doliolum** (Pers.) Ces. & de Not. On stems of *Aster macrophyllus* L., *Aster* sp., and *Solidago* spp., from Colchester Co., N.S. (64). This is one of the most common and widely distributed species of the genus and no doubt exists throughout the Maritimes on these hosts.
  - **dumetorum** Niessl. On *Clematis* sp., and *Sambucus pubens* Michx., Colchester Co., N.S. (64).
  - **Ellisianus** Berl. On *Oenothera* sp., Colchester Co., N.S. (64). *Leptosphaeria Onagrae* Rehm is a synonym of this species.
  - **herpotrichoides** de Not. On *Agropyron repens* (L.) Beauv. and grass culms (*Poa?*), Colchester Co., N.S. (64).
  - **Kalmiae** Pk. On stems of *Kalmia angustifolia* L., Colchester Co., N.S. (64).
  - **Millefolii** (Fck.) Niessl. On stems of *Achillea Millefolium* L., Colchester Co., N.S. (64).
  - **ogilviensis** (Berk. & Br.) Ces. & de Not. On stems of *Chrysanthemum* and *Solidago*, Colchester Co., N.S. (64).
  - **personata** Niessl. On *Spartina*, Charlottetown, P.E.I. (O-3087), leg. H. T. Güssow, det. W. W. Diehl.
  - **planiuscula** (Riess) Ces. & de Not. On stems of *Aster* spp. and *Solidago* spp., Colchester Co., N.S. (64). This is another common species on these two hosts and no doubt exists throughout this area.
  - **rhopalisporea** Berl. On *Gnaphalium* sp., Colchester Co., N.S. (64).
  - **vagabunda** Sacc. On *Solidago* sp., Truro, N.S. (64).
- Ophiobolus acuminatus** (Fr.) Duby. On stems of *Cirsium* sp., Colchester Co., N.S. (64).
- **halimus** Diehl & Mounce. See *Halophiobolus halimus*.
  - **porphyrogonus** (Tode) Sacc. On stems of *Corallorhiza maculatum* Raf., from Kings Co., and on *Spiraea* sp., from Colchester Co., N.S. (64).
- Physalospora Laricis** Wehm. This species was described from material collected on twigs of *Larix laricina* (Du Roi) Koch, from Colchester Co., N.S. (64).
- **Miyabeana** Fukushi. This fungus, the cause of the black canker or blight of willow, in connection with the willow scab fungus, *Fusicladium saliciperdu*, has caused injury and death of a large percentage of the willows throughout the Maritime Provinces. It has been reported (9) from all three provinces and a number of collections are deposited in the Kentville Herbarium. The *Gloeosporium* stage has been collected by K. A. Harrison (O-65) and determined by I. L. Connors, from Digby, N.S.
  - **obtus** (Schw.) Cke. (*P. Cydoniae* Arn., *P. Malorum* Shear). This fungus, is reported (9) as causing a black rot of apples, from all three provinces, and from N.S. on quince. It usually occurs in the conidial stage (*Sphaeropsis Malorum* Pk.) and has an involved synonymy, which is reviewed by Stevens (Mycologia, 25: 536-548). Collections from Kentville (KP-51), Morristown (R-310, 372), on apple, and from Dartmouth, on *Rhus typhina*, are all from N.S.



- Pleospora herbarum** (Pers.) Rab. On stems of *Lathyrus japonicus* Willd., Colchester Co., N.S. (9). The asci of this collection are four- to five-spored and  $120-150 \times 30\mu$ . The spores are uniseriate in the ascus, brown, seven-septate, with many longitudinal septa cutting them up into small cells, and  $30-44 \times 16-19.5\mu$ . The species is also similar to *P. leguminum* (Wallr.) Rab., but differs from both these species in the four-spored asci. Inasmuch as the species of *Pleospora* need revision badly, it is placed here as a four-spored form of the common *P. herbarum*.
- **nitida** (Ell. & Ev.) Wehm. (*Teichospora nitida* Ell. & Ev.). On stems of *Rubus* sp., from Wolfville, N.S. (64).
- Pseudoplea Trifolii** (Rostr.) Petr. On alfalfa, Kentville, N.S. (KP-11, sub *Pleosphaerulina Briosiana* Poll.).
- Pyrenophora teres** (Died.) Drechsl. Reported (9) as causing a net blotch of barley in all three provinces.
- **trichostoma** (Fr.) Fck. On *Agropyron repens* (L.) Beauv., from Kentville, N.S. (KP-14).
- Venturia curviseta** Pk. On leaves of *Nemopanthus mucronata* (L.) Trel., from Richmond Co., N.S. (64). The spores of this collection are brown when fully mature.
- **Gaultheriae** Ell. & Ev. On leaves of *Gaultheria procumbens* L., Colchester Co., N.S. (64).
- **inaequalis** (Cke.) Wint. This fungus and its conidial stage (*Fusicladium dendriticum* (Wallr.) Fck.) is abundant throughout the apple-growing districts of the Maritime Provinces, and is of great economic importance as a result of being the cause of apple scab (9, 64). There are numerous collections in the Kentville Herbarium.
- **pyrina** Aderh. This species and its conidial stage (*Fusicladium pirinum* (Lib.) Fck.) has been reported (9) from all three provinces, as the cause of pear scab. J. F. Hockey (KP-18, -64, -115) gives it as very common in N.S.
- **pulchella** Cke. & Pk. A collection from A. Roland, on leaves of *Chamaedaphne calyculata* (L.) Moench., from Lake George, N.S., is placed here. The spores are oblong-ellipsoid, hyaline, unequally two-celled, with the upper cell about one-half the length of the lower cell. The spores, which measure  $10.5-12.5 \times 3.5-4\mu$ , are larger than those given by Peck (N.Y. State Museum Rept. 25: 106) for this species ( $7-9 \times 3\mu$ ), but this seems to be the same species. There is no spotting of the leaf; the perithecia are in small dense clusters, have the lower portion covered by short stiff spines, are about  $150\mu$  in diameter, and have no ostiole. It probably belongs in the *Dimerosporium* (*Dimeriella*) complex.

#### Gnomoniaceae

- Apiognomonium guttulata** (Starb.) Wehm. (*Gnomoniella guttulata* Starb.). On *Agrimonia* sp., Truro, N.S. (64). The spores of this species have a septum below the center forming two unequal cells.
- Glomerella cingulata** (Stonem.) Spauld. & von Shrenk. Reported (9) on apple, from N.B.
- Gnomonia leptostyla** (Fr.) Ces. & de Not. On *Juglans cinerea* L., from Kings Co., N.S. (KP-995) [9(18)]; and from N.B. [9(9)].
- **rostellata** (Fr.) Wehm. On stems of *Rubus* sp., Colchester Co., N.S. (64). *Gnomonia Rubi* Rehm is probably a four-spored form of this species, on leaves.
- **ulmea** (Schw.) Thüm. On *Ulmus americana* L., from Annapolis Co., N.S. (KP-986); and *Ulmus* sp., from Fredericton, N.B. (O-820). Also reported from N.B. by Fowler (18), and from P.E.I. [9(9)]. Probably fairly common wherever elm occurs.
- Gnomoniella Coryli** (Batsch) Sacc. Collected on *Corylus* sp. from Kings (KP-1360) Co., N.S., by Harrison, Hants (O-1888) Co., N.S., by Güssow, and reported from N.S. [9(23)] and N.B. [9(13)], on the same host.

#### Cucurbitariaceae

- Gibbera compacta** (Pk.) Shear (*Venturia compacta* Pk.). Collected on *Vaccinium macrocarpon* Ait., at Merigomish, N.S., by K. A. Harrison (O-3615) and in Digby (KP-1143) and Queens (KP-971) Co., N.S., by J. F. Hockey.

**Gibberidea abundans** (Dobr.) Shear (*Naumovia abundans* Dobr.).\* On *Lycopus americanus* Muhl., from Wolfville and on *Prunella vulgaris* L., from Colchester Co., N.S. (64). Apparently fairly common on the dead stems of various Labiatae. Collections made by A. Roland, also in N.S., have been determined by H. S. Jackson.

— **alnea** (Pk.) Wehm. (*Cucurbitaria alnea* Pk.). On stems of *Alnus* spp., Colchester Co., N.S. (64). As previously discussed (64), Peck probably had immature spores in his material of *C. alnea*.

*Massariaceae*

**Massaria inquinans** (Tode) Ces. & de Not. On stems of *Acer spicatum* Lam., Colchester Co., N.S. (64). This is a widespread species on *Acer* and is no doubt found throughout this area.

— **Pruni** Wehm. (*Massaria occulta* (Schw.) Ell. & Ev.). On twigs of *Betula* sp., *Amelanchier* sp., and *Prunus* (*Cerasus*†), from Colchester Co., N.S. As previously stated (64) it is possible that all these collections are on *Amelanchier*, and that certain differences in the spores may be varietal and correlated with this host.

— (**Massarina**) **salilliformis** Wehm. This species was described (64) from collections made in Colchester Co., N.S., and reported as on *Fagus grandifolia* Ehrh. A second collection, from Kentville, N.S., made by R. M. Lewis, on *Populus grandidentata* Michx., suggested a check of host bark of the type, which proved to be *Populus* and not *Fagus*.

*Allantosphaeriaceae*

**Diatrype stigma** (Hoffm.) Fr. On *Betula* sp., Colchester Co., N.S. (64).

**Diatrypella betulina** Pk. On twigs and limbs of *Betula* spp., from Colchester (64) and Kings (O-4865) Co., N.S. Easily distinguished by the internal greenish color of the stroma over the perithecia.

— **discoidea** Cke. & Pk. On *Betula* and *Prunus*, from Colchester and Guysboro Co., N.S. (64). These collections have small discoid stromata, narrow asci ( $30-43 \times 4-6 \mu$ ) and small narrow spores ( $3.5-5 \times 0.5-0.8 \mu$ ).

— **favacea** (Fr.) Nit. On *Betula* spp., from Kings and Colchester Co., N.S. (64). The common species on birch with laterally elongate stromata.

— **nigro-annulata** (Grev.) Nit. On *Fagus grandifolia* Ehrh., Colchester Co., N.S. (64). This collection has angular stromata and punctate ostioles.

— **Tocciaeana** de Not. On *Alnus* sp., Truro, N.S. (64). This binomial is applied to a collection with angular stromata, as in the last species, but with sulcate ostioles.

**Eutypa milliaria** (Fr.) Sacc. On decorticated wood of *Acer* sp., and *Cornus alternifolia* L.f., Colchester Co., N.S. (64). Conidial cavities were found beneath the blackened surface on *Cornus*.

— **spinosa** (Pers.) Tul. On weathered wood surface of *Fagus grandifolia* Ehrh., Colchester Co., N.S. (64). Causing a blackened, roughened, or granular surface on weathered wood of oak and beech.

**Eutypella alnifraga** (Wahl.) Sacc. On *Alnus* spp., Colchester Co., N.S. (64). Common on this host, and no doubt throughout the Maritimes.

*Diaporthaceae*

**Anthostoma melanotes** (Berk. & Br.) Sacc. On decorticated wood of *Salix* or *Alnus*, Colchester Co., N.S. (64).

**Apioportha anomala** (Pk.) Höhn. On *Corylus cornuta* Marsh., Colchester Co., N.S. (64). Apparently attacking the living canes and forming the large erumpent stromata on the killed ones.

— **Corni** Wehm.† On stems of *Cornus alternifolia* L.f., Colchester Co., N.S. (64). Causing a yellow to orange discoloration of the dead stems, and usually accompanied by the conidial stage, *Zythia aurantiaca* (Pk.) Sacc.

— **phomaspora** (Cke. & Ell.) Wehm. On *Myrica carolinensis* Mill., Evangeline Beach, Wolfville, N.S. (64).

— **vepris** (de Lacr.) Wehm. On stems of *Rubus*, Truro, N.S. (64).

\* Petrak (Ann. Mycol. 39: 940) transfers this species to *Rosenscheldia abundans* (Dobr.) Petr.

† Transferred to *Cryptodiaportha*, as *C. Corni* (Wehm.) Petr., by Petrak (Ann. Mycol. 39: 302).

- Cryptodiaporthe galericulata** (Tul.) Wehm. On *Fagus grandifolia* Ehrh., Colchester Co., N.S. (64).
- **salicina** (Curr.) Wehm. On *Salix* sp., Truro, N.S. (64), accompanied by the conidial stage, *Discella carbonacea* (Fr.) Berk. & Br.
- Cryptospora alnicola** Höhn. On *Alnus* spp., Colchester Co., N.S. (64). This appears to be the common *Cryptospora* on *Alnus* with small grayish discs and long narrow spores,  $50-88 \times 2-3.5 \mu$ . There is often a somewhat blackened zone in the bark. This species is no doubt common throughout all three provinces.
- **aurantiaca** Wehm. This species was described from a collection from Portapique, Colchester Co., N.S. (64). It occurs on *Alnus* sp., and differs from the preceding in the orange-brown stromatic tissue. A collection (O-5241), on *Alnus incana* (L.) Moench., from Fredericton, N.B., determined by J. W. Groves as *C. suffusa* (Fr.) Tul., shows the narrow spores typical of American species on this host. The stromatic tissue is very sparse, but appears orange-brown and gives a definite wine-colored reaction with sodium hydroxide. It is this species.
- **Betulae** Tul. On *Betula* spp., Colchester Co., N.S. (64). The spores of this species are extremely variable; they may be long cylindric,  $20-60 \times 4-5.5 \mu$ , or short ellipsoid to fusoid,  $19-25 \times 7-10 \mu$ , resembling a *Cryptosporella*.
- **femoralis** Pk. On *Alnus* spp., from Colchester Co., N.S. (64); and on *Alnus incana* (L.) Moench., from Fredericton, N.B. (O-3795), det. J. W. Groves. This is the most common and ubiquitous *Cryptospora* on *Alnus*. It is easily distinguished by the "femur-like" spores with swollen ends.
- **suffusa** (Fr.) Tul. var. **nuda** Pk. On *Corylus cornuta* Marsh., Colchester Co., N.S. (64). This variety on *Corylus* differs from the collections placed under *C. alnicola* in the small discs with a lack of any stromatic development and in the lack of any blackened zones in the bark.
- Diaporthe acerina** (Pk.) Sacc. On *Acer spicatum* Lam., Colchester and Kings Co., N.S. (64). Common on this species of maple. A *Phomopsis* (W-440), with alpha conidia,  $9-12.5 \times 3.5-4.5 \mu$ , found on *Acer spicatum*, near Truro, N.S., is probably the conidial stage of this species.
- **Arctii** (Lasch) Nit. On *Aster* and *Solidago* stems, Colchester Co., N.S. (64). On these hosts, small elongate stromata that are superficially blackened, sharply margined, and  $1-10 \times 0.5-1$  mm. are formed. On stems of *Gnaphalium*, from the same locality, the surface blackening is limited to spots or streaks about the short spinelike ostioles.
- **Arctii** var. **Achilleae** (Auersw.) Wehm. On *Achillea Millefolium* L., Colchester Co., N.S. (64). The stromata on this host are typical of this variety.
- **decedens** (Fr.) Fck. On *Corylus cornuta* Marsh., Colchester and Kings Co., N.S. (64).
- **eres** Nit. (*Diaporthe valida* Nit.). On *Myrica carolinensis* Mill., Baddeck, Victoria Co., N.S. (64). This is apparently the first report of this form of *D. eres*, on this host, from North America.
- **impulsa** (Cke. & Pk.) Sacc. On *Sorbus americana* Marsh., Colchester Co., N.S. (64).
- **linearis** (Nees) Nit. On *Solidago* spp., Colchester Co., N.S. (64).
- **quadruplex** Wehm. This species was described from material collected on stems of *Solidago* sp., from Colchester Co., N.S. (64). It is identical with *D. linearis* in stromatic characters, but has much larger spores, which are borne four in an ascus. It may represent a four-spored form of this latter species.
- **racemula** (Cke. & Pk.) Sacc. On *Epilobium angustifolium* L. and *Epilobium* spp., Colchester and King's Co., N.S. (64).
- **tessella** (Pers.) Rehm. On *Salix* sp., Colchester Co., N.S. (64).
- **tuberculosa** (Ell.) Sacc. On *Amelanchier* spp., Colchester Co., N.S. (64).
- **Viburni** Dearn. & Bisby var. **spiraeicola** Wehm. On *Spiraea* sp., Colchester Co., N.S. (64).
- Fenestella minor** Tul. On *Alnus* sp., Colchester Co., N.S. (64).

- Melanconis Alni** Tul. var. **marginalis** (Pk.) Wehm. On *Alnus* sp., from Colchester and Halifax Co. (64), N.S., and on *Alnus crispa* var. *mollis* (Fern.) Fern., from Kings (O-3798; KP-887) Co., N.S. Very common, especially in the conidial stage, on down limbs and brush of *Alnus*.
- **apocrypta** Ell. On *Populus* sp., Colchester Co., N.S. (64).
- **Everhartii** Ell. On *Acer spicatum* Lam., Colchester Co., N.S. (64). Quite common on *Acer*.
- **nigrospora** (Pk.) Wehm. On *Betula* sp., Colchester Co., N.S. (64). Quite common on down limbs and brush of birch.
- **stilbostoma** (Fr.) Tul. On *Betula* spp., Colchester Co., N.S. (64). Also quite common on birch and often accompanied by the conidial stage, *Melanconium betulinum* Schm. & Kze.
- **thelebola** (Fr.) Sacc. On *Alnus* spp., Colchester Co., N.S. (64). Another of the common stromatic forms on dead twigs of *Alnus*.
- Pseudovalsa longipes** (Tul.) Sacc. On *Quercus borealis* Michx. f. var. *maxima* (Marsh.) Ashe, Halifax Co., N.S. (64).
- **stylospora** Ell. & Ev. On *Acer spicatum* Lam., from Colchester and Kings Co., and on *A. saccharum* Marsh., from Colchester Co., N.S. (64). Fairly common on down limbs and twigs of maple.
- Valsa Abietis** Fr. Reported by R. R. Hurst, from P.E.I., and determined at Ottawa.
- **amphibola** Sacc. On *Malus pumila* L. (*Pyrus Malus* L.) and *Sorbus americana* Marsh., Colchester Co., N.S. (64). The collection on *Sorbus* is accompanied by a *Cytospora* with gray-green to gray-black lenticular stromata with numerous radiating locules and hyaline allantoid conidia,  $3.5-4.5 \times 1\mu$ .
- **cincta** Fr. On *Amelanchier* sp. and *Rosa* sp., Colchester Co., N.S. (64). The collection on *Rosa* differs in the gray rather than brown coloration of the entostroma.
- **etherialis** Ell. & Ev. On *Acer saccharum* Marsh., Truro, N.S. (64). This species is characterized by the small gray-white discs of the stromata, which are imbedded in the periderm and bounded below by the lower layers of this tissue, simulating a *Leucostoma* type of development. The ascospores are long and narrow,  $5.6-5 \times 0.5-0.8\mu$ . Fairly common on maple.
- **Kunzei** Fr. On *Abies balsamea* (L.) Mill., Colchester and Halifax Co., N.S. (64). This is the common *Valsa* of the subgenus *Leucostoma* found throughout this region and probably described under various names on various coniferous hosts. It is a weak parasite and probably causes cankers under conditions unfavorable to the host, but is most abundant on dead stems.
- **leucostoma** Fr. On *Prunus* sp., Colchester Co. (64) and on *Prunus pennsylvanica* L.f., Kings Co. (O-4640; det. J. W. Groves), N.S. This is the *Leucostoma Persoonii* (Nit.) Höhn. of other authors, the cause of cankers of many fruit trees and other hosts.
- **nivea** (Hoffm.) Fr. On *Populus Tacamahacca* Mill., Truro, N.S. (64), and on *P. grandidentata* Michx., from Halifax Co., N.S. (W-99). These collections have the small spores ( $7-9 \times 1\mu$ ) that Ellis says are characteristic of the American form. Schreiner (Am. J. Botany, 18:8) also reports this species as causing a canker of *Populus tremuloides* Michx., from Nova Scotia. He also reports the spores as being  $7-9 \times 1.1-1.6\mu$ .
- **salicina** (Pers.) Fr. On *Populus* sp., Colchester Co., N.S. (64). This species has larger spores ( $12-18 \times 2.5-4\mu$ ) than the more common *V. sordida*.
- **sordida** Nit. On *Salix* spp., and *Populus* spp., Colchester and Kings Co., N.S. (64). The spores ( $9-12 \times 1.5-2\mu$ ) of this species are smaller than those of the preceding. Both the perithecial and conidial stage (*Cytospora chrysosperma* (Pers.) Fr.) are very common on poplars and willow.
- **stenospora** Tul. On *Alnus* sp., Halifax Co., N.S. (64). This fungus causes flat hemispheric swellings of the bark, through the center of which there are erumpent white to gray ectostromatic discs containing one or a few ostioles. The spores are  $9-12.5 \times 1.7-2.5\mu$ .
- **truncata** Cke. & Pk. On *Alnus mollis* Fern. and *Alnus* sp., Colchester and Kings Co., N.S. (64).
- Valsaria moroides** (Cke. & Pk.) Sacc. On *Alnus* sp., Truro, N.S. (64).



*Calosphaeriaceae*

*Calosphaeria minima* Tul. On *Cornus alternifolia* L.f., Colchester Co., N.S. (64).

*Xylariaceae*

*Daldinia concentrica* Ces. & de Not. Reported by Somers (37) from Halifax Co. on birch, by MacKay (38) from New Glasgow on *Ulmus*, and by the author from Colchester Co., N.S. (64), on *Alnus* sp.; by Fowler (18), from N.B.; and by R.R. Hurst (det. at Ottawa), from P.E.I. Frequent on dead wood.

*Hypoxylon cohaerans* Fr. Reported on *Fagus grandifolia* Ehrh. from N.S. by MacKay (37) from Pictou Co., by Harrison (KM-1211) from Kings Co., and by the author (64) from Colchester Co.; from N.B., on old logs, by Fowler (18). Common on old dead beech logs, especially those killed by the *Nectria* - scale insect disease.

— *enteromelum* (Schw.) Berk. Reported by Berkeley (Grevillea, 4:51) from N.S. Specimen collected by J. D. Russell, No. 5901. This collection is reported on beech and may be *H. fragiforme*.

— *fragiforme* (Fr.) Petr. (*Hypoxylon coccineum* Bull.). On *Fagus grandifolia* Ehrh., Colchester Co., N.S. (64). In 1921, Petrak (Ann. Mycol. 19:277) pointed out that the proper binomial for the common, showy, bright red *Hypoxylon* on beech was *H. fragiforme*. It is interesting to note that in 1879, Fowler (18) listed an *Hypoxylon fragiforme* Pers. (Flora Can. 465), from Bass River, N.B.

— *fuscum* (Pers.) Fr. Reported from N.S., by MacKay (37), from Pictou Co., by the author (64), on *Alnus* and *Corylus cornuta* Marsh., from Colchester and Kings Co., and by Harrison (KM-1212) and I. L. Connors (O-4925), on *Alnus crispa* var. *mollis* (Fern.) Fern., from Kings Co. From N.B. by Fowler (18), from Bass River and by Hay (31); and from P.E.I. by R. R. Hurst (det. at Ottawa). This is probably the most common species of *Hypoxylon*, with irregular red-purple stromata, occurring mostly on *Alnus* but also on other hosts.

— *Morsei* Berk. & Curt. On *Salix* and *Alnus*, Truro, N.S. (64).

— *multiforme* Fr. On *Betula* sp., Halifax Co., N.S. (64); on *Betula lutea* Michx. f., Falconwood, P.E.I. (O-2113; det. M. Timonin) (9); and on *Betula* sp., Rustico Bay, P.E.I., by John Macoun, det. J. Dearness. Common on birch, forming laterally elongate, fusoid, reddish stromata.

— *pruinatum* (Klotzsch) Cke. Reported as the cause of a canker on *Populus tremuloides* Michx., by Faull (16), from N.S. and collected by R. M. Lewis, on *Populus*, from Kentville, N.S. (det. I. L. Connors) (O-7850).

— *rubiginosum* (Pers.) Fr. On decorticated wood and bark of *Acer spicatum* Lam. and other hosts, from Colchester and Victoria Co., N.S. (64). This is the most common, widely distributed, and variable species of the genus and is no doubt found in all three provinces on a wide variety of dead branches.

— *ustulatum* (Bull.) Fr. (*Ustulina vulgaris* Tul.). On mossy logs, commonly at the base of old stumps, Halifax and Victoria Co., N.S. (64); and from Rustico Bay, P.E.I., by John Macoun (det. J. Dearness).

— *verrucosum* Fr. Reported by MacKay (37), from Pictou Co., N.S.

*Xylaria castorea* Berk. On soil and rotten wood, Colchester (64) and Kings (O-2249) Co., N.S. Similar in appearance to *X. polymorpha*, but with smaller spores (8-10.5 × 4.5-5.5 μ).

— *coprophila* Wehm. On porcupine dung, described from a collection from Colchester Co., N.S. (64).

— *corniformis* Fr. Reported by Hay (31), from N.B.; and by Macoun, at base of stump, from Rustico Bay, P.E.I. (det. J. Dearness).

— *digitata* (L.) Grev. Listed by Fowler (18), on rotten wood, from N.B.

— *Hypoxylon* (L.) Grev. On rotting or buried wood, Colchester, Cumberland (64), and Kings (O-2250) Co., N.S. The common *Xylaria* with thin cylindric, attenuate stromata.

— *polymorpha* (Pers.) Grev. On dead wood or often around the base of stumps and living trees. At base of *Picea*, Truro (64); *Fagus*, Pictou (38), N.S.; and around elm stump, etc., from Kings Co. (KM-1219 to -1221), N.S. The stromata of this species are clavate expanded to lobed and the spores are large fusoid (25-30 × 7 μ).

## DOTHIDEALES

- Botryosphaeria fuliginosa** (Moug. & Nestl.) Ell. & Ev. On *Fagus grandifolia* Ehrh., Colchester Co., N.S. (W-1741). This is a convenient collective species for these forms on woody stems, which are very difficult to separate.
- Cymadothea Trifolii** (Pers.) Wolf (*Phyllachora Trifolii* (Pers.) Fck., *Dothidella Trifolii* (Pers.) Bayl.-Ell. & Stansf.). Reported by Fowler (18), on clover, from Bass River, N.B., as *Dothidea Trifolii*; and by Hockey (KP-41,-129) as common on alsike and red clovers, in N.S. This and the conidial stage, *Polythrincium Trifolii* Kze., are reported (9) from all three provinces as the cause of the sooty spot or blotch of clover.
- Dibotryon morbosum** (Schw.) Theiss. & Syd. (*Plowrightia morbosa* (Schw.) Sacc.). Reported from N.S., by MacKay (37), on a plum tree; by the author (64), on *Prunus virginiana* L., from Truro; and by Hockey, on plum, cherry, flowering plum, and *P. virginiana* (KP-7,-34, -437,-553,-902,-1101); and by Conners (O-3786), on *P. pennsylvanica*, L.f., from Kings Co.; and from N.B., by Fowler (18), on plum. Reported from all three provinces (9), as the cause of black knot of cherry and plum.
- Dothidella Kalmiae** (Pk.) Sacc. Parasitic on the shoots of *Kalmia angustifolia* L., causing a witches'-broom effect with upright elongate branches bearing dwarfed leaves. The stromata develop as black crusts over the entire surface of these shoots. Collected in Colchester and Halifax Co., N.S. (64).
- **Osmundae** (Pk. & Clint.) Sacc. On the rachis of *Osmunda cinnamomea* L., *Pteritis nodulosa* (Michx.) Nieuwl., and *Pteridium aquilinum* var. *latiusculum* (Desv.) Underw., Colchester Co., N.S. (64). Quite common on the leaf stalks of various ferns.
- Endodothella Junci** (Fr.) Theiss. & Syd. On stems of *Juncus* spp., Colchester and Kings Co., N.S. (64). Common on stems of rushes in swampy areas.
- Phyllachora graminis** (Pers.) Fck. On *Agropyron repens* (L.) Beauv., New Glasgow (38), and *A. cristatum* (L.) Gaertn., Nappan, N.S. (O-4519), det. I. L. Conners. Reported by Fowler (18), on grass leaves, as *Dothidea graminis* (?), from N.B.; and as a black spot of *Agropyron repens* and timothy [9(5)], from P.E.I.
- **pomigena** (Schw.) Sacc. Reported [9(6)] as causing a sooty blotch of apple, in N.S.
- **Solidaginum** (Schw.) Sacc. Reported [9(5)] (sub *P. Solidaginis*) as causing a tar spot of *Solidago graminifolia* (L.) Salisb., in P.E.I., but these have been proved to be the common insect gall of *Solidago*, according to I. L. Conners.
- **Wittrockii** (Erikss.) Sacc.\* Parasitic on the growing tips of *Linnaea borealis* var. *americana* (Forbes) Rehd., which become shrivelled and covered by the black crustlike stroma of the fungus. Collected in Victoria Park, Truro, N.S. (64).

## BASIDIOMYCETES

## USTILAGINALES

*Ustilaginaceae*

- Cintractia Caricis** (Pers.) Magn. On *Carex acuta* L., by A. Roland, from Colchester Co. and on sedge, from Kings (KP-417) Co., N.S. Reported by Zundell (68), on *C. lanceata* Dewey (*C. salina* Wahl.) and *C. limosa* L., from N.S.; and by Fowler (18) (sub *Ustilago urceolarum* DC.), on *Carex*, from N.B.
- **Junci** (Schw.) Trel. On *Juncus tenuis* Willd., Pictou Co., N.S., leg. W. P. Frazer, det. I. H. Crowell (No. 753).
- **subinclusa** (Körn.) Magn. Reported by Clinton (7), from N.B., on *Carex Michauxiana* Boeckl. (*C. abacta* Bailey).
- Melanopsichium austro-americanum** (Speg.) G. Beck. On *Polygonum pennsylvanicum* L., Morristown, N.S., leg. A. T. Roland (R-127), det. H. S. Jackson.

\* This species is transferred by Petrak (Ann. Mycol. 39:280) to his genus *Phylleutypa* as *P. Wittrockii* (Erikss.) Petr.

- Sphacelotheca borealis** (Clint.) Schellenb. (*S. Hydropiperis* var. *borealis* Clint.). Reported from N.S., by Zundell (68), on *Polygonum* sp.
- **destruens** (Schlecht.) Stev. & A. G. Johns. (*Sphacelotheca Panici-miliacei* (Pers.) Bub.). On *Panicum miliaceum* L., Nappan, Cumberland Co., N.S. (KP-848; O-7749), det. I. L. Conners. Also reported (9), on "broom-corn millet", from N.B. and P.E.I.
- **Hydropiperis** (Schum.) de Bary. On the ovaries of *Polygonum sagittatum* L., from Pictou (38), Earltown (61), and Durham (I. H. Crowell No. 786), N.S.; on *P. Hydropiper* L., from Scotsburn, N.S. (Crowell No. 787); and on *Polygonum* sp., from Charlotte Co., N.B. (G. U. Hay, Aug. 1883; det. J. Dearnness). Also reported by Zundell (68) on *P. sagittatum* and *P. hydropiperoides* Michx., from N.S.
- Tolyposporium bullatum** Schroet. On *Echinochloa crusgalli* (L.) Beauv., Kentville, N.S., leg. K. A. Harrison, det. I. H. Crowell (No. 791) (KP-413).
- Ustilago anomala** J. Kze. On *Polygonum Convolvulus* L., Blomidon, N.S., leg. H. Groh, det. A. S. Hill (O-1298).
- **Avenae** (Pers.) Jens. Reported from Kings (KP-54) and Pictou (37, 38) Co., N.S., and from N.B. (18), and Margerville, N.B. (O-5476), on *Avena sativa* L.; and as the cause of the loose smut of oats (9), from all three provinces.
- **bromivora** (Tul.) Fisch. A collection on *Agropyron pauciflorum* (Schw.) Hitchk. (*A. tenerum* Vasey) was reported from Nappan, Cumberland Co., N.S. (KP-560; O-3117) [9(13)]. G. W. Fischer (Phytopath. 30: 991) places this species as a synonym of *U. bullata* Berk. (see next species).
- **bullata** Berk. Although Zundell (68) recognizes this binomial for the collections on *Agropyron*, his report on this species from N.S. seems to be based on the above collection on *A. tenerum*, determined as *U. bromivora*.
- **Hordei** (Pers.) Lagerh. On *Hordeum vulgare* L., from Colchester (O-4984), Cumberland (O-4979), Digby (O-5457), and Hants (KP-90) Co., N.S.; Fredericton, N.B. (Howatt); and P.E.I. (Hurst.). Also numerous reports (9) as the cause of covered smut of barley from all three provinces. The following species, *U. Kolleri*, on *Avena*, is considered as the same as this species by Fischer (Mycologia, 35: 613).
- **Kolleri** Wille. (*U. levis* (Kellerm. & Swingle) Magn.). Collections on *Avena sativa* L., from Sheffield Mills (KP-400), Yarmouth, and Bridgetown, N.S.; Zealand, N.B.; and Charlottetown (O-5100, -5101), P.E.I. Reports, as the cause of covered smut of oats, from all three provinces (9, 28, 38). (See *U. Hordei* above.)
- **Maydis** (DC.) Cda. (*Ustilago Zeae* (Beck.) Unger). Has been reported (9) as causing the smut of corn from all three provinces.
- **neglecta** Niessl. On *Setaria glauca* (L.) Beauv., by A. Roland (R-161), from Morristown, N.S.
- **nuda** (Jens.) Rostr. On *Hordeum vulgare* L., from Kentville (KP-39, -1109) and Auburn (O-5455), N.S.; Fredericton (O-5083 to -5085) and Memramcook (O-5504), N.B.; and P.E.I. (R. R. Hurst). Also reported (9, 38) from all three provinces as the cause of loose smut of barley. Fischer (Mycologia, 35: 614) considers this and the following species, on wheat, to belong to a single species under the binomial *U. Tritici*.
- **Tritici** (Pers.) Rostr. On *Triticum aestivum* L., from Kentville (KP-391) and Hantsport (O-5463), N.S.; and Fredericton (O-4514), N.B.; the last two det. by I. L. Conners. Also reported from Pictou Co., N.S., by MacKay (37, 38), as *U. Carbo*, and (9) as the cause of loose smut of wheat, from all three provinces. See preceding species, *U. nuda*.
- **utriculosa** (Nees) Tul. On *Polygonum lapathifolium* L., from Margaree (KP-988) and Stewiacke (O-5506), N.S., and Bath (O-5093), Fredericton (O-4521), Petitcodiac (O-6003), and Salisbury (O-6002), N.B.; on *P. pennsylvanicum* L., from Fredericton (O-3140), N.B.; on *P. Persicaria* L., from Kentville (KP-897), N.S., and Charlottetown, P.E.I. (R.R. Hurst); on *P. tomentosum* Schrank, from Kentville (O-7751), N.S., and on *P. sp.*, from Harrington, P.E.I. (B. Hurst). Also reported from these hosts (9) and, in addition, from *P. hydropiperoides* Michx. and *P. sagittatum* L., by Zundell (68), from N.S.

*Tilletiaceae*

- Entyloma compositarum** Farl. Reported by Clinton (7), on *Aster* sp., from N.B., and by Zundell (68), on *Bidens* sp., from N.B. and N.S.
- **fuscum** Schroet. Reported by Clinton (7), on *Papaver* sp., from N.B.
- **irregulare** Johans. Reported [9(6)] as fairly common on *Poa pratensis* L., on P.E.I. Connors states (in litt.) that no collections are available, and that this record should be considered doubtful.
- **lineatum** (Cke.) Davis. Reported by MacKay (38), from a collection by Fraser, on *Zizania aquatica* L., from New Glasgow, N.S.
- **Nymphaeae** (D. D. Cunn.) Setch. Reported by Zundell (68), on *Castalia tuberosa* (Paine) Greene (*Nymphaea tuberosa* Paine), from N.S.
- **peninsulae** Crowell. On *Zizania aquatica* L., New Glasgow, N.S., Aug. 20, 1906 (O-13735 to -13737, type collections), leg. W. P. Fraser, det. I. H. Crowell (No. 783).
- Tilletia Anthoxanthi** Blytt. Reported by Zundell (68) on *Anthoxanthum odoratum* L., from N.S.
- **laevis** Kühn (*T. foetans* (Berk. & Curt.) Trel.). See below under *T. Tritici*.
- **Tritici** (Bjerk.) Wint. There are numerous reports of bunt of wheat in the Canadian Plant Disease Survey (9). The causal organisms have been variously given as *T. caries* and *T. foetans*, *T. laevis* and *T. Tritici*, etc., but there has apparently been no distinction made between the smooth-spored and rough-spored species. There are two collections from Bath, N.B. (O-5140, -5141) made the same day by I. L. Connors and determined by him as *T. laevis* and *T. caries*, indicating that both species exist, at least in this province. J. F. Hockey has determined a collection (KP-266), from Truro, N.S., as *T. laevis*. Zundell (68) reports *T. foetans*, from N.B., and *T. Tritici*, from N.B. and P.E.I., on wheat.
- Urocystis Cepulae** Frost. A trace of this species was reported [9(13)] from the Fredericton, N.B., Experimental Station.
- **occulta** (Wall.) Rab. On rye, from Truro, N.S., determined by I. H. Crowell. Also reported by Halsted and Kelsey (28) and Clinton (7), from N.S., on rye.

## UREDINALES

*Melampsoraceae*

- Chrysomyxa Cassandrae** (Pk. & Clint.) Tranz. Reported on *Chamaedaphne calyculata* (L.) Moench., from Castle Rey Lake, Colchester Co. (W-1625; det. E. B. Mains); Port Mouton, Queens Co. (KP-957); Pictou (22) and Shelburn, Shelburn Co. (KP-589), N.S. On *Picea mariana* (Mill.) BSP., from Pictou (22) (O-det. Fraser), N.S.; and on *P. glauca* (Moench.) Voss., from Belle River (O-7286) and Charlottetown (O-7289), P.E.I. Arthur (2) also reports this rust on both host genera, from N.S.
- **Chiogenis** Diet. Reported on *Chiogenes hispidula* (L.) T. & G., by Fraser (22, sub *Melampsoropsis Chiogenis*), from Pictou and Truro, N.S.; and by R. R. Hurst, from P.E.I.
- **Empetri** (Pers.) Schroet. Collected on *Empetrum nigrum* L., from Hall's Harbour, N.S., by J. F. Hockey (KP-911) and A. Roland (O-4932) and on *Picea glauca* (Moench.) Voss, from this same locality (R-389; O-4969) and from Lunenburg Co. (O-by Mrs. J. E. Starr; det. J. Dearness as *C. ledicola*). Arthur (2) gives no aecia for this species. Faull (J. Arnold Arboretum, 18:141) has recently shown that this species goes over to spruce. Dr. E. B. Mains has examined the two collections on spruce and, although they are difficult to determine, he is of the opinion that these are the aecial stage of *C. Empetri*.
- **Ledi** (Alb. & Schw.) de Bary. Reported by Fraser (22) from Pictou, N.S., on both *Ledum groenlandicum* Oed. and *Picea rubra* (Du Roi) Dietr., and by Arthur (2) from these same hosts in N.S. Fraser also succeeded in obtaining aecia on *Picea rubra*, from sowings of teliospores from *Ledum* (19, 20).
- **ledicola** Lagerh. Reported as follows: On *Picea* sp.: from Colchester Co. (61), N.S. On *P. Engelmanni* (Parry) Engelm.: from P.E.I. (R. R. Hurst). On *P. glauca* (Moench.) Voss.: from L'Ardoise, Cape Breton (O-1195), Lunenburg Co. [9(10)], Pictou (22), and Truro (22) (O-7290), N.S., and St. Peters (O-2290) and Charlottetown [9(5, 9, 22)], P.E.I. On *P. mariana* (Mill.) BSP.: from Halifax Co. (61), Pictou (22), and Truro (22), N.S.; St. Peters Highway [9(9)], Maryland Hill [9(16)], York and Sunbury Co. [9(18)], N.B.; and Belle River [9(22)] (O-7294), P.E.I. On *P. rubra* (Du Roi) Dietr.: from Pictou (22) (38, sub *Peridermium decolorans*), Pug Lake, Shelby Co. (61), and Truro (22), N.S. And on Koster's blue spruce, from Annapolis



Royal (KP-640), N.S. This is a very common spruce rust throughout this area. The uredinal and telial stage on *Ledum groenlandicum* Oeder is also abundant but not so commonly collected. It is reported from Pictou (22) and Truro (22, 61), N.S., and from P.E.I. (R. R. Hurst). Arthur (2) also reports this rust, from N.S., on *Picea glauca*, *P. mariana*, *P. rubra*, and *Ledum*; from N.B., on *P. mariana*; and from P.E.I. on *P. rubra*. Fraser (19, 20) has reported cultural connections of the two stages of this rust.

**Chrysomyxa Pyrolae** (DC.) Rostr. Reported on cones of *Picea* spp., from Pictou (22) and Folleigh Lake, Colchester Co. (61) and *P. rubra* (Du Roi) Dietr., from Portapique, Colchester Co., N.S.; on *Pyrola americana* Sweet from Kentville (KP-529), *P. elliptica* Nutt. from Middleton (38) and Pictou (22), *P. secunda* L. (R-45) from N.S., and *P. spp.*, from Morristown (R-43), N.S., and P.E.I. Arthur (2) reports this species on *Pyrola americana*, *P. uliginosa* Torr., and *Picea rubra*, from N. S. Fraser (19, 20) describes cultural experiments connecting stages of this rust on *Pyrola americana* and *Picea mariana* (Mill.) BSP.

- **Rhododendri** (DC.) de Bary. The record [9(6)] of this species on *Picea* spp. from Restigouche, N.B., is no doubt in error, as this species is not known from North America.
- **Wierii** Jacks. On *Picea* sp., Shelburne Co., N.S. (O-5520), collected by E. L. Harris, det. by I. L. Connors.

**Coleosporium Campanulae** (Pers.) Lév. Collected on *Campanula rapunculoides* L., at Clementsport, Annapolis Co., N.S. (O-4944), by A. Roland (R-376).

- **Solidaginis** (Schw.) Thüm. This species is very abundant throughout all three provinces, on *Solidago* and *Aster*, but has not been collected or reported on pine. The reported hosts, by provinces, are as follows. Nova Scotia: on *Aster cordifolius* L., from Kentville (KP-858), Pictou, Truro, etc. (22); *A. lateriflorus* (L.); Britt., from Pictou, Truro, etc. (22); *A. macrophyllus* L., from Morristown (R-105); *A. patens* Ait., from Pictou (38); *A. novi-belgii* L., from Morristown (R-104); *A. umbellatus* Mill., from Morristown (R-106), Oxford (R-Aug., 1935), Pugwash (KP-539), and Pictou, Truro, etc. (22); *A. spp.*, from Onslow (61); *Callistephus* sp., from Kentville (KP-857) and Kings Co. [9(16)]; *Solidago bicolor* L., from Kentville (KP-866), Pictou, Truro, etc. (22), and Wolfville (R-359); *S. canadensis* L., from Pictou, Truro, etc. (22); *S. juncea* Ait., from Clifton, Colchester Co. (KP-122); *S. rugosa* Mill., from Kings Co. (KP-121), Pictou, Truro, etc. (22), *S. serotina* Ait., from Morristown (R-103); and *S. spp.*, from Upper Brookside, Colchester Co. (61) and Chase Island, Lunenburg Co. (R-401; O-4949). New Brunswick: on *Callistephus* sp., from Fredericton [9(9)]; *Solidago canadensis*, from Fredericton [9(6)]; *S. rugosa*, from Fredericton (O-4010); *S. graminifolia* (L.) Salisb., from Fredericton; and *S. spp.*, from York Co. [9(10)]. Prince Edward Island: on *Solidago canadensis*, from Queens Co. [9(6, 11)]; and *S. spp.* (R. R. Hurst).
- **Viburni** Arth. On *Viburnum cassinoides* L., from Cumberland (KP-820; O-2982; R-144), Guysboro (R-367), and Kings (R-366) Co., N.S.; and the Acadian Forest Station, N.B. (O-7628; det. I. L. Connors) [9(22)].

**Cronartium coleosporioides** (D. & H.) Arth. (*C. Harknessii* Mein., *C. stalactiforme* Arth. & Kern, etc.). Collected on *Pinus contorta* Dougl. at the Acadian Forest Station, N.B., by J. L. Howatt and determined by R. Pomerleau (O-7728) [9(21)]. (For Pomerleau's discussion of the occurrence of this rust in northeastern Canada see Mycologia, 34: 120).

- **Comptoniae** Arth. On *Pinus Banksiana* Lamb., Fredericton, N.B. (O-1673); on *P. contorta* Dougl., Halifax, N.S. (O-4580); on *P. Mugo* Turra, from N.B. [9(10)]; and on *Myrica Gale* L., from Colchester (KP-869), Kings (R-99,-115), and Pictou (22) Co., N.S.

- **flaccidum** (Alb. & Schw.) Wint. On *Impatiens Balsamina* L., from Charlottetown, P.E.I. This is given as the only North American report of this species, by Arthur (2, p. 30).

- **ribicola** J. C. Fischer (*Peridermium Strobi* Kleb.). The white pine blister rust is apparently abundant throughout all three provinces with many reports (9, 16, 61) and collections of both the telial stage on *Ribes* and the aecial stage on *Pinus Strobus* L. The following reports of infection on *Ribes* species have been recorded: from Nova Scotia on *Ribes glandulosum* Grauer (*R. prostratum* L'Hér.) (16, 61) (O-5166; KP-379,-879), *R. Grossularia* L. (O-4957; KP-135,-142), *R. nigrum* L. (16, 61) (KP-1,-2,-870), *R. oxyacanthoides* L. (16) (O-5159), and *R. vulgare* Lam. (61); from N.B., on *R. nigrum* (O-5997), *R. oxyacanthoides* L. (O-5124), and wild gooseberry (O-3495); and from P.E.I., on *R. glandulosum* (O-Herb.), *R. nigrum* (O-3051), *R. vulgare* (R. R. Hurst), and wild gooseberry (J. F. Martin, 1925).

- Hyalopsora Aspidiotus** (Pk.) Magn. Reported on *Abies balsamea* (L.) Mill., from N.S., by Faull (16).
- Melampsora Abietis-canadensis** (Farl.) C. A. Ludwig. Fraser (22) reported this rust (under the name *M. Medusae* Thüm.) from Pictou and Truro, N.S., on *Tsuga canadensis* (L.) Carr., *Populus grandidentata* Michx., and *P. tremuloides* Michx. He (20, 21, 23) published notes on the association and cultural connection of the two stages on *Tsuga* and *Populus*, clearing up this error. Arthur also reports it from N.S., on *Tsuga* and *Populus grandidentata* and it has been reported on this latter host from P.E.I. [9(23)].
- **Abieti-Capraearum** Tub. (*M. Humboldtiana* Speg.). Reported on *Abies balsamea* (L.) Mill., from Pictou (20, 21), N.S., by Fraser, who reported cultural experiments under the name of *M. arctica*, and also by Arthur (1, 2), from N.S.; on *Salix discolor* Muhl. from Kings (O-4939; R-4,-83,-101) and Pictou (20, 21) Co., N.S. [9(19)], and Miscouche, P.E.I. (O-4323); on *S. rostrata* Rich., from Pictou (20, 21), N.S.; and on *S. spp.*, from Colchester (61), Inverness (O-4941), and Pictou (KP-648; O-1883) Co., N.S.
- **Bigelowii** Thüm. Reported on *Salix* spp., from all three provinces (9, 61) and on *Salix rostrata* Rich. and *Larix laricina* (DuRoi) Koch., by Fraser (22), from N.S.
- **Euphorbiae** (Schub.) Cast. On *Euphorbia Cyparissias* L., from Morristown, (R-113); and Brackley Beach, P.E.I. (O-6701, det. R. R. Hurst).
- **Farlowii** (Arth.) J. J. Davis. Reported by Fraser (20, 22) and Arthur (1, 2), on *Tsuga canadensis* (L.) Carr., from N.S.
- **Medusae** Thüm. On *Populus tremuloides* Michx., from Morristown, N.S. (given as *M. Abietis-canadensis* by A. Roland (R-100), but determined as *M. Medusae* by E. B. Mains) and from P.E.I. [9(6)]. Reported by Arthur (2), on *Larix laricina* (DuRoi) Koch, and by MacKay (38), on *Populus grandidentata* Michx., from N.S.
- **Ribesii-purpureae** Kleb. On *Salix* sp., Portapique Beach, N.S., Aug. 3, 1933 (W-1619). Determined by E. B. Mains (as *M. confluens* (Pers.) Jacks.) who states that although Arthur gives this species only from the west, this collection seems to be this plant.
- **Tremulae** Tul. This species is reported [9(5)] on balm of Gilead, from P.E.I., but being a European species, not reported from this continent, the determination seems doubtful.
- Melampsorella Cerastii** (Pers.) Schroet. (*M. Caryophyllacearum* Link, *M. elatina* Arth., *Peridermium elatinum* Schm. & Kze.). This rust is very common and has been reported from all three provinces (9, 2) on *Abies*. It causes the large yellow-green witches'-brooms, prominent on many fir trees. It has been reported on *Abies balsamea* (L.) Mill., from Colchester (61), Cumberland (61), Halifax (O-2442), Kings (KP-32; R-14,-370), and Pictou (22, 38) Co., N.S.; N.B. (O-1305); and P.E.I. (Baxter, 1945) [9(12)]. On *Cerastium arvense* L. from N.B. (O-2261) [9(14)]; on *C. vulgatum* L., from Cumberland Co., (O-4516) N.S.; on *Stellaria media* (L.) Cyrill., from Cumberland Co. (O-4511), N.S.; and on *Stellaria graminea* L., from Kings Co. (R-38), N.S. *Peridermium coloradense* (Diet.) Arth. & Kern. is much less common but does occur in the Maritime area. There is still much discussion as to whether or not it represents a separate species, for which reason it is treated separately under its aecial name.
- Melampsorium betulinum** (Pers.) Kleb. Reported on *Betula lutea* Michx. and on *B. populifolia* Marsh, from Pictou, N.S., by Fraser (22) and on the latter host, from N.S., by Arthur (1, 2).
- Milesia intermedia** Faull. On *Abies balsamea* (L.) Mill. and *Dryopteris spinulosa* (O. F. Müller) Underw., Guysboro, Co., N.S. (16, sub *Milesina Kriegeriana*) (Contribs. Arnold Arboretum, 2: 66), by Faull (No. 9272).
- **polypodophila** (Bell) Faull. On *Abies balsamea* (L.) Mill. and *Polypodium virginianum* L., from Liverpool and Creeper's Lake, N.S. (16; and Contribs. Arnold Arboretum, 2: 91), by Faull (No. 9265).
- Pucciniastrum Agrimoniae** (Schw.) Tranz. On *Agrimonia gryposepala* Wallr., from Morristown (R-56,-68), New Glasgow (20, 22), Pictou (38, sub *Uredo*), Kentville (KP-816), and Truro (61), N.S. Quite common, and no doubt throughout this region.

- Pucciniastrum americanum** (Farl.) Arth. This species is represented by many reports and collections on raspberry and *Rubus idaeus* L. var. *aculeatissimus* (Mey.) Regel & Tiling (*R. strigosus* Michx.), from N.S. (KP-126,-811,-824,-1172) (2, 9), Kings (KP-125; O-2074,-3714,-4996) and Pictou (22) Co., N.S.; P.E.I. (O-1309; R. R. Hurst) (9); and N.B. (9). It is also reported on *Picea glauca* (Moench.) Voss., from Westmoreland Co., N.B. [9(24)], and P.E.I. [9(19)].
- **arcticum** (Lagerh.) Tranz. Reported on *Rubus triflorus* Rich., from Truro, by Fraser (22) and from Glenmont (O-4991), by I. L. Connors, in N.S.; and from N.B., by Arthur (2). A report [9(5)], from P.E.I., on raspberry, is believed by Connors (in litt.) to be a misdetermination.
- **Galii** (Link) Fisch. On *Galium triflorum* Michx., from Cavendish, P.E.I. (O-4324), det. I. L. Connors.
- **Goeppertianum** (Kühn) Kleb. (*Calypsotheca Goeppertiana* Kühn, *C. columnaris* Kühn). This species is quite common throughout this area and causes a striking red-varnished, spindly witches'-broom on the *Vaccinium* spp. hosts. It is reported on *Abies balsamea* (L.) Mill., by Fraser (22) and Arthur (2), from N.S., and by Hurst (O-7664) [9(22)], from P.E.I.; on *Vaccinium* sp., from Colchester (61) Co. N.S.; on *V. canadense* Kalm, from Kings (KP-1117) Co., N.S.; on *V. pennsylvanicum* Lam., from Colchester (22), Kings (R-74,-85), Pictou (22), Victoria (O-5861), and Yarmouth (KP-1161) Co., N.S., N.S. (2, 22), and from P.E.I. (O-7664).
- **Myrtilli** (Schum.) Arth. (*Thekopsora Vacciniorum* Karst.). Reported on *Tsuga canadensis* (L.) Carr., from Colchester (22, 61), Kings (KP-556; O-3062) [9(13)] Co., N.S. and N.S. (2); on *Rhodora canadensis* L., from Kings (R-71) and Pictou (21) Co., N.S., and N.S. (2); on *Vaccinium pennsylvanicum* Lam., from Kings (R-70,-112) (20, 22), Pictou (21) Co., N.S., N.S. (2), and P.E.I. (Hurst); and on *V. Vitis-idaea* L. var. *minor* Lodd., from St. Peters, Richmond Co., N.S. (O-1737), which Faull (16) gives as a new host record from North America. Cultural experiments with this rust are described by Fraser (21).
- **Potentillae** Kom. This rust is reported by Arthur (2), on *Potentilla tridentata* Soland., from N.B.
- **pustulatum** (Pers.) Diet. Reported on *Abies balsamea* (L.) Mill., from Pictou, N.S., by Fraser (22) and from N.S., by Arthur (2); on *Clarkia elegans* Dougl. (O-4481) [9(17)], from P.E.I.; *Clarkia* sp., from Cumberland Co., N.S. (KP-626); *Epilobium adenocaulon* Haussk., from Colchester (22), Cumberland (O-4520), and Kings (R-89) Co., N.S., and P.E.I. (Hurst) [9(5)]; *E. angustifolium* L., from Colchester (22), Kings (R-356), and Pictou (22) Co., N.S.; *E. Hornemannii* Reichenb., from Pictou (22) Co., N.S.; and on *Godetia* [9(21)], from Fredericton, N.B. Cultural experiments are reported by Fraser (20).
- **Pyrolae** (Karst.) Schroet. Reported on *Pyrola elliptica* Nutt., from Colchester (61) and Pictou (22) Co., N.S., and from N.S. by Arthur (2) on *P. americana* Sweet (*P. rotundifolia* var. *americana* (Sweet) Fern.). Quite common on *Pyrola*.
- Uredinopsis mirabilis** (Pk.) Magn. (*U. americana* Syd.). On *Abies balsamea* (L.) Mill. (61), from N.S., on *Onoclea sensibilis* L., throughout N.S. (61, 22) (KP-540,-978; R-63) and on *Woodwardia virginica* (L.) J. Sm., from Waverley, N.S. (KP-975). Quite common and no doubt to be found in N.B. and P.E.I. also. Cultural observations reported by Fraser (21).
- **Osmundae** Magn. Collections from throughout N.S., on *Osmunda cinnamomea* L. (22, 61) (O-5126; R-96), *O. Claytoniana* L. (22, 61) (KP-980; R-57,-154), and *O. regalis* L. var. *spectabilis* (Willd.) A. Gray (22) (O-5166,-4948; R-97,-411). This rust is also common on these ferns and no doubt occurs throughout the Maritimes. Cultural observations reported by Fraser (21).
- **Phegopteridis** Arth. On *Dryopteris disjuncta* (Rupr.) Morton. (*Phegopteris Dryopteris* (L.) Fée), from Colchester (61) and Pictou (22) Co., N.S. Cultural connection reported by Fraser (21).
- **Struthiopteridis** Störmer. On *Pteritis nodulosa* (Michx.) Nieuwl. (*Onoclea Struthiopteris* (L.) Hoffm.) (22, 61), *Dryopteris (Aspidium) Thelypteris* (L.) A. Gray (22), and *Athyrium angustum* (Willd.) Presl. (*Asplenium Filix-femina* (L.) Bernh.) (22), from N.S. Also quite common in the other two provinces as well. Cultural observations by Fraser (21). The aecial stage of one of these *Uredinopsis* fern rusts is reported by MacKay (38) as *Peridermium balsameum* Pk.



## Pucciniaceae

- Frommea obtusa** (Strauss) Arth. (*Phragmidium Potentillae-canadensis* Diet.). On *Potentilla canadensis* L. and its var. *simplex* (Michx.) T. & G., from Annapolis (KP-598), Colchester (O-4936) (61), Kings (O-7741; R-62) and Pictou (22) Co., N.S., and from N.S. (2, 9), N.B. (O-4012), and P.E.I. [9(13)]. Abundant on this host.
- Gymnoconia Peckiana** (Howe) Trott. (*G. interstitialis* Lagerh.). There are reports and collections on blackberry, raspberry, and *Rubus* spp., from N.S. (O-4967, -4934; KP-50, -124, -625, -1136; R-1, -36, -409) (9, 61). More specific reports are on *Rubus allegheniensis* Porter from Kings Co., *R. glandicaulis* Blanch. from Pictou (22) Co., *R. hispidus* L. from Yarmouth (KP-1214), *R. idaeus* var. *aculeatissimus* (C. A. Mey) Regel & Tiling from Pictou (38) Co., N.S., and on *R. Randii* (Bailey) Rydbg., from N.S.; on *Rubus* spp. (O-2749) (9) and *R. triflorus* Rich. [9(6, 10)], from N.B.; and on *Rubus* spp. (O-2289) (9) and *R. canadensis* L. [9(14)], from P.E.I. None of these collections of the orange rust of *Rubus* were tested for the germination of the aeciospores, to determine the possible presence of *Kunkelia nitens* (Schw.) Arth. Fraser (22) reports the telial stage of this rust on *Rubus glandicaulis*, from N.S.
- Gymnosporangium aurantiacum** Chev. MacKay (37) reports a collection of this species, under the name of *G. Juniperi* Link, from Sackville, N.S., by Prof. G. Lawson. Arthur (2) reports it, on *Sorbus americana* Marsh., from N.B.
- **clavariaeforme** (Jacq.) DC. The reports and collections of this rust are as follows: on *Juniperus communis* L., from Kings (KP-13, -99, -186; R-10) (9) Co., N.S. and on its varieties *canadensis* [9(6)] and *depressa* Pursh (O-3604) [9(14)], from N.S.; *Amelanchier canadensis* (L.) Medic. (2), from N.S.; *A. laevis* Wieg. from Kings (R-365, -367), *A. stolonifera* Wieg. from Kings (KP-1106), *Amelanchier* sp., from Lunenburg (22), *Cydonia oblonga* Mill., from Kings (KP-194; O-4509) [9(16)], and *Pyrus communis* L., from Kings (KP-1062; O-5857) [9(19)] Co., N.S.; on *Juniperus communis* (O-5528) and its variety *hibernica* Gord. [9(19)], and on *Crataegus Oxycantha* L. var. *rosea* (O-2288) (9), from P.E.I. The *Roestelia lacerata* Fr., reported by Somers (55d) and Lawson (37), from N.S., may belong either to this species or *G. aurantiacum* (also reported by Lawson), according to Fraser (22).
- **clavipes** Cke. & Pk. The numerous reports (2, 9, 61) and collections of this species include the following hosts. From N.S., on *Juniperus communis* L. (O-5923) (61) and its varieties *depressa* Pursh (O-3605) (9) and *hibernica* Gord. (KP-12, -350), on *Amelanchier* sp. (O-4985, -3499), *A. canadensis* (L.) Medic. (KP-20, -261; O-5123) [9(7)], *A. spicata* (Lam.) C. Koch (KP-882, sub *A. rotundifolia*), *Aronia melanocarpa* (Michx.) Ell. (KP-905), *Crataegus* sp. (KP-47, -105, -987; O-3785; R-93), *C. Oxycantha* L. (O-4986; R-358), *Cydonia oblonga* Mill. (KP-358; O-4935) (9), *Malus pumila* L. (KP-103, -690) (9), *Pyrus angustifolia* Ait. (KP-764), *P. communis* L. [9(21)], *Sorbus* sp. (O-5858) [9(19)], *S. Aucuparia* L. (KP-1104); from N.B. on *Amelanchier* sp. [9(13)], *A. intermedia* Spach. (2), *A. canadensis* (O-2070), and *Aronia arbutifolia* (L.) Ell. (2); and from P.E.I., on *Crataegus* sp. [9(5, 9)].
- **Juniperi-virginianae** Schw. This rust has been reported only once [9(4)], on apple. J. F. Hockey (in litt.) states that the apple rust in N.S. is caused by *G. clavipes*, and inasmuch as there is no collection as a basis for this report, it is probably based upon a misdetermination.
- Kuehneola Uredinis** (Link) Arth. (*Kuehneola albida* Magn.). On *Rubus* spp., from Kings (R-11, -128) and Lunenburg (R-95), on *R. hispidus* L., from Pictou (22), and *R. triflorus* Rich. (W-1620, det. E. B. Mains) from Colchester Co., N.S.; and on raspberry (9) and *R. triflorus* (2), from N.S.
- Nyssopora clavellosa** (Berk.) Arth. (*Triphragmium clavellum* Berk.). On *Aralia nudicaulis* L., from Colchester (W-1625, -1625a), Hants (KP-647; O-1881), and Pictou (22) Co., N.S.; reported on this same host from N.S. and N.B. by Arthur (1, 2). Very common on this host.
- Phragmidium americanum** (Pk.) Diet. On *Rosa* spp. from Colchester (61), Kings (KP-53, -123, etc.), and Pictou (22) Co. and from various other localities (9) in N.S. On *R. carolina* L., from Morristown (R-110), N.S., *R. virginiana* Mill., from N.S. (2), and Kings Co. (R-111), N.S.; and on *Rosa* spp. from N.B. [9(16)]. Fraser (22) states that the *P. subcorticium*, on *Rosa blanda* Ait. and *Rosa* spp., of MacKay's list is this species. This species is very common on wild roses and no doubt is to be found throughout the Maritime Provinces.



- Phragmidium Andersoni** Shear. This species is reported by Arthur (2), on *Potentilla fruticosa* L., from N.B.
- **disciflorum** (Tode) J. F. James. On *Rosa* spp., from Amherst [9(22)], Annapolis Royal (O-det. J. Dearness), Halifax (O-2708), Kentville (KP-836; O-3655) [9(14)], and Yarmouth (KP-766), N.S.; and Fredericton (O-1676), N.B. It is reported on the same host, from N.B., by Arthur (2).
- **Fragariastris** (Schroet.) Plowr. On *Potentilla* sp. from Colchester Co. [9(5)], N.S. Not reported by Arthur from North America; in the absence of a specimen, this is a doubtful record.
- **Potentillae** (Pers.) Karst. On *P. procumbens* Sibth., from Kentville (KP-294), N.S.; and on *Potentilla* sp., from York Co. [9(10)], N.B.
- **Rubi-idaei** (DC.) Karst. (*P. imitans* Arth.). On *Rubus* sp. (R-399) from Digby Co., N.S., on *R. idaeus* L. var. *aculeatissimus* (C. A. Mey) Regel & Tiling, from N.S. (2, 22), and on *R. idaeus* var. *aculeatissimus*, from N.B. (2).
- **speciosum** (Fr.) Cke. On *Rosa* spp., from Kings (KP-427, 438), Pictou (22) (KP-649; O-1882) Co., and various other localities (9, 28) in N.S.; and from N.B. [9(7-8)]. On *R. virginiana* Mill., from Kings Co. (O-4955; R-15), N.S., and N.S. (2); *R. blanda* Ait. (2) and *R. carolina* L., from Pictou (O-7750), N.S.
- **subcorticium** (Schrank) Wint. This species has been reported, on *Rosa* spp., by Hockey [9(23)], from N.S., and under the name of *P. subcorticium*, by Halsted and Kelsey (28) and MacKay (38), from N.S.; and from P.E.I. [9(16)]. Fraser (22) says that MacKay's material (on *Rosa blanda*) is *P. americanum*.
- Pileolaria Toxicodendri** (Berk. & Rav.) Arth. Collected on *Rhus Toxicodendron* L., from Gaspareaux, N.S., by Roland (O-4943).
- Puccinia Acetosae** (Schum.) Körn. On *Rumex Acetosella* L., from Pictou (22) and Morristown (R-3), N.S.
- **Andropogonis** Schw. var. **Melampyri** Arth. On *Melampyrum lineare* Lam., from Oxford, N.S. (KP-854). The variety *Onobrychidis* (Burr.) Arth. is reported by Arthur (2), on *Lupinus perennis* L., from N.S.
- **angustata** Pk. Reported from N.S., on *Scirpus* sp., from Colchester (61); *S. cyperinus* (L.) Kunth., from Pictou (22) and its variety *pelius* Fern., from Kings (R-81) and Inverness (R-406); *S. pedicellatus* Fern., from Colchester (61); *S. rubrotinctus* Fern., from Colchester (61) and Pictou (22); *Lycopus americanus* Muhl., from Pictou (22); *L. uniflorus* Michx., from Kings (R-14) and Pictou (22) Co.; and on *Mentha arvensis* L. from N.S. (2). From N.B., on *Lycopus uniflorus* (2); and from P.E.I. on *Lycopus uniflorus* [9(5, 14)] and *L. virginicus* L. [9(11)].
- **anomala** Rostr. On *Hordeum vulgare* L., from Morristown (KP-1296), N.S.; Fredericton (O-4529) and Millstream (O-5509), N.B.; and P.E.I. (Hurst). Reported from all three provinces (9) as the leaf rust of barley.
- **Antirrhini** Diet. & Holw. There are several reports of this rust, on *Antirrhinum* from N.S. [9(5,10)]; and N.B. [9(5,9,10)].
- **Arenariae** (Schum.) Wint. (*P. Spergulae* DC.). Reported on *Arenaria peploides* L. by Arthur (2) and from Digby (O-5161; R-370) and Pictou (61) Co., and on its variety *robusta* from Digby (O-4940) Co.; on *Spergula arvensis* L., from Cumberland (O-4992) and Kings (KP-261; R-368) Co., N.S.; and on *Spergula arvensis* and *Stellaria media* (L.) Cyrill [Hurst, 9(5)], from P.E.I. Fraser's report (22) of *Puccinia Glaucis* Arth. (*P. Dayi* Clint. in 1, p. 553) on *Glaux maritima* is a mistaken host identification and should be this species on *Arenaria peploides* L., according to Arthur (2, p. 169).
- **Asparagi** DC. On cultivated asparagus from N.S. (9) (KP-1130, 1145), N.B. (9), and P.E.I. (9).
- **Asteris** Duby. On *Aster* spp., from N.S. (61) (KP-259; O-1880) and N.B. [9(5)]; and on *A. acuminatus* Michx. (22) (KP-890; O-4970; R-91), *A. lateriflorus* (L.) Britt. (22), and *A. macrophyllus* L. (22, 38, 61) (KP-842; O-4964, -5125; R-364), from N.S. Common throughout this area.

- Puccinia Bardanae** (Wallr.) Corda. On *Arctium Lappa* L., from Pictou (22) and Kentville (KP-367); and on *A. minus* (Hill) Bernh., from Aylesford (O-4962) and Morristown (R-67), N.S. Arthur (2) says that records on *A. Lappa* are misdeterminations of the host species.
- **Bolleyana** Sacc. (*P. Sambuci* Arth.). Reported on *Sambucus canadensis* L., and *Carex lurida* Wahl., by Fraser (22), from Pictou Co., and on *C. intumescens* Rudge, by Arthur (2), from N.S.
- **Caricis** (Schum.) Schroet. (*P. Pringsheimiana* Kleb., *P. albiperidia* Arth., *P. Grossulariae* Lagerh.). This species under its various synonyms, has been reported from N.S., on *Carex* and *Ribes* hosts. Both the varieties *grossulariata* Arth. and *uniporula* (Ort.) Arth. are present but are not always indicated on collections or reports. The variety *urticata* (Kern.) Arth., on Urticaceae, has not been reported. The species has been reported on *Ribes* (*Grossularia*) *hirtellum* Michx. (1, 2), *R. glandulosum* Grauer (*R. prostratum* L'Hér.) (1, 2, 22), *R. lacustre* (Pers.) Poir. (R-Antigonish), *R. oxyacanthoides* L. (22), *R. sp.* (O-Yarmouth, June 12, 1931), *Carex arclata* Boott (1, 22), *C. brunnescens* (Pers.) Poir. (1), *C. crinita* Lam. (22), *C. debilis* Michx. var. *Rudgei* Bailey (22), *C. disperma* Dewey (1), *C. flexuosa* Muhl. (1), *C. intumescens* Rudge (1, 22), *C. paleacea* Wahl. (*C. maritima* Muell.) (1, 22) (O-5360), *C. pallescens* L. (1) (O-5926), *C. plantaginica* Lam. (1), *C. scabrata* Schw. (1), and *C. sp.* (61), from N.S.; on *C. arclata* Boott (R. R. Hurst), from P.E.I.; and on gooseberry and currant (9) from all three provinces. Fraser (20) has reported infection experiments between *Ribes* and *Carex* hosts, made in Nova Scotia.
- **Cicutae** Lasch. Reported on *Cicuta maculata* L., from Colchester (61) (O-4965), Kings (KP-563), and Pictou (38, 22) (R-142) Co., N.S.; and by Arthur (2), from N.S.
- **Circaeae** Pers. On *Circaea alpina* L. (2, 22) (O-5225), *C. canadensis* Hill (A. Roland), and *C. quadrisulcata* (Maxim.) Franch. & Sav. var. *canadensis* (L.) Hara (*C. lutetiana*) (2, 22), and *Circaea* sp. (38, 61), from N.S.
- **Cnici** Mart. Collected by A. Roland on *Cirsium vulgare* (Savi) Airy-Shaw (*C. lanceolatum* (L.) Hill), in Digby (O-4950; R-404), Lunenburg (O-4956; R-381), and Kings (R-12) Co., N.S.
- **Comandrae** Pk. This species is reported by Arthur (2) on *Comandra umbellata* (L.) Nutt., from P.E.I.
- **Convolvuli** (Pers.) Cast. On *Convolvulus sepium* L., from Kings Co., N.S. (KP-981; R- ?); and Wellington Centre, P.E.I. (O-7754, det. I. L. Connors.).
- **coronata** Corda. There are numerous reports (9) of the crown rust of oats from all three provinces on both *Avena* and *Rhannus*. In addition there are the following reports and collections: on *Rhannus alnifolia* L'Hér., from N.B. [9(22)]; on *R. cathartica* L. from N.S. (22) (KP-23,-945), N.B. [9(20)], and P.E.I. [9(20)]; on *R. Frangula* L., from N.B. (O-7637) [9(20)]; on *Agropyron repens* (L.) Beauv., from N.S. (KP-542); on *Avena sativa* L. from N.S. (O-4963,-4980,-5092,-5852; KP-133,-293) (22, 38), N.B. (O-3417,-4927,-4981,-5104,-7529), and P.E.I. (Hurst); and on *Calamagrostis canadensis* (Michx.) Beauv. from N.S. (R-86) (2, 22).
- **Cyani** (Schleich.) Pass. On *Centaurea Cyanus* L., by J. F. Hockey (KP-1008), from Kentville, N.S.
- **Distichlidis** Ell. & Ev. On *Spartina pectinata* Link., from Kentville, N.S., by J. F. Hockey (KP-411).
- **Eleocharidis** Arth. On *Eupatorium perfoliatum* L. (22) and *E. purpureum* L. (2), from N.S. Fraser (22) states that the telial stage on *Eleocharis* has not been collected, but inasmuch as these hosts are present and the rust has been collected on them in nearby Maine, it is probably present in Nova Scotia also.
- **extensicola** Plowr. (*P. Caricis-Asteris* Arth., *P. Caricis-Solidaginis* Arth., etc.). This species is reported by Roland (R-53) on *Carex* sp. and by Arthur (1) on *Carex Deweyana* Schw., *C. scoparia* Schlecht., *C. stipata* Muhl., *C. tribuloides* Wahl., *C. trisperma* Dewey, and *Aster umbellatus* Mill., from N.S. Reports identified as to variety are as follows:
- var. **Asteris** (Thüm.) Arth. On cultivated *Aster* (KP-1098) and *Aster acuminatus* Michx. (61), from N.S. Cultural connections between *Aster acuminatus* and *Carex trisperma* Dewey were made by Fraser (20), in N.S.

- Puccinia extensicola** var. **euthamii** Arth. Reported by Arthur (2), from N.S., on *Carex scoparia* Schk. Cultural connections between this *Carex* and *Solidago graminifolia* (L.) Salisb. were made by Fraser (20.) Also reported, by Fraser (22), on *Carex stipata* Muhl.
- var. **hieraciata** (Schw.) Arth. Reported by Fraser (22, sub *P. Opizii* Bub.) on *Lactuca spicata* (Lam.) Hitchc., its variety *integrifolia* (Gray) Britt., and *L. canadensis* L., from Pictou, N.S.
- var. **Solidaginis** (Schw.) Arth. On *Solidago* sp. (61), *S. altissima* L. (KP-42), *S. puberula* Nutt. (KP-426), and *S. rugosa* Mill. (R- June, 1934), from N.S. Fraser (22) reports *Aecidium Compositarum* var. *Solidaginis*, which is probably the aecial stage of this variety, on *S. canadensis* L. and *S. rugosa* Mill., from N.S. The cultural connection between *Carex stipata* Muhl. and *Solidago (rugosa ?)* was made by Fraser (20).
- **Festucae** (DC.) Plowr. Arthur (2) reports this species from the island of Grand Manan, N.B., on *Lonicera caerulea* L.
- **Fraseri** Arth. On *Hieracium* sp. (61), *H. pratense* Tausch. (R-324), and *H. scabrum* Michx. (2, 61) (O-4966), from N.S. The type material of this species was collected on *H. scabrum*, by Fraser, at Pictou, N.S., and reported in his list (22) as *P. bicolor* Ell. & Ev.
- **graminis** Pers. The numerous reports and collections of the stem rust of wheat may be classified by host and province as follows: on *Agropyron repens* (L.) Beauv., from N.S. (9, 22) (KP-84,-387,-1124), N.B. (9) (O-5086,-5094), and P.E.I. (9); on *Agrostis alba* L., from N.S. (9, 22, 61) (KP-392,-814,-815), and P.E.I. [9(12)]; on *A. palustris* Huds., from N.S. (2), and N.B. [9(10)]; on *A. perennans* (Walt.) Tuckerm., from N.S. (2); on *A. stolonifera* L., from N.S. [9(7)]; on *Anthoxanthum odoratum* L., from N.S. (2); on *Arrhenatherum elatius* (L.) Mert. & Koch., from P.E.I. (O-2292) [9(14)]; on *Avena fatua* L., from P.E.I. [9(5, 9)]; on *A. sativa* L., from N.S. (9, 22) (KP-85,-86,-128; O-4305,-5090, R-87); on *Dactylis glomerata* L., from P.E.I. (9) (O-5853); on *Hordeum jubatum* L., from N.S. (22), and P.E.I. [9(5, 9)]; on *H. vulgare* L., from N.S. (9, 22), N.B. (9), and P.E.I. (9); on *Poa* sp., from N.S. (61); on *Secale cereale* L., from N.S. (9, 22), and N.B. (9) (O-5843); on *Triticum aestivum* L., from N.S. (9, 22 (as on *Agropyron vulgare*), 38) (O-5854), N.B. (9) (O-5475), and P.E.I. (9); and on *Berberis vulgaris* L., from N.S. (9, 22) (KP-298,-785,-1133; O-907), N.B. (9) (O-5513), and P.E.I. (9).
- var. **Phlei-pratensis** (Erikss. & Henn.) Stak. & Piem. On *Phleum pratense* L., from N.S. (9, 22, 61) (KP-52,-813; R-114,-117); N.B. (O-4335); and P.E.I. (9).
- **Grindeliae** Pk. On *Solidago* sp., Truro, N.S. (61), det. E. B. Mains.
- **Helianthi** Schw. Reported on *Helianthus* sp. (O-4960), from Halifax Co.; on *H. annuus* L. (KP-363) and *H. tuberosus* L. (9) (KP-823), from Kings Co., N.S.; on Jerusalem artichoke (9(20)), from N.S.; and on sunflower, from N.S. (9), and N.B. (9).
- **Hieracii** (Schum.) Mart. (*P. Cichorii* (DC.) Bell., *P. Taraxaci* Plowr.). This species has been reported on *Cichorium Intybus* L., from Kings (R-118), and Pictou (22) Co., N.S. and from N.S. (2); on *Hieracium* sp., from Colchester (61) Co., N.S., and from P.E.I. [9(5)]; *H. canadense* Michx., from Cape Breton (22), N.S.; *H. scabrum* Michx., from Pictou (22) Co., N.S. and from N.S. (2); on *Leontodon autumnale* L., from Kings (R-90), Pictou (22) Co., N.S., and from N.S. (2), N.B. [9(5)], and P.E.I. (R. R. Hurst) (9); on *Taraxacum* sp., from Colchester (61), Hants (KP-9431), and Kings (KP-136,-296; R-23) Co., N.S.; *T. vulgare* (Lam.) Schr. (*T. officinale* Weber), from Cumberland (O-1897), Kings (KP-1175), and Pictou (22, 38) Co., N.S., and from N.S. (2), and P.E.I. (R. R. Hurst); *T. erythrospermum* Andr., from Kings (KP-868) and Lunenburg (O-4506) Co., N.S.; and on *T. kok-saghyz* Rod., from N.S. [9(23)].
- **Iridis** (DC.) Wallr. On *Iris versicolor* L., from Digby (O-4930), Hants (R-Aug., 1935), Inverness (O-4938), and Kings (R-122, July 1934) Co., N.S., and from N.S. (2), and N.B. (9) (O-3143); and on *Iris* sp., from Colchester (61), Co., N.S., and from P.E.I. [9(16)].
- **karelica** Tranz. On *Trientalis borealis* Raf. (*T. americana* (Pers.) Pursh), from Pictou (22) and on *Carex paupercula* Michx., from Pictou (22) and Folleigh Lake (22), N.S. Also reported on these hosts by Arthur (2).
- **Limosae** Magn. On *Lysimachia ciliata* L., Truro, N.S., by A. Roland, June 12, 1940.
- **Linkii** Klotzsch. On *Viburnum trilobum* Marsh., from Kings (KP-1339) [9(23)] Co., N.S.
- **Malvacearum** Bert. Reported on *Althea rosea* (L.) Cav., from Colchester (A. R. Prince, Univ. Mich. Herb.), Cumberland (R-369), Inverness (O-4945), Kings (R-150), and Lunen-

- burg (KP-28) Co., N.S.; N.B. (9); and P.E.I. (9). Also on *Malva neglecta* Wallr. (R-149) and *M. rotundifolia* L. (KP-366,-907) (9), from Kings Co., N.S.
- Puccinia Mariae-Wilsoni** G. W. Clint. (*P. claytoniata* (Schw.) Syd.). On *Claytonia* sp. (22), *C. caroliniana* Michx. (leg. A. Roland, 1941, det. L. E. Wehmeyer), and *C. virginica* L. (38), from N.S.
- **marylandica** Lindr. Reported by Arthur (2), on *Sanicula* sp., from N.S.
- **McClatchieana** Diet. & Holw. Reported by Arthur (2), on *Scirpus rubrotinctus* Fern., from N.S.
- **Menthae** Pers. On *Lycopus* sp., from Queens Co. (KP-1099); *Mentha* sp., from Colchester (KP-143), and Pictou (38) Co., and from other localities (9); on *M. arvensis* L., from Kings Co. (R-64,-77,-114); *M. arvensis* var. *canadensis* (L.) Briquet, from Pictou Co. (22); *M. piperita* L., from Digby Co. (O-5116); and *M. spicata* L., from Guysboro Co. (leg. MacPhae, det. E. B. Mains) from N.S.; and on *Mentha* sp., from York Co., N.B. [9(5)]. Also reported, by Arthur (2), on *M. arvensis* and *M. canadensis* L., from N.S.
- **mesomajalis** Berk. & Curt. (*P. mesomegala* Berk. & Curt.). On *Clintonia borealis* (Ait.) Raf., from Coldbrook (KP-1354), Morristown (R-7,-39), Pictou (22), and Truro (W-1526; det. E. B. Mains), N.S. Reported on the same host, by Arthur (2), from N.S.
- **Millefolii** Fck. Collected, on *Achillea Millefolium* L., by J. F. Hockey (KP-1173), from Coldbrook, Kings Co., N.S.
- **obscura** Schroet. Reported by Fraser (22) on *Luzula campestris* (L.) DC. var. *multiflora* (Ehr.) Celak, from New Glasgow, and on *L. saltuensis* Fern., from New Glasgow, French River, and Truro, N.S.
- **obtegens** (Link) Tul. (*P. suaveolens* Rostr.). Reported on *Cirsium arvense* (L.) Scop., from Cape Breton (O-1212), Colchester (22) (W-1543), Digby (O-5121), Kings (KP-176; R-27,-73), and Pictou (22, 38) Co., N.S.; N.B. [9(6, 9)]; and P.E.I. [9(5, 6)]; and on *C. lanceolatum* (L.) Hill, from Pictou Co., N.S.
- **Oenotherae** Vize. Collected on *Oenothera* sp., by J. F. Hockey (KP-519), from Kentville, N.S.
- **Onopordi** Syd. On *Onopordum Acanthium* L., by Fraser (22), from Pictou, New Glasgow, and French River, N.S. This is apparently the only report of this species from North America (2).
- **orbicula** Pk. & Clint. On *Prenanthes altissima* L., from Colchester (22), Inverness (O-4953), and Pictou (22, 38) Co., N.S.; N.S. (2); and from P.E.I. [9(5)]. On *P. alba* L. from Kings (KP-914) Co., N.S.; *P. trifoliata* (Sacc.) Fern., from Cumberland (KP-819; R-363) Co., N.S.; and on *Prenanthes* sp., from Kings (KP-1153) Co., N.S.
- **ornata** Arth. & Holw. On *Rumex (britannica* L. ?), from Colchester Co., N.S. (61), det. E. B. Mains.
- **peridermiospora** (Ell. & Tracy) Arth. (*P. sparganioides* Ell. & Barth.). Reported on *Fraxinus*, from N.S. (9) and collected on *F. americana* L., from Kings (KP-543) Co., and on *F. nigra* Marsh., from Kings (KP-1112; O-5783), and Queens (KP-1045) Co., N.S.
- **Pimpinellae** (Str.) Mart. On *Osmorhiza Claytoni* (Michx.) Clarke (O-4947,-5222; det. I. L. Connors), from N.S.
- **Poae-sudeticae** (West.) Jørst. On *Anthoxanthum odoratum* L. (R-46, fide J. R. Hardison) and *Tussilago Farfara* L. (O-5155,-5164; det. I. L. Connors), from N.S. The *P. Anthoxanthi* Fck. of Fraser's (22) list is this species.
- **Poarum** Niels. This species is reported on *Tussilago Farfara* L., from N.S., by Arthur (2) and has been collected on that host (O-4931,-5155,-5164) from N.S.
- **Polygoni-amphibii** Pers. var. **Persicariae** (Str.) Arth. On *Polygonum Hartwrightii* Gray (*P. amphibium* am. auct.), from N.S. (2) and from Pictou (22), and Lunenburg (O-4951; R-391) Co., N.S.; and the variety *Convolvuli* (Alb. & Schw.) Arth. and on *P. Convolvulus* L., from Kings (KP-830) Co., N.S.
- **porphyrogenita** Curt. (*P. acuminata* Pk.). On *Cornus canadensis* L., from Colchester (22), Kings (KP-419), and Pictou (22, 38) Co., N.S. [2, 9(7)]; and P.E.I. [9(14)].
- **punctata** Link. On *Galium* sp., from N.S. (61) and P.E.I. (O-2291); on *G. asprellum* Michx., from N.S. (2, 22) and P.E.I. (O-3541) [9(14)]; on *G. palustre* L., from P.E.I. [9(5)]; and on *G. triflorum* Michx., from N.S. (KP-885).
- **rubefaciens** Johans. Reported on *Galium boreale* L. [9(14)], from Kentville, N.S.



- Puccinia rubigo-vera** (DC.) Wint. The leaf rust is widely distributed on many hosts throughout the Maritime area. There is much yet to be determined concerning host reactions in this difficult complex of host forms and definite placement as to varietal groups can be determined only by infection experiments. Unless records definitely refer collections to one of the several varieties, or this is obvious from the host, they are listed here under the species. The synonym to which such collections were referred are indicated to aid in the placement of these records. The species is recorded from the following hosts: from N.S., on *Agrostis alba* L. (22, sub *P. perminuta* Arth.), *Agropyron repens* (L.) Beauv. (22, sub *P. agropyrina* Erikss.; 61) (O-4512; R-80 (sub *P. Clematidis* Lagerh.)), *Alopecurus pratensis* L. (22, sub *P. perplexans* Plowr.), *Bromus ciliatus* L. (22, sub *P. tomipara* Trel.), *Clematis virginiana* L. (22, sub *P. tomipara*) (R-July, 1933, sub *P. Clematidis*), *Hordeum jubatum* L. (R-79, sub *P. Clematidis*), *Puccinellia maritima* (Huds.) Parl. (22, sub *P. cinerea* Arth.), *Ranunculus acris* L. (22, sub *P. perplexans*), *R. Cymbalaria* Pursh (22, sub *P. cinerea*), *Secale cereale* L. (9, sub *P. secalina* Grove), *Thalictrum polygamum* Muhl. (Univ. Mich. Herb., det. E. B. Mains), and *Triticum aestivum* L. (*Agropyron vulgare*) (9, 22 (sub *P. triticea* Erikss.), 38); from N.B., on *Triticum aestivum* (9, sub *P. triticea*) and *Secale cereale* L. (9, sub *P. secalina*); and from P.E.I., on *Agropyron repens* [9(5), sub *P. agropyrina*], *Ranunculus acris* (R. R. Hurst, sub *P. perplexans*), and *Triticum aestivum* (9, sub *P. triticea*).
- var. **agropyrina** (Erikss.) Arth. From N.S., on *Alopecurus pratensis* L., *Bromus ciliatus* L., *Ranunculus acris* L., and *R. Cymbalaria* Pursh, by Arthur (2) (probably the same as Fraser's records as given under the species); and from P.E.I., on *Ranunculus acris* [9(6)].
- var. **Impatiens** (Arth.) Mains. From N.S., on *Agrostis alba* (R-52), *A. perennans* (Walt.) Tuck. (2), and *Impatiens biflora* Walt. (R-June, 1940).
- var. **Secalis** (Erikss.) Carl. On rye, from N.S. (9) (O-3979; KP-889,-1156; R-25); N.B. (9) (O-4976); and P.E.I. (9).
- var. **Tritici** (Erikss. & Henn.) Carl. On wheat, from N.S. (9) (KP-58,-76,-83); N.B. (9) (O-5855); and P.E.I. (9) (O-5102).
- **sessilis** Schneid. On *Convallaria majalis* L. (KP-938), from Kentville, N.S.; on *Maianthemum canadense* Desf., from Colchester (61), Kings (KP-342,-775,-944), and Pictou (38) Co., N.S.; on *Polygonatum biflorum* (Walt.) Ell. (KP-1079), from Kentville, N.S.; and on *Phalaris arundinacea* L. (KP-1271), from Kentville, N.S.
- **Seymouriana** Arth. On *Apocynum androsaemifolium* L. (KP-949) and *Spartina pectinata* Link (*S. Michauxiana* Hitchc.) (KP-947,-993), from Middleton, N.S., by J. F. Hockey.
- **Sorghii** Schw. (*P. Maydis* Bereng.). On corn (*Zea Mays* L.), from N.S. (22) (KP-996); N.B. [9(6)]; and P.E.I. (9).
- **variabilis** Grev. On *Taraxacum officinale* Weber, from Kentville (O-3619), French River (22), and Pictou (22) Co., N.S.; and Queens Co., P.E.I. [9(6)]. Introduced into Nova Scotia from northern Europe (2); not reported elsewhere in America.
- **Violae** (Schum.) DC. On *Viola* sp., from Hants (KP-942), Kings (61) (KP-15,-260,-1154; R-6,-40,-41,-42,-84), Lunenburg (R-94), and Pictou (38) Co., N.S.; N.S. [9(6)]; N.B. [9(7, 10)]; and P.E.I. [9(5)]. Also on *V. cucullata* Ait., from Colchester (61), and Pictou (38); *V. fimbriatula* J. E. Sm., from Kings (R-55); *V. pallens* (Banks) Brain., from Kings (O-1214) Co., N.S.; and on *V. septentrionalis* Greene (2), from N.S. Very common on this host genus.
- **Virgaureae** (DC.) Lib. Reported by Arthur (2), on *Solidago puberula* Nutt., from N.S.
- Tranzschelia Thalictri** (Chev.) Diet. (*Puccinia Thalictri* Chev.). On *Thalictrum polygamum* Muhl., from Colchester (61), Digby (O-4968), and Kings (KP-979) Co., and on its variety *hebecarpum* Fern., from Colchester (22) Co., N.S.
- Uromyces acuminatus** Arth. (*U. Spartinae* Farl.). The telial hosts upon which the species is reported are *Spartina* sp., from Pictou (9(14)) (O-3614); *S. alternifolia* Lois. var. *glabra* (Muhl.) Fern., from Pictou (2, 22); *S. patens* (Ait.) Muhl., from Pictou (22); and *S. pectinata* Link (*S. Michauxiana* Hitchc.), from Colchester (61), Kings (KP-909; R-121), and Pictou (2, 22) Co., N.S. Fraser (20) reports cultural connections between the form on *Spartina pectinata* and *Arenaria lateriflora*, and between that on *S. alternifolia* and *S. patens* and *Spergularia canadensis*. Reports of aecial hosts are distributed between the two following varieties.

- Uromyces acuminatus** var. **Spartinae** (Farl.) Arth. On *Spergularia canadensis* (Pers.) Don., from Pictou, N.S. (2, 22); and P.E.I. (R. R. Hurst). Also on *Arenaria lateriflora* L. (2, 22) from N.S.
- var. **magnatus** (Arth.) J. J. Davis. On *Maianthemum canadense* Desf., from N.S. (2) (R-365).
- **americanus** Speg. Cummins (Mycologia, 27: 610) has pointed out that the *Uromyces* on *Scirpus validus* Vahl. is a species distinct from *U. Scirpi*. Fraser's (22) report, therefore, of *U. Scirpi* on this host, from Pictou, N.S., should be placed under this species.
- **Caladii** (Schw.) Farl. (*U. Arisaemae* Cke.). Reported on *Arisaema triphyllum* (L.) Schott, from Colchester (22, 61), Kings (KP-860; R-16), Pictou (22, 38) Co., N.S.; N.S. (2); and N.B. [9(10)]. Also on *Arisaema Stewardsonii* Britt. (R-June, 1940), from Cumberland Co., N.S.
- **caryophyllinus** (Schroet.) Wint. Reported (9) from all three provinces on carnation. Frequent in greenhouses according to J. F. Hockey (KP-990).
- **Dactylidis** Otth. (*U. Poae* Rabh.). On *Ranunculus repens* L., from Kings (KP-939; O-4937) and Pictou (2, 22) Co., N.S., and on *Dactylis glomerata* L., from Kings (KP-821; R-Sept., 1935) [9(15)] and *Poa trivialis* L., from Colchester (61) and Pictou (2, 22) Co., N.S.
- **Fabae** (Pers.) de Bary. On *Pisum sativum* L., from N.S. (R-109); N.B. [9(10)]; and P.E.I. [9(14, 17, 18)]. Also on *Vicia Cracca* L., from Colchester (61), Kings (KP-878; R-69), Lunenburg (KP-1080), and Pictou Co. (22), N.S.; and N.S. (2, 9(19)).
- **Geranii** (DC.) Fr. Collected on *Geranium pratense* L., near Brackley Point, P.E.I. [9(21)] (O-7662, det. I. L. Connors), by R. R. Hurst; and on *Geranium* sp., from N.B. [9(22)] (O-12176).
- **houstoniatus** (Schw.) Sheldon. On *Houstonia caerulea* L., from Fox River, Cumberland Co., N.S., July, 1941, leg. A. Roland, det. L. E. Wehmeyer.
- **Hyperici** (Spreng.) Curt. (*U. Hyperici-frondosi* Arth., *U. triquetrus* Cke.). The reports of this species, all of which are from N.S., are as follows: on *Hypericum* sp., from Colchester (61), Digby (O-4961; R-387), Inverness (O-4946; R-407), and Pictou (R-362) Co.; on *H. boreale* (Britt.) Bickn., from Inverness (O-5220) Co.; on *H. canadense* L., from Kings (R-108) and Pictou (22) Co.; on *H. ellipticum* Hook., from Colchester (22) and Pictou (22) Co.; and on *H. virginicum* L., from Pictou (2, 22) (KP-818) Co.
- **Junci** (Desm.) Tul. Reported [9(6)] from P.E.I., on *Juncus balticus* Willd.
- **Junci-effusi** Syd. Reported on *Juncus filiformis* L. by Fraser (22), from Pictou, N.S., and by Arthur (2), from N.S.
- **Limonii** (DC.) Lév. Along shores and beaches, on *Limonium carolinianum* (Walt.) Britt., from Colchester (61), Kings (KP-904; O-5226; R-146), and Pictou (22) Co., N.S.; N.S. [2, 9(7)]; N.B. (18) (O-1935); and P.E.I. [9 (5, 10)].
- **Peckianus** Farl. On *Atriplex patula* L. and its var. *hastata* (L.) Gray and *Distichlis spicata* (L.) Greene, from N.S. (22). Fraser (19, 20) made successful inoculations, with teliospores from *Distichlis*, on *Atriplex* and *Chenopodium album* L. He also collected aecia on *Salicornia europea* L. and *Suaeda maritima* (L.) Dumort. He obtained some aecial infection on the former host but not on the latter, nor on *Spergularia canadensis* (Pers.) Don. Arthur (1) reports aecia on *Suaeda maritima*, from N.S.
- **perigynius** Halst. This species has been reported (1, 22, 61) from N.S. (chiefly from Colchester and Pictou Co.) on the following hosts: *Solidago bicolor* L. (22), *Solidago* spp. (22), *Carex deflexa* Hornem. (22), *C. flava* L. (1, 22), *C. intumescens* Rudge (1, 22), *C. nigromarginata* Schw. (1), *C. novae-angliae* Schw. (1, 22), *C. pennsylvanica* Lam. (1), *C. scoparia* Schkuhr. (1, 22, 61), *C. tribuloides* Wahl. (22) and its variety *reducta* Bailey (22), and *C. varia* Muhl. (1); and from P.E.I. on *Carex* sp. [9(5)] and *C. scoparia* (9(6)). Fraser (20) reports cultural connections between *Carex deflexa* and *Solidago bicolor* and *S. (rugosa?)*; *C. scoparia* and *S. graminifolia* (L.) Salisb.; and *C. intumescens* and *Solidago* sp. and *Aster (puniceus* L. ?).
- **Phaseoli** (Pers.) Wint. (*Uromyces appendiculatus* Fr.). Reported (9) from all three provinces as causing the rust of garden beans, and collected from N.S. (KP-523,-545) (61); and P.E.I. (R. R. Hurst).

- Uromyces plumbarius** Pk. Reported from Kings Co., N.S., on *Oenothera* sp. (R-388), *O. biennis* L. (O-671,-4959,-5812), and *O. muricata* L. (KP-1100).
- **Polygoni** (Pers.) Fekl. On *Polygonum aviculare* L., from Annapolis (O-4952), Colchester (22), Kings (KP-1280), and Pictou (22) Co., N.S.; and from P.E.I. [9(12)]; and on *P. Fowleri* Rob., from Digby (O-4954; R-393) Co., N.S.
- **pyriformis** Cke. On *Acorus Calamus* L., from Cape Breton Is., N.S. (O-4929,-5218), det. I. L. Connors.
- **Scirpi** (Cast.) Burr. Reported on *Scirpus paludosus* Nels., from Pictou, N.S., by Fraser (22) and from N.S., by Arthur (2). The reports of Fraser (22) and Arthur (2) of this species on *Scirpus validus* Vahl. are properly placed under *U. americanus* (q.v.). Fraser (20) obtained aecia on *Cicuta maculata* L. as a result of infection from *S. paludosus* in N.S.
- **Silphii** (Burr.) Arth. On *Juncus macer* S. F. Gray, Morristown, N.S. (R-49); and on *J. tenuis* Willd. (?), from N.S. (22) and P.E.I. [9(11)].
- **Sparganii** Cke. & Pk. On *Sparganium (eurycarpum)* Engelm.?, from Lake Ainslee, Cape Breton Is., N.S. (O-5167), det. I. L. Connors.
- **striatus** Schroet. (*U. Medicaginis* Arth.). Reported [9(10)] on alfalfa from P.E.I. and also surely erroneously on clover from all three provinces [9(5)], for Arthur (2, p. 299) states that this species does not occur on *Trifolium* in America.
- **Trifolii** (Hedw. f.) Lév. (*U. fallens* Kern., *U. Trifolii-repentis* Liro). The species has been reported, as on clover, from all three provinces (9, 61).
- var. **fallens** (Desm.) Arth. Reported on *Trifolium incarnatum* L., from Kings (KP-831) Co., N.S.; also on *T. pratense* L., from N.S. (2) (O-1297), and Cape Breton (O-1211), Colchester (61), Cumberland (O-4515), Kings (R-58), and Pictou (22, 38) Co., N.S.; N.B. (O-1675,-7743); and P.E.I. [9(24)].
- var. **hybridi** (W. H. Davis) Arth. Reported on *Trifolium hybridum* L., from Hants (KP-40,-45,-182), Kings (R-75,-76,-102), and Pictou (22) Co., N.S.
- var. **Trifolii-repentis** (Liro) Arth. On *Trifolium repens* L. (61), from N.S.
- **verruculosus** Schroet. On *Lychnis alba* Mill., from Kentville, N.S. (KP-875; O-4322), det. I. L. Connors.
- Peridermium balsameum** Pk. Fraser's (19, 20, 22) references to this species probably include the aecial stages of several species of *Uredinopsis*.
- **coloradense** Arth. & Kern. The rust causing the witches'-broom on spruce was reported as being quite prevalent in N.S., by Faull (16), and has been collected on *Picea mariana* (Mill.) BSP. from N.B. [9(18)] and on *P. rubra* (Du Roi) Dietr., from Kings Co., N.S. (KP-1371; R-48,-360,-361) [9(23)]. The spruce rust was originally (Bull. Torrey Botan. Club, 33:403) considered as distinct from *Melampsorella Cerastii*, the witches'-broom rust of fir. Later, Arthur (2) united these two rusts under one species. Hunter (Botan. Gaz. 83:1) found differences in the pycnia on the two hosts and found the spruce rust pycnia to be of the *Chrysomyxa* type. More recently, Pady (Trans. Kansas Acad. Sci. 43:147 and 44:190) has concurred with this opinion and lists a number of differences between these two rusts on fir and spruce.

## TREMELLALES

### Auriculariaceae

- Auricularia auricularis** (S. F. Gray) Martin (*A. auricula-Judae* (L.) Schroet., *Hirneola auricula-Judae* (L.) Fr.). On coniferous wood from Colchester (61), Halifax (37, 56b), Kings (KM-93,-949), and Pictou (28) Co., N.S.; N.B. (18, 31); and P.E.I. (R. R. Hurst). Martin (Am. Midland Naturalist, 30:77) has recently given this binomial as the correct one for this common species.
- Eocronartium muscicola** (Fr.) Fitzp. On the moss, *Drepanocladus uncinatus* (Hedw.) Warnst., from Colchester Co., N.S. (61).
- Herpobasidium filicinum** (Rostr.) Lind. Parasitic on *Dryopteris disjuncta* (Rupr.) Morton (*Phegopteris Dryopteris* (L.) Fée), from Morristown, N.S. (R-359), fide H. S. Jackson. Jackson reports this species from eastern Canada and discusses its relationships to the rusts (Mycologia, 27: 553).
- Pilacre faginea** (Fr.) Berk. & Br. Reported on beech wood, from Kentville, N.S., by Harrison (KM-943,-1098), as *Phleogena faginea*; and from N.B., by Hay (32), as *P. Petersii*.

*Tremellaceae*

- Eichleriella Leveilliana** (Berk. & Curt.) Burt. On *Alnus incana* (L.) Moench., from Kentville, N.S. (O-F5138).
- Exidia glandulosa** (Bull.) Fr. Reported on beech and alder from Annapolis (38), Colchester (61), and Kings (KM-92; O-F8499) Co., N.S.; N.B. (18); and P.E.I. (R. R. Hurst, det. at Ottawa). Very common, especially on beech.
- **nucleata** (Schw.) Burt. On maple bark, Colchester Co., N.S. (61).
- **recisa** (Dittm.) Fr. On *Prunus serotina* Ehrh., Kentville, N.S. (O-F7668).
- Gyrocephalus rufus** (Jacq.) Bref. On decaying wood and soil, Colchester (61) Co., N.S. Martin (Am. J. Botany, 23:627) considers the proper binomial for this species to be *Phlogiotis helvelloides* (Fr.) Mart.
- Naematelia encephala** (Willd.) Fr. On *Abies balsamea* (L.) Mill., from Colchester Co., N.S. (61); and from Brackley Pt., P.E.I. (O-F7238).
- Sebacina calcea** (Pers.) Bres. On spruce bark, Portapique Beach, Colchester Co., N.S., Aug. 1935 (W-1764), det. H. S. Jackson.
- **epigaea** (Berk. & Br.) Bourd. & Galz. On maple bark, Colchester Co., N.S., July (W-1062) and Sept. (W-1473), 1931. No. 1062 is placed under this species by McGuire (Lloydia, 4:17) and the second collection appears to be the same.
- **incrustans** (Pers.) Tul. Found incrusting the base of fern fronds, from Victoria Co. (61), and on the exposed roots of trees, from Colchester Co. (61), N.S.
- Tremella atrovirens** (Fr.) Sacc. On old sphaeriaceous stromata, on *Salix*, Colchester Co., N.S. (61).
- **foliacea** (Pers.) Fr. Reported on old wood, by Fowler (18), from N.B. Also on *Abies balsamea* (L.) Mill., from Colchester and Richmond Co., N.S. (61); both of these collections are the variety *violescens* Alb. & Schw., with small brown-violet fruit bodies.
- **lutescens** (Pers.) Fr. On *Acer*, *Fagus*, and *Cornus alternifolia* L. f., from Colchester (61), Lunenburg (38), and Pictou (37) Co., N.S. The common yellow *Tremella*, including *T. mesenterica* Retz., which is reported from N.S. by Somers (55b) and MacKay (37) and from N.B. by Hay (30) and Fowler (18).
- **mycetophila** Pk. On *Collybia dryophila* Fr., Colchester Co., N.S. (61). Considered by some as merely an abnormal growth form of the *Collybia* itself.
- Tremellodendron candidum** (Schw.) Atk. On soil, Colchester Co., N.S. (61).
- **merismatoides** (Schw.) Burt. On soil, Colchester Co., N.S. (61). The tips of the branches are very finely divided in this species.
- **pallidum** (Schw.) Burt. On soil, Colchester (61), Hants (KM-759, 760), and Kings (KM-133; O-F7130) Co., N.S. The Colchester material has broad, fanlike, but divided tips and might be considered an extreme form of *T. candidum*; the other collections were not seen.
- Tremellodon gelatinosum** (Scop.) Fr. Reported on decaying logs and stumps, from Guysborough (38), Kings (KM-150, 981) (29), and Victoria (61) Co., N.S.; and from N.B., by Hay (31). Occasional on the under side of logs or pockets in decayed stumps.

*Dacryomycetaceae*

- Calocera cornea** (Batsch) Fr. On *Fagus* and *Betula*, Colchester Co., N.S. (61). Quite common and no doubt distributed throughout the Maritime Provinces.
- **viscosa** Fr. On *Abies balsamea* (L.) Mill. and other coniferous wood, Colchester Co., N.S. This striking, deep orange, branched species, which simulates a small *Clavaria*, was previously reported (61) under the name of *C. palmata* (Schum.) Fr., but this name is considered a synonym of *C. cornea* by Brasfield (Am. Midland Naturalist, 20:221) who places the *Clavaria*-like forms under *C. viscosa*.
- Dacryomitra ramosa** Wehm. This species was described from a collection on a conifer stub, from Middle River, Victoria Co., N.S. (61). Martin (61) and Brasfield (Am. Midland Naturalist, 20:223) considered it a stalked form of *Dacryomyces palmata* (Schw.) Bres., but it seems distinct.



**Dacryomyces aurantius** (Schw.) Farl. This species, which was collected by R. R. Hurst in P.E.I. and determined at Ottawa, is placed as a synonym of *D. palmatus*, by Brasfield (Am. Midland Naturalist, 20: 218).

— **deliquescens** (Bull.) Duby. On beech log, Colchester Co., N.S. (61). In the Nova Scotia collections, the larger, brighter yellow to orange plants, referred to this species were found on hardwoods, whereas the smaller dull olivaceous to orange plants (*D. minor*) were found on conifers. These host relationships are just the opposite of those given by Brasfield (Am. Midland Naturalist, 20: 217).

— **minor** Pk. On decorticated wood of spruce and fir, Colchester and Halifax Co., N.S. (61). See *D. deliquescens*, above. These collections on conifers might be considered *D. punctiformis* Neuh., but no clamp connections were seen on the hyphae of any of these collections. Again, these may all belong under *D. deliquescens*; the specific separations are still difficult in this group.

— **palmatus** (Schw.) Bres. On *Acer spicatum* Lam., from Colchester (61) and *Tsuga canadensis* (L.) Carr., from Kings (KM-94; O-F3186) Co., N.S. Usually found on coniferous wood or bark.

— **stillatus** Nees. MacKay (38) reports this species from N.S., on railroad ties, and Fowler (18) reports it from N.B., on old wood. Brasfield (Am. Midland Naturalist, 20: 216) gives this species as a probable synonym of *Dacryomyces abietinus* (Pers.) Schroet. It is difficult to say what these earlier collectors had. It may have been the preceding species or again it may have been *Ditiola radicata* or *Femsjonia luteo-alba*.

**Ditiola radicata** Fr. Reported by the author (61), from Colchester Co., N.S., on *Abies balsamea* (L.) Mill., and by Somers (55d, 56b, 37), from Halifax Co., N.S., on pine leaves among moss and on decayed birch. The reports on birch very likely refer to *Femsjonia luteo-alba*.

**Femsjonia luteo-alba** Fr. Reported from Colchester Co. (61), on *Betula* spp. and *Fagus*, and from Kings Co. (KM-1093,-1096), on *Betula lutea* Michx. f.

#### *Tulasnellaceae*

**Tulasnella violea** (Quél.) Bourd. & Galz. On *Alnus* sp., Victoria Park, Truro, N.S., Sept. 5, 1935 (W-1809).

### AGARICALES

#### *Exobasidiaceae*

**Exobasidium Vaccinii** (Fek.) Wor. (*E. Oxycocci* Rostr., *E. Cassandrae* Pk.). This species has been reported on blueberries from all three provinces [9(18, 21)]; on cranberry from Digby (KP-522) [9(10)] and Yarmouth (KP-771) Co., N.S., and from P.E.I. [9(17)]; on *Chamaedaphne calyculata* (L.) Moench., from Queens Co. (KP-794), N.S.; on *Gaylussacia baccata* (Wang.) C. Koch, from Kings (KP-900; O-4562) Co., N.S.; on *Rhodora canadensis* L., from Cumberland (O-4507), Hants (KP-749), and Kings (O-4983) Co., N.S., and from P.E.I. (O-7744); on *Vaccinium* sp., from Colchester (61) Co., N.S.; on *V. corymbosum* L., from Kings (KP-557; O-3064) Co., N.S.; and on *V. pennsylvanicum* Lam., from N.B. (Ann. Missouri Botan. Garden, 4: 627).

#### *Thelephoraceae*

**Aleurodiscus amorphus** (Pers.) Rabenh. On *Abies balsamea* (L.) Mill., Colchester (62) and Kings (KM-948) Co., N.S.; Albert Co., N.B. (O-F3078); and Rustico Bay, P.E.I. (O-5508). Also reported by Hay (32), from N.B. This is the common orange-colored species on dead, down, and standing fir, which has the superficial appearance of a discomycete.

— **subcruentatus** (Berk. & Curt.) Burt. On bark of living spruce and on dead bark of a standing conifer (spruce?), Colchester Co., N.S. (62, sub *A. scutellatus* Litsch.). A rather rare, but widely distributed species (see Mycologia, 29: 387).

**Asterostroma cervicolor** (Berk. & Curt.) Massee. On decorticated coniferous wood, Colchester Co., N.S., det. H. S. Jackson. Forming a granular, floccose, paintlike crust, Naples yellow (Ridgway) in color. Margin white, cottony, fimbriate. Hyphae forming numerous stellate branches consisting of three to five pointed rays, up to 75 $\mu$  long and 1.5-2.5 $\mu$  in diameter. Basidia cylindric-clavate, 16  $\times$  6.5 $\mu$ . Spores hyaline, globose, becoming spiny and somewhat angular, 3-5 $\mu$  in diameter.

- Coniophora arida** (Fr.) Karst. Reported by R. R. Hurst, from P.E.I., determined at Ottawa.
- **Betulae** (Schum.) Karst. See *C. suffocata*.
- **byssoides** (Pers.) Fr. See *Peniophora byssoides*.
- **fusispora** (Cke. & Ell.) Cke. On bark of spruce, Victoria Park, Truro, N.S., Aug. 20, 1935 (W-1796). Determined by Jackson, who says "a rare thing, known only from Ellis' collection from New Jersey . . . and a collection from New England". Thin membranous, separable; margin white, cottony; becoming yellow-orange to almost orange-buff and finally colored olive-brown to clove-brown (Ridgway) in the center from the spores, which are fusoid-navicular, with a curved apiculus at one end and  $14.5-19.5 \times 4.5-5.5\mu$ ; 300-400 $\mu$  thick; hyphae along substratum dark brown, 4-8 $\mu$  in diameter, often with swollen tips, tramal hyphae closely interwoven, hyaline or pale brown, 3-5 $\mu$  in diameter, with no clamps.
- **puteana** (Schum. ex Fr.) Karst. (*C. cerebella* Pers.). On *Tsuga canadensis* (L.) Carr., St. Andrews, N.B. (O-F6708, sub *C. cerebella* Pers.).
- **suffocata** (Peck) Massee. On fir and other coniferous wood, Victoria Park, Truro, N.S. (W-1768a,-1786b). These collections were determined by the writer as *C. Betulae* (Schum.) Karst. Jackson (in litt.) says "I should prefer to use the name *Coniophora suffocata* (Peck) Massee for the present. Whether or not this species will ultimately be considered synonymous with *C. Betulae* has not yet been determined (See Farlowia, 1(2): 280)."
- Corticium** sp. On *Acer pennsylvanicum* L., Victoria Park, Truro, N.S., July 12, 1935 (W-1737). Jackson says this belongs in the *C. centrifugum* (Lév.) Bres. complex (48, p. 286). It is pure white to pale gray, ceraceous-fleshy when fresh, smooth, arachnoid, easily separable, and cracked when dry. The fruiting layer is 75-150 $\mu$  thick, with a basal layer of hyaline hyphae, 3-5 $\mu$  in diameter, without clamps and incrustated with fine crystals, and a sub-hymenial layer heavily impregnated with large crystalline granules. Basidia  $8 \times 5\mu$ . Spores globose to subglobose to ovoid,  $2.5-3.2 \times 2.5\mu$ .
- Corticium**\* sp. On hardwood, Upper Brookside, N.S., July 4, 1931 (W-385). Jackson says of this collection "close to one I have been carrying as a possible new species". The fruit body is widely effuse, 200-400 $\mu$  thick, pure white, stained creamy to yellowish, tough cottony, drying rather hard, brittle; surface irregularly roughened; composed of compact agglutinate, hyaline hyphae,  $1.5-2.5\mu$  in diameter in the basal region, surmounted by the erect hymenial layer. Spores ellipsoid, hyaline,  $6-7.5 \times 4-5\mu$ .
- **albo-ochraceum** Bres. On bark of birch, Portapique Beach, Colchester Co., N.S., July 31, 1935 (W-1759); and on fir, St. Andrews, N.B. (O-F6553). Determined by H. S. Jackson, who says it is apparently unreported for North America. The spores are somewhat colored in mass owing to the thick spore wall. Closely related to *Coniophora* (*Corticium*) *polyporoidea* (Berk. & Curt.) Burt, under which name the St. Andrews collection was first reported.
- **bombycinum** (Sommerf.) Bres. On *Acer spicatum* Lam. and *Salix* sp., Colchester Co., N.S. (62) (W-1121a and b), fide H. S. Jackson. A fairly common species with thick, spongy, white, separable fructifications and subglobose spores,  $6.5-9 \times 5.5-6.5\mu$ .
- **calceum** Fr. See *C. furfuraceum* Bres.
- **cebennense** Bourd. On coniferous wood, Victoria Park, Truro, N.S. Aug. 20, 1935 (W-1793), det. H. S. Jackson, who says that although he has seen it several times, this will be the first report from North America. This is a pure white, soft, cottony species with a finely cracked, paintlike hymenium. Fruit body 200-400 $\mu$  thick; hyphae  $2.5-4\mu$  in diameter, thick-walled, hyaline, with clamps; basal layer indistinct, impregnated with pale yellow, resinous material; middle layer very loosely interwoven, distinct; hymenial layer of upright, long, clavate basidia. Spores long cylindric, curved,  $5.5-6.5 \times 1.5\mu$ .
- **coronilla** Höhn. See *Trechispora Brinkmannii*.
- **deflectans** Karst.? On *Salix* spp., Victoria Park, Truro, N.S., Aug. 13, 1935 (W-1776, -1788), det. H. S. Jackson, who says (in litt.) of this species "This name is obviously being used at present for a complex of species. It is quite certain that the form common on branches of *Salix* is not like Karsten's type. The situation has not yet been straightened out".

\* This collection (W-385) was listed, by Jackson (*Can. J. Research, C*, 26:156) as one of the paratypes of his new species, *Corticium notabile*.

- Corticium furfuraceum** Bres. (*Corticium calceum* Fr. *sensu* Burt). On fir, spruce, and coniferous wood (62), Victoria Park, Truro, N.S., Aug. 26, 1935 (W-1800), det. H. S. Jackson. *Corticium calceum* Fr. is a mixed and confused species that has been variously interpreted by various authors. Jackson places these collections in *C. furfuraceum* (*C. subpallidulum* Litsch.). *C. calceum* is also reported by Harrison (KM-103), and determined by Overholts, on *Picea*, from Kings Co., N.S. (see 48, p. 284).
- **galactinum** (Fr.) Burt. On coniferous wood, Portapique Beach and Victoria Park, Truro, Colchester Co., N.S., July and August, 1935 (W-1756, 1756a to c), fide H. S. Jackson, who says, "It is possible that the form which in Europe goes under the name *C. odoratum* var. *Alni* Bres. may prove to be the same."
- **hydnums** (Schw.) Burt. On bark of *Abies balsamea* (L.) Mill., U. Brookside, Colchester Co., N.S., July, 1935 (W-1747), det. H. S. Jackson, who says this is probably a smooth form of *Radulum orbiculare* Fr.
- **leucoxanthum** Bres. On *Acer saccharum* Marsh., Colchester Co., N.S. (62). Donk, who identified this collection, gave it as new for North America. Jackson says he has it from Ontario and New Hampshire.
- **lividum** Pers. On *Betula* and *Abies*, Truro, N.S. (62), det. M. A. Donk.
- **ochraceum** Fr. On decorticated conifer wood, Colchester Co., N.S. (62), det. M. A. Donk.
- **polyporoideum** Berk. & Curt. (*Coniophora polyporoidea* (Berk. & Curt.) Burt). See *C. albo-ochraceum*.
- **porosum** Berk. & Curt. On wood and bark of *Alnus*, Victoria Park, Truro, N.S., August, 1935 (W-1782), determined by H. S. Jackson who says *C. stramineum* Bres. is a synonym of this species (see 48, p. 300). Forming a cream to yellow, smooth or slightly cracked crust when dry. Basal hyphae parallel, thick-walled, 2.5-3.5 $\mu$ , bearing thinner-walled ascending hyphae, 3-8  $\mu$  in diameter, many of which become clavate-swollen in the hymenial layer to form the terminal gloecystidia (30-50  $\times$  6-8 $\mu$ ). Spores ellipsoid, 3.5-4.5  $\times$  2.5 $\mu$ .
- **roseo-cremeum** Bres. ? On *Abies balsamea* (L.) Mill., Victoria Park, Truro, N.S., July, 1935 (W-1722), det. H. S. Jackson, who states that American collections on conifers agree reasonably well with European collections of this species on hardwoods, and that "this is a new North American record concerning which I do not feel too sure". The gloecystidia of this species are long emergent and were first mistaken for cystidia and the plant placed in *Peniophora*.
- **sulphureum** (Pers.) Fr. (*Hypochnus fumosus* Fr.). On decaying wood of various sorts, Colchester Co., N.S. (62) (W-1778), fide M. A. Donk and H. S. Jackson. Also reported by Burt (Ann. Missouri Botan. Garden, 3:203) from Campobello, N.B. (Farlow No. 6). As this species has pale-colored or hyaline spores it cannot be placed in *Tomentella*, and so must revert to *Corticium*.
- **vellereum** Ell. & Cragin. On *Fagus*, Victoria Park, Truro, N.S., Sept. 1935 (W-1810), det. H. S. Jackson, and on elm bark, from Kentville, N.S. (KM-139), det. K. A. Harrison. Grayish, hyaline, translucent when moist, soon becoming whitish, ceraceous, and granular, 200-500  $\mu$  thick. Tramal hyphae loosely interwoven, rather thick-walled, with clamps, 3.5-4  $\mu$  in diameter. Spores globose to subglobose, 6-7  $\times$  5-5.5 $\mu$ , pale yellowish.
- Craterellus Cantharellus** (Schw.) Fr. Reported by MacKay (38) from Dartmouth, N.S. This species differs from *Cantharellus cibarius* chiefly in the more even hymenophore and MacKay may have had a form of the latter plant.
- **cornucopioides** Fr. On soil, under hardwoods, Colchester (62) and Kings (KM-149a to -c, 916) (29) Co., N.S. Also reported from Halifax and Antigonish, N.S., by Somers and Swaine, in MacKay's list (37).
- **infundibuliformis** Fr. Under conifers, Truro, N.S. (62).
- **lutescens** Fr. Reported on soil, in Willow Park, Halifax, N.S., by MacKay (37) (as *Craterellus* sp. in 55b).
- **pistillaris** Fr. On soil, in mixed woods, Colchester Co., N.S. (62). These may be forms of *Clavaria pistillaris*, but have broad truncate depressed pilei with wrinkled rugosities on the outer surface.

- Cyphella fasciculata** (Schw.) Berk. & Curt. Reports by Somers (55b) and MacKay (37) under the name *C. fulva* Berk. & Rav., from N.S. and collections on *Alnus* spp., from Colchester (62) and on *A. crispa* var. *mollis* (Fern.) Fern., from Kings (O-F8489) Co., N.S. The small brown clustered pilei are quite common on *Alnus*, and no doubt occur throughout this area.
- Cytidia salicina** (Fr.) Burt. Reported from Colchester (W-5441), Halifax (O-F3326), and Pictou (37) Co., N.S. MacKay's (37) report was under the name of *Corticium salicinum*, but was no doubt this species.
- Hymenochaete agglutinans** Ell. On *Alnus incana* (L.) Moench., from Halifax, N.S. (O-F4476).
- **badio-ferruginea** (Mont.) Lév. On branches of maple, poplar, beech, birch, and fir, from Colchester (62) and Kings (KM-124,-126; O-F3221) Co., N.S.; from Tobique River, N.B., by G. U. Hay (Ann. Missouri Botan. Garden, 5: 331) and from Coleman Is., P.E.I. (D. V. Baxter, Aug. 1945). This species is very common, being found on a wide variety of woody substrata; it is thought by some to be merely a pileate form of *H. tabacina*.
- **cinnamomea** (Pers.) Bres. From Rustico Bay, P.E.I. (O-F2753).
- **corrugata** (Fr.) Lév. On branches of beech, birch, and maple, from Colchester (62) Co.; and on alder and beech, from Kings (KM-129,-129a,-130; O-F5131) Co., N.S.
- **corticolor** Berk. & Rav. On beech stems, Colchester Co., N.S. (62), fide M. A. Donk.
- **rubiginosa** Dicks. ex Lév. Reported by Somers (55b, 37), from N.S.; and by Fowler (18, sub *Stereum rubiginosum*), from N.B., on old trunks.
- **spretia** Pk. Collected on hardwood branches, from Colchester Co., N.S. (62); and represented from P.E.I. by a collection of J. Macoun (No. 344) listed by Burt (Ann. Missouri Botan. Garden, 5: 349). Seems to be fairly common in this region.
- **tabacina** Sow. ex Lév. The most common species, found on the dead twigs and stems of many hosts. Collected on maple, birch, willow, and *Taxus canadensis* Marsh., from Colchester Co. (62) and on spruce, willow, elm, and maple, from Kings Co. (KM-122,-125,-128; O-F3226), N.S.; on birch, from York Co., N.B. (O-F3381); and on maple, from Summerside, P.E.I. (D. V. Baxter, Aug., 1945). Reported by MacKay (37), from Halifax and Pictou Co., N.S., and by Hay (32), from N.B. (sub *Stereum tabacinum*).
- Pellicularia filamentosa** (Pat.) Rog. (*Corticium Solani* (Prill. & Del.) Bourd. & Galz.). Reported (9) as the cause of a scurf of potatoes from all three provinces, on turnips from N.B. and P.E.I., and on mangel and cabbage from N.B. (see *Rhizoctonia Solani*). This species has spores similar to those of *P. vaga*, but is parasitic, produces sclerotia, and has a *Rhizoctonia* imperfect stage.
- **isabellina** (Fr.) Rog. (*Hypochnus isabellinus* Fr., *Tomentella isabellina* (Fr.) Höhn. & Litsch.). On coniferous wood, Portapique Beach, Colchester Co., N.S. (W-1755), July 29, 1935, fide H. S. Jackson.
- **pruinata** (Bres.) Rog. ex Linder (*Corticium coronatum* Höhn. & Litsch., *C. botryoideum* Overh.). On logs of beech and coniferous wood, Colchester Co., N.S., July and August, 1935 (W-1732,-1765), det. H. S. Jackson. This species is distinguished by Rogers (47), from *P. vaga*, on the basis of the shorter spores (less than  $7.5\mu$  long), which are ellipsoid to subglobose. The conidial stage (Lloydia, 5: 183) is *Oidium candicans* (Sacc.) Linder.
- **subcoronata** (Höhn. & Litsch.) Rog. (*Corticium subcoronatum* H. & L.). On coniferous wood, from Victoria Park, Truro, N.S., Aug. 13, 1935 (W-1783), fide H. S. Jackson, and on spruce, from Glenmont, N.S. (KM-142), det. Irene Mounce and K. A. Harrison. This species of *Pellicularia* can be distinguished by the smooth spores, absence of cystidia, and the presence of clamp connections.
- **vaga** (Berk. & Curt.) Rog. ex Linder (*Corticium vagum* B. & C., *C. botryosum* Bres.). Rogers (47) includes both *Corticium vagum* and *C. botryosum* under this species name. It differs from *P. pruinata* in the longer ( $8-11\mu$ ) spores, which are asymmetrically fusiform. *C. botryosum* was found on fir and other coniferous bark and wood (62) (W-428a to c,-1720) and on *Alnus* (W-1765a), from Colchester Co., N.S. *C. vagum* has been reported on *Abies balsamea* (L.) Mill. (KM-127; O-F5487) and *Picea* sp. (KM-127a and b; O-F5481,- F5482) from Kings Co., N.S.; and on potato [9(6)], from N.B. Collection KM-127b, determined by Miss Mounce and K. A. Harrison and checked by Jackson, shows the longer spores (8-8.5



$\times 3.5\mu$ ) of this species, but KM-127, on fir, examined by the author, shows ovoid spores,  $5.5-5 \times 3.5-4.3\mu$  and seems to be *P. pruinata*. Burt (Ann. Missouri Bot. Garden, 15: 297) reports *C. vagum*, from Campobello, N.B. (Farlow No. 3). The conidial stage is *Oidium Curtisii* (Berk.) Linder (Lloydia, 5: 201).

- Peniophora** sp. On coniferous wood, Portapique Beach, Colchester Co., N.S. Aug. 1935 (W-1774). This collection was sent to Jackson who says it is like several others that he has designated as a possible undescribed species, but is not yet ready to describe as new. The fructifications are 75-150 $\mu$  thick, olive-buff to deep olive-buff (Ridgway), fleshy, coriaceous, papillate, and finely pubescent from the cystidia, when fresh. The margin is whitish and finely tomentose. The tramal hyphae are indistinct and agglutinate; the basal hyphae thick-walled and 3-5 $\mu$  in diameter, the hymenial hyphae erect and 1-1.5 $\mu$  in diameter. The cystidia are cylindric-conic, blunt, heavily incrustated, with a somewhat thickened wall, 6-9.5 $\mu$  in diameter, arising in the basal trama and erumpent, 25-35 $\mu$ . The spores are ellipsoid-ovoid, 2.5-3  $\times$  1.5 $\mu$ .
- **affinis** Burt. On *Acer* spp., Victoria Park, Truro, N.S., Aug. 26, 1935 (W-1801, -1801a), det. H. S. Jackson, who considers *P. laevis* with thicker fructifications and nonincrusted hyphae as synonymous with this species, inasmuch as all intermediate conditions occur. (See 48, p. 318.)
- **aurantiaca** (Bres.) Höhn. & Litsch. On stems of *Alnus* spp., Colchester Co., N.S. (62), fide M. A. Donk and H. S. Jackson (W-285a). Listed by Burt (Ann. Missouri Bot. Garden, 12: 312) from Campobello, N.B. (W. G. Farlow, No. 1). A common and characteristic salmon-colored *Peniophora* on alder.
- **byssoides** (Pers. ex Fr.) Bres. (*Coniophora byssoidea* (Pers. ex Fr.) Karst.). On *Abies balsamea* (L.) Mill., from Kentville, N.S. (KM-114; O-F5489, -F5492) as *Coniophora byssoidea* (see 48, p. 275), which Rogers and Jackson (48, p. 275) place under this binomial. KM-114 is arachnoid, chamois-yellow, and has yellowish, thick-walled, slightly incrustated hyphae 1.5-2.5 $\mu$  in diameter, with distinct clamps. The spores are ovoid to ovoid-fusoid, 6  $\times$  4.5 $\mu$  and brown.
- **carnosa** Burt. On beech, birch, fir, and other decayed woods, Colchester and Halifax Co., N.S. (62) (W-1773, -1794). These collections of this rather common, thick, yellow *Peniophora* have been referred to this species by both Donk and Jackson.
- **cinerea** (Fr.) Cke. This whole group of gray, cinereous, closely adherent species of *Peniophora*, which are so abundant on the dead, standing, or fallen branches of many hosts, are very confused and difficult of determination. Dr. Jackson says he has not yet been able to distinguish the species. Of two collections on *Betula*, collected by the author from Colchester Co., N.S., one was determined by M. A. Donk (62) as *P. cinerea*. Jackson says this is not *P. cinerea*, for there are large gloecystidia-like bodies present, in which viewpoint the present author is in agreement. *P. cinerea* has also been reported on *Prunus virginiana* L., from Kentville, N.S. (O-8104); on *Betula*, from York Co., N.B. (O-F3405); and on *Acer*, from Falconwood, P.E.I. (O-F5758). *Peniophora nuda* is reported on beech, by Harrison, from Kentville, N.S. (KM-141, -143; O-F5419 and -F5420). These collections are arbitrarily brought together here as being of this "cinerea" group.
- **coccineo-fulva** (Schw.) Burt. Reported by Burt (Ann. Missouri Bot. Garden, 12: 255), from Campobello, N.B. (Farlow 2, pr. p.).
- **crassa** Burt. On coniferous wood, Victoria Park, Truro, N.S., Aug. 20, 1935 (W-1797), det. H. S. Jackson, who says it is "not quite typical".
- **cremea** (Bres.) Sacc. & Syd. On *Polyporus betulinus* (Bull.) Fr. (62), det. M. A. Donk, and on *Acer* (W-1804), *Betula* (W-1798), *Fagus* (W-1734, -1799), and *Picea* (W-1739), from Colchester Co., N.S. These latter collections were determined by Jackson who states that *P. sordida* and *P. cremea* should be united under this name in apposition to *P. affinis* and *P. laevis*, which he would place under the former name in order to make more distinct specific units in this group. (See 48, p. 314.)
- **gracillima** Ell. & Ev. (*P. glebulosa sensu* Bres. and auth.). On *Acer*, *Alnus*, *Abies*, and *Prunus*, Colchester Co., July and August, 1935 (W-1743, -1743a to c), fide H. S. Jackson. Quite common, forming a grayish to olivaceous, farinose to arachnoid fructification with characteristic cystidia with thickened lateral walls and an expanded, thin-walled apex. (See 48, p. 317.)

- Peniophora Greschikii** (Bres.) Bourd. & Galz. (*P. subcremea* Höhn. & Litsch., *P. rudis* (Karst.) Bourd. & Galz., *P. alba* Burt). On *Abies balsamea* (L.) Mill., Victoria Park, Truro, N.S. (W-1704), June 26, 1935. Determined by H. S. Jackson (See 48, p. 312).
- **hydroides** Cke. & Massee (*Odontia hydroides* (C. & M.) Höhn.). On beech, Colchester Co., N.S. (62), fide M. A. Donk. This collection has very small, granular teeth.
- **incarnata** (Pers.) Karst. On *Acer*, Colchester Co., N.S. (62). (The statement made in a previous paper, and attributed to Donk, that he and Bourdot considered this species a synonym of *P. affinis*, is in error and should have been placed under the following species, *P. laevis*.) This collection contains enlarged hyphae with granular contents in the basal layers, which are considered as gloeocystidia.
- **laevis** (Fr.) Burt. On *Fagus*, Colchester Co., N.S. (62), det. M. A. Donk. Reported by Burt (Ann. Missouri Botan. Garden, 12: 258), from Campobello, N.B. (W. G. Farlow No. 2). These collections probably represent merely variations of *P. affinis* (q.v.).
- **mutata** (Pk.) Höhn. & Litsch. Reported on *Populus* sp., from Brackley Pt., P.E.I. (O-F2781), as *P. Allescheri* Bres., which Rogers and Jackson (48, p. 313) give as a synonym of this species.
- **nuda** (Fr.) Pers. See *P. cinerea*.
- **pallidula** Bres. On coniferous wood, from Truro and Portapique Beach, N.S. (62) (W-1738a and b), one collection determined by Donk and the other by Jackson, who says of No. 1738a, "spores somewhat smaller than typical". All four collections, from Nova Scotia, however, have shown the same globose to subglobose spores,  $2.3-5 \times 2.2-5\mu$ . Fairly common.
- **pubera** (Fr.) Sacc. On *Populus* sp., Victoria Park, Truro, N.S., Sept. 5, 1935 (W-1812), det. H. S. Jackson.
- **Sambuci** (Pers.) Burt. On *Tsuga canadensis* (L.) Carr. (O-F5488) and *Sambucus* sp. (KM-140; O-F5421), Kentville, N.S. The collection on *Sambucus* has been examined by the author and H. S. Jackson, and determined as this species. According to Rogers and Jackson, (48, p. 325), *P. Thujae* is this same species and Harrison's collection (KM-120) of this species on hemlock belongs here, although the spores ( $3.5-4.5 \times 1.1-1.5\mu$ ) are somewhat smaller than those on *Sambucus* (KM-140) ( $4.3-4.4 \times 2.5-3.5\mu$ ).
- **sanguinea** (Fr.) Höhn. & Litsch. On under side of log of *Fagus grandifolia* Ehrh., U. Brookside, Colchester Co., N.S., July 17, 1935 (W-1744), fide H. S. Jackson. White, tinted flesh or red-brown, with Brazil-red (Ridgway) mycelial strands running over the wood surface.
- **setigera** (Fr.) Höhn. & Litsch. A common species collected a number of times in Colchester Co., N.S. (62) (W-1712, -1724a and b, etc.) on various types of dead wood and bark (*Abies*, *Acer*, *Alnus*, *Betula*, *Fagus*). Most collections checked by H. S. Jackson.
- **velutina** (Fr.) Cke. On beech, Colchester Co., N.S. (62), det. M. A. Donk.
- Solenia anomala** (Pers.) Fck. On *Fagus* (62) and *Ulmus* (W-97), from Colchester and on *Alnus crispa* var. *mollis* (Fern.) Fern., from Kings (O-8495) Co., N.S.; and from P.E.I. by R. R. Hurst (determined at Ottawa).
- **fasciculata** Fr. On old twigs and stems of *Betula* spp., Colchester Co., N.S. (62), fide M. A. Donk.
- Stereum abietinum** Pers. On wood and bark of *Abies balsamea* (L.) Mill., Colchester Co., N.S. (62), det. M. A. Donk and (W-1761, -1761a) H. S. Jackson.
- **erumpens** Burt. On *Alnus incana* (L.) Moench., Fredericton, N.B. (O-F7149).
- **fasciatum** Schw. Abundant on dead wood of many hardwoods, Colchester (62) and Kings (KM-134, -134a to c) Co., N.S. Reported by MacKay (37), from Pictou Co., N.S.; and by Burt (Ann. Missouri Botan. Garden, 7: 157), from P.E.I. (Macoun No. 346).
- **frustulosum** (Pers.) Fr. On oak wood, by K. A. Harrison (KM-766; O-F3792), from Gallahers Hill, N.S.
- **gausapatum** Fr. On *Betula* sp., Rustico Bay, P.E.I. (O-F2822).
- **hirsutum** Fr. On *Fagus* (W-1714) and *Corylus cornuta* Marsh. (W-1726), from Colchester Co., and on *Alnus*, beech, and oak (KM-135, -135a and b, -136), from Kings Co., N.S. Reported by Somers (55b) and MacKay (37, 38), from N.S.; and by Hay (31), from N.B. Differs from *S. fasciatum* in the more hirsute pileus and somewhat darker colored hymenial surface, but may have been confused with this species in earlier reports. Fairly common.

- Stereum Murrayi** (Berk. & Curt.) Burt. On *Acer*, *Betula*, and other hardwoods, Colchester Co., N.S. (62); and Albert Co., N.B. (O-F3320). Fairly common on old logs.
- **purpureum** Fr. Reported on apple, from Kings (KM-101,-112,-764) (9) Co., N.S., from N.B. (9), and from P.E.I. (9); on cherry, from P.E.I. [9(19)]; on plum, from Annapolis (KP-22) [9(10)] Co., N.S.; on rock maple (KM-765), from N.S.; on *Salix babylonica* L., from Kings (KP-874) Co., N.S.; on *Salix* spp., from Colchester (W-1805) (62), Halifax (55b), Kings (KM-146) [9(16)], and Pictou (37) Co., N.S.; and on wire birch, from Kings (KM-145; O-F5459) Co., N.S. Reported (9) as causing the silver leaf disease on apple from N.B., and on apple and cherry, from P.E.I.
  - **roseo-carneum** (Schw.) Fr. On limbs of *Fagus*, Colchester (62) (W-1587 ?) and Kings (KM-137; O-F5461) Co., N.S. This species has a lavender hymenial surface similar in color to that of *S. purpureum*, but has larger spores and cystidia, and is entirely effuse.
  - **rufum** Fr. On bark of *Populus* spp., from Annapolis (KM-131; O-5466), Colchester (62), and Kings (KM-763) Co., N.S.; Spring Hill, N.B. (O-F7483); and Charlottetown, P.E.I. (O-F5051). Common on this host genus.
  - **rugosum** Fr. Reported on decaying trunks, by Fowler (18), from N.B.
  - **sanguinolentum** Alb. & Schw. On *Abies balsamea* (L.) Mill., Cape Breton and Colchester Co., N.S. (62); and Tidal Cove, N.B. (O-F5001). Reported by Faull (16) on *Abies* and *Picea*, from N.S. Quite common on coniferous stems.
- Thlephora anthocephala** Fr. var. **clavularis** Qué. On moss and duff, Colchester Co., N.S. (62), det. M. A. Donk.
- **caryophyllea** Fr. Reported by Burt (Ann. Missouri Botan. Garden, 1: 210), from Restigouche River, N.B.
  - **multipartita** Schw. On soil, under hardwoods, Colchester Co., N.S. (62), det. M. A. Donk.
  - **palmata** Fr. On soil, under conifers, Cape Breton (KM-132b), Colchester (62), and Kings (KM-132,-132a,-132b; O-F5465) Co., N.S. Reported from Rustico Bay, P.E.I., by Burt (Ann. Missouri Botan. Garden, 1: 202) (Macoun-324; O-F2874).
  - **terrestris** Fr. On soil and duff, usually under conifers, Colchester (62), Halifax (62), (KM-148; O-F3081) and Kings (KM-148a to c,-97,-97a to c) Co., N.S. MacKay (37) reports *T. laciniata*, which is the same as *T. terrestris* according to Burt, from Pictou Co., N.S.; and Hay (32) reports *T. terrestris*, from N.B.
- Tomentella botryoides** (Schw.) Bourd. & Galz. On decayed *Salix* sp., Victoria Park, Truro, N.S. (W-1786). Subiculum ochre-brown, of rigid brown hyphae, with clamps, and  $2.5-3.5\mu$  in diameter. Hymenium powdery, deep neutral gray to dark neutral gray (Ridgway), basidia long, cylindric-clavate,  $3-5\mu$  in diameter. Spores angular, subglobose to subellipsoid, coarsely aculeate,  $5.5-6.5 \times 4-5\mu$ . The blue-black content of the hymenial hyphae turns bright blue to greenish blue in alkali.
- **cervina** (Burt) Bourd. & Galz. On *Poria* sp., Colchester Co., N.S. (62), det. V. Litschauer.
  - **ferruginea** Pers. Reported by Burt (Ann. Missouri Botan. Garden, 3: 209), from Campobello, N.B. (W. G. Farlow).
  - **fusca** (Fr.) Schroet. On *Betula* sp., Colchester Co., N.S. (62). Reported by Burt (Ann. Missouri Botan. Garden, 3: 216), from Campobello, N.B. (W. G. Farlow No. 4).
  - **olivascens** (Berk. & Curt.) Bourd. & Galz. On decayed wood, Colchester Co., N.S. (62) (W-1790), fide V. Litschauer. Reported by Burt (Ann. Missouri Botan. Garden, 3: 221), from Campobello, N.B. (W. G. Farlow No. 5).
  - **punicea** (Alb. & Schw.) Schroet. On conifer bark, Portapique Beach, Colchester Co., N.S. (W-1766), Aug. 6, 1935, fide Jackson, who says he has it from Ontario, but not previously reported from North America.
  - **subfusca** (Karst.) Höhn. & Litsch. On *Fagus*, Colchester Co., N.S. (62), det. V. Litschauer.
  - **testacea** Bourd. & Galz. On *Polyporus versicolor* (L.) Fr., Colchester Co., N.S. (62), det. V. Litschauer.
  - **umbrina** (Fr.) Litsch. On *Poria* sp., Colchester Co., N.S. (62), det. V. Litschauer.

**Trechispora Brinkmanni** (Bres.) Rog. & Jacks. (*Corticium coronilla* Höhn.). On *Betula* sp., Victoria Park, Truro, N.S., Aug. 26, 1935 (W-1802), det. H. S. Jackson. An extremely thin, white to grayish-white, farinose to arachnoid species with the basidia arising practically from the surface of the substrate. Spores allantoid,  $3.5-4.5 \times 1.5\mu$ .

**Vararia investiens** (Schw.) Karst. (*Corticium investiens* (Schw.) Bres.). On *Rhodora canadensis* L., Colchester Co., N.S. (62).

#### Clavariaceae

- Clavaria abietina** Pers. Under spruce and fir, from Colchester (61) and Halifax (37) Co., N.S. This group of khaki to olive-brown forms, found growing in coniferous woods, is variable and has been broken up into separate species by various authors. Coker places them all under this species name. The collections included here were rather small, 1-2.5 cm. tall, turned sage-green where bruised and had a bitter taste. The "non-virescent" collections are given under *C. flaccida*.
- **acris** Pk. On coniferous logs, Colchester, Halifax (61), and Kings (KM-601) Co., N.S. This species differs from *C. stricta* in its occurrence on conifer wood, the slightly smaller spores ( $6-7 \times 3.5-4.5\mu$ ), tardily acrid taste and other minor characters.
- **amethystina** (Batt.) Bull. On soil, from N.S., by Harrison (KM-602 to -604); from N.B., by Hay (30) and Van Horne (59); and from P.E.I., by R. R. Hurst. These collections have not been examined and they may be the same as that listed under *C. lavendula*, which is given as a synonym by Coker.
- **aurantio-cinnabarina** Schw. On soil, in mixed woods, Colchester Co., N.S. (61). Differing from *C. pulchra* and *C. fusiformis* in the darker red-orange color. One collection (W-1360) showed roughly triangular spores ( $6-7 \times 4.5-2\mu$ ) and dark red-brown conducting organs in the hymenium. Unfortunately this collection was lost in transit, but if these characters prove to be constant in other collections, they would constitute a good species, or at least, variety.
- **aurea** Schaeff. Reported by MacKay, from Dartmouth (38) and Pictou (37) and by Harrison (29) (KM-606 to -608), from Kentville, N.S.; and by Hay (30) and Van Horne (59), from N.B. These large yellow *Ramaria* forms are difficult to separate and it is probable that various species may have been lumped under this name.
- **botrytis** Pers. In spruce groves, by Somers (56a) and MacKay (38), from N.S.; and by Van Horne (59), from Minister's Island, N.B.
- **byssiseda** Pers. On hardwood leaves, Colchester Co., N.S. (61). Occurring in troops from a matted mycelium on the leaf litter.
- **cinerea** Bull. On soil, from Colchester (61), Hants (61), Lunenburg (38), Pictou (37), and Shelburne (37) Co., N.S.; and N.B. (31). Similar to *C. cristata* except for the gray to violaceous color; very common and widely distributed.
- **cinerioides** Atk. Collected and determined by Harrison, from Stillwater Lake, Hants Co. (KM-609), and Scott's Bay, Kings Co. (KM-610), N.S. The dried plants of these collections have a grayish cast, which those of *C. cinerea* do not have. The spores are also smaller ( $5.5-5(6)\mu$  diam.) than those of *C. cinerea* and are globose.
- **cristata** (Holmsk.) Pers. Reported on soil, from N.S., by MacKay (37, 38), Harrison (29) (KM-612 to -614, etc.), and the author (61); and from N.B., by Hay (30) and Van Horne (59). The most common species of *Clavaria* and quite variable. Only the white forms are included here; Coker includes *C. cinerea* as a synonym. *C. coralloides* L., which Coker considers to be the same as this species, is reported by Somers (55b, 37) and MacKay (38), from N.S. and by Hay (30) and Van Horne (59), from N.B.
- **crocea** Pers. On leaf mold, Colchester Co., N.S. (61).
- **fistulosa** (Holmsk.) Fr. Buried beneath alder, Kentville, N.S. Collected and determined by K. A. Harrison (29) (KM-615). Rather rare.
- **flaccida** Fr. Reported on soil, in coniferous, mixed, and hardwood stands, Colchester Co., N.S. (61). Considered by Coker as a synonym of *C. abietina*. The plants placed here did not show greenish stains and were slightly larger (1.5-6 cm.) than those placed under *C. abietina*.



- Clavaria flava** Schaeff. On soil, from Folleigh Lake (61), Antigonish (37), and Kentville (KM-616), N.S.; and from N.B. by Hay (31). The Folleigh Lake material is this species *sensu* Coker (spores  $9.5-11 \times 4-5\mu$ ); the other collections were not checked.
- **var. aurea** Coker. On damp soil, under conifers, Folleigh Lake, N.S. (61).
- **formosa** Pers. Reported, on soil, by Harrison, from Kings Co., N.S. (KM-617, -618, -942, -947); and by Hay (30) and Van Horne (59), from N.B.
- **fumosa** (Pers.) Fr. Reported from N.B., by Hay (32), as being ill smelling and smoky in color, which latter character differentiates this species from *C. vermiculata*.
- **fusiformis** (Sow.) Fr. Reported, on soil, from Annapolis (KM-621) (38), Colchester (61), Guysborough (61), Kings (KM-620, -622, -623, -967) (29), and Shelburne (61) Co., N.S.; and by Hay (31), from N.B. This is the most common, yellow, simple *Clavaria*, occurring in fasciculate clusters.
- **gracillima** Pk. On decayed, often buried wood, Colchester Co., N.S. (61).
- **gracilis** Pers. On mossy soil, commonly under conifers, from Colchester and Hants Co., N.S. (61). A graceful, white to flesh-colored species also occurring in troops, on duff matted together by mycelial strands.
- **helveola** Pers. *sensu* Coker. Two of K. A. Harrison's collections, determined as *C. fuscata* Oud. (KM-619) and *C. appalachiensis* Coker (KM-605) are placed here. These plants, dried yellow, have no strongly differentiated stem and have spores ( $5-7 \times 2-3.5\mu$ ) too small for *C. fuscata*. They seem to be *C. helveola* or immature *C. pulchra*.
- **inaequalis** Cott. & Wakef. Reported from pine woods, in N.S., by Somers (55b, 37). This species has been greatly confused; Coker thinks most American collections so labelled are *C. helveola*, but recognizes Burt's collections from New England as this species. Only examination of Somers' collection can determine what species it is.
- **Kunzei** Fr. On soil and decayed wood, Colchester (61) and Kings (KM-624) Co., N.S. A small, pure white species with coarse branchings.
- **lavendula** Pk. On soil, under hardwoods, Colchester Co., N.S. (61). Coker considers this as a synonym of *C. amethystina*, which is reported with a wide variation of spore measurements, however. These spores ( $5-6 \times 3.5-4\mu$ ) are those of Peck's species. Other collections of *C. amethystina* (q.v.) have not been examined for spores.
- **ligula** Schaeff. On moss, under conifers, throughout N.S., by MacKay (38), Harrison (29) (KM-625, -626, -655, etc.) and the author (61). The stout, simple clubs occur in large troops and are quite common in coniferous woods; no doubt to be found in all three provinces.
- **longicaulis** Pk. From Kentville, N.S., by K. A. Harrison (KM-940). The spores ( $8.5-10.5 \times 3.5-4.3\mu$ ) of this collection are narrower than, and do not have the coarse warts of, this species, as described by Coker.
- **mucida** (Pers.) Fr. On wet decayed wood, usually associated with a greenish surface growth of algae, and considered by some to be a lichen. Reported by MacKay (38), Harrison (KM-627), and the author (61), from N.S. Quite common.
- **muscoides** (L.) Fr. Found on soil or duff, in mixed woods, in Colchester (61) and Kings (KM-628, -629, -944) (29) Co., N.S.; and in N.B., by Hay (30) and Van Horne (59).
- **obtusissima** Pk. On soil, under conifers, from Colchester (61), Annapolis (KM-631), and Kings (KM-630) Co., N.S.
- **ornatipes** Pk. (*Lachnocladium ornatipes* (Pk.) Burt). On soil, Inverness (61) and Kings (KM-632, -935) Co., N.S.
- **pistillaris** (L.) Fr. On soil, from Annapolis (38), Colchester (61), and Kings (KM-633, -634, -946) Co., N.S.; and reported from P.E.I., by R. R. Hurst. This large, simple, clavate species grades off into forms with expanded and sunken, pileus-like clubs that are placed under *Graterellus pistillaris* Fr.
- **pulchra** Pk. On soil, in mixed woods, from Halifax (37) and Colchester (61) Co., N.S. This species has the clubs simple, and more scattered, not so fasciculate as in *C. fusiformis*. It is quite common and no doubt found throughout this area.

- Clavaria purpurea** Fr. emend. Kauffm. On soil, under conifers, from N.S. (61); and from Minister's Island, N.B., by Van Horne (58, 59), determined by Peck, who gave it as the first report from North America. This latter collection was not checked for the presence of cystidia as described by Kauffman.
- **pyxidata** (Pers.) Fr. On decayed logs, from N.S. (29, sub *C. coronata*) (61) (KM-635,-636, -660). Very common on old logs and undoubtedly occurring in all three provinces.
- **rosea** (Dalm.) Fr. Collected in Kings Co., N.S., by K. A. Harrison (KM-637).
- **rufescens** Schaeff. Collected at Kentville, N.S., by K. A. Harrison (KM-638,-639).
- **rufipes** Atk. On decayed leaves, Colchester Co., N.S. (61).
- **rugosa** (Bull.) Fr. Reported on soil, from N.S., by Somers (55b), MacKay (38), and the author (61); and from N.B., by Hay (31). This species may represent an abnormal form of *C. cristata*.
- **secunda** Berk. & Curt. *sensu* Coker. On soil, Colchester Co., N.S. (61).
- **stricta** (Pers.) Fr. On decaying hardwood logs and old wood, from Colchester (61), Lunenburg (38), Kings (29) (KM-641,-945), and Pictou (37) Co., N.S. Quite common on hardwoods and differing in its habitat, and slightly larger spores ( $7-8.5 \times 3-4\mu$ ) from *C. acris*.
- **subcaespitosa** Pk. Collected at Kentville, N.S., by K. A. Harrison (KM-937). This collection differs from those referred to *C. subtilis* in the much larger plants and larger ( $3.5-5.3 \times 2.5-3.5\mu$ ) and strongly spiny spores.
- **subfalcata** Atk. On bare soil, from Annapolis (KM-640) and Colchester (61) Co., N.S.
- **subtilis** Pers. *sensu* Oudemans. On soil, mixed woods, Colchester Co., N.S. (61).
- **suecica** Fr. On leaf mold, under conifers or hardwoods, Colchester Co., N.S. (61). Occurring in troops, with a tomentose base attached to the decaying leaves and duff by mycelial strands.
- **vermicularis** (Scop.) Fr. On soil, Colchester (61), Lunenburg (38), and Kings (29) (KM-642,-643) Co., N.S. A collection by Harrison (KM-611), labelled *C. citriceps*, is immature but shows spores ( $4-5.3 \times 2-2.5\mu$ ) oblong-ellipsoid, rather than subglobose, and seems to be this species. This is the common white *Clavaria* with simple, fragile clubs. Many of its variations have been separated off as species of doubtful value.
- **xanthosperma** Pk. On soil, mixed wood, Truro (61) and Kentville (KM-644), N.S.
- Physalacria inflata** (Schw.) Pk. On decaying wood, from Colchester (61) and Kings (KM-457) Co., N.S.
- Pistillaria micans** (Pers.) Fr. On decayed stems of *Cirsium*, Colchester Co., N.S. (61).
- Typhula gyrans** (Batsch) Fr. On old leaves, Colchester Co., N.S. (61).

#### Hydnaceae

- Grandinia farinacea** (Pers.) Bourd. & Galz. On decayed conifers and hardwoods, Colchester Co., N.S. (66) (W-1425a; det. H. S. Jackson).
- Hericium caput-ursi** (Fr.) Banker. On decaying logs, Kentville, N.S., by Harrison (29) (KM-662,-1235). Branches short and stout, otherwise similar to *H. coralloides* and *H. laciniatum*, which may be merely growth forms of one species and are sometimes difficult to separate. Hay's report (32) of this species, from N.B., with "spines nearly an inch long", may have been *H. coralloides*.
- **coralloides** (Scop.) Pers. ex. Fr. On *Fagus grandifolia* Ehrh., from Colchester (W-1427a), Cumberland (62), Lunenburg, and Pictou (38) Co., N.S.; on birch, from Halifax Co. (55d, 37), N.S.; and from N.B. (31); and P.E.I. (R. R. Hurst). This species has longer branches and teeth clustered at the tips.
- **erinaceus** (Bull.) Pers. Reported by MacKay (37), from Antigonish, N.S., as *Hydnum erinaceus* Bull.
- **laciniatum** (Leers) Banker. On *Fagus grandifolia* Ehrh., from Colchester Co., N.S. (62). This species has elongate branches with teeth over their entire length.

- Hydnellum caeruleum** (Fl. Dan.) **comb. nov.** (*Calodon caeruleum* (Fl. Dan.) Quél.). Reported by Hay (31), from N.B., determined by W. G. Farlow as *Hydnum caeruleum*, with the remarks "this is a very interesting plant. I am inclined to think that it is really *H. caeruleum*, a species much confused in the books".
- **cyaneotinctum** (Pk.) Banker. On soil, under conifers, Colchester Co., N.S. (62).
  - **Diabolus** Banker. On soil, under conifers, Colchester Co., N.S. (62). This species, with reddish juice, is quite common in N.S., during moist weather. It was first described, by Banker (Mem. Torrey Botan. Club, 12: 151) as *H. carbunculus* (Secr.) Banker, but later (Mycologia, 5: 194) found to be distinct and described as a new species. A number of collections of K. A. Harrison (KM-665, -666, -693, etc.) labelled *Hydnum ferrugineum* (which is a doubtful species and probably the same as Secretan's *H. carbunculus*) seem to be this species.
  - **floriforme** (Schaeff.) Banker. As previously pointed out (62), the collections of this variable species, with orange colorations in the pileus, can be segregated into two groups as has been done by previous authors. The Maritime collections have not all been examined, but they may be distributed as follows. *Hydnum compactum* Pers.: collections from Colchester (62) (W-1040, -1040a and b) and Kings (KM-Aug. 7, 1931) Co., N.S. and reports (as *H. compactum*) from Pictou Co., N.S. (38); and N.B. (30). *Hydnum hybridum* Pers.: collections from Colchester (62) (W-67) and Kings (KM-697) Co., N.S.; and reported (as *H. aurantiacum* Alb. & Schw.) by Hay (31), from N.B.
  - **geogenium** (Fr.) Banker. On soil, under conifers, from Colchester (62) and Kings (KM -668 to -670) Co., N.S. Pilei usually in complicate masses with bright greenish-yellow tips to the teeth.
  - **mirabile** (Fr.) **comb. nov.** On needle duff, under conifers, Colchester Co., N.S. (62).
  - **parvum** Banker. On spruce duff, Colchester Co., N.S. (62). This small, thin, zonate plant was first referred, by Banker (Mem. Torrey Botan. Club, 12: 158) to *Hydnellum zonatum* (Batsch) Karst., which he later found to be a synonym of *H. concrescens*. It is difficult to say what the plants referred to in the literature as *H. zonatum* (q.v.) really are.
  - **scrobiculatum** (Fr.) Banker. Hay (31) reports *Hydnum scrobiculatum* Fr. from N.B. There is so much confusion in regard to this group of species that it is difficult to say what plant Hay had.
  - **suaveolens** (Scop.) Karst. On soil, under conifers, from Colchester Co., N.S. (62); and from N.B., by Hay (31), determined by W. G. Farlow. A handsome white plant with bluish colorations, drying with a fragrant odor and a dark indigo tint in the lower stipe tissues.
  - **zonatum** (Batsch) Karst. Banker (Mem. Torrey Botan. Club, 12: 158) first used this name for the small, zonate, brown *Hydnellum* that he later (Mycologia, 5: 199) gave the name of *H. parvum*. At the same time he pointed out that the name *H. zonatum* should be used for the larger zonate plant that he previously had called *H. concrescens* and which is a synonym. Fries (Syst. Mycol. 1: 405) includes both these species and *H. scrobiculatum* Fr. under his *Hydnum cyathiforme*. As a result, this binomial, in lists, means very little. The large zonate plant, which properly belongs here, has been collected in Colchester and Halifax Co., N.S. (62), by the author and three collections, by Harrison (KM-678, -1000, -1234), from Kings Co., are also this large plant. Numerous other collections by Harrison have not been examined. There are reports of *Hydnum zonatum*, by Somers (55b) and MacKay (38), from N.S., and by Hay (31) from N.B.; and of *H. scrobiculatum* Fr., by Hay (31), from N.B.
- Hydnochaete olivaceum** (Schw.) Banker (*Irpez cinnamomeus* Fr.). On twigs of beech and oak, from Kentville (KM-70, and April, 1932) and on coniferous twigs, from Shelburne Co. (66), N.S.; and on *Quercus borealis* Michx. f. var. *maxima* (Marsh.) Ashe., from Fredericton, N.B. (O-F7294).
- Hydnum fusipes** Pers. Reported from N.B., by Hay (31), determined by W. G. Farlow. This binomial is given as a synonym of *Sarcodon infundibulum* (Swartz) Quél. by Bourdot and Galzin (6). Banker (3) doubts the existence of either of these species from North America.
- **repandum** (L.) Fr. A common and variable species found on soil. Reported throughout N.S. (55a, 29, 38, 62); and from N.B. (30, 59). A white variety was collected by Harrison (KM-676, -721, -1233). Reported from N.B., as *Hydnum rufescens* Schaeff., by Van Horne (59) and Hay (31) and as *H. umbilicatum* Pk., from N.B., by Hay (31).

- Irpex fusco-violaceus** Fr. (*I. violaceus* Pers.) var. **lenzitoides** Pk. Hay (31) states that Peck suggested this varietal name for one of his collections. What Peck had may have been the form of *Polyporus abietinus* (q.v.) that shows radiate lamellae-like ridges.
- **Tulipiferae** Schw. (*Polyporus Tulipiferae* (Schw.) Overh.). On beech, birch, cherry, poplar, and other dead wood, from N.S. (37, 66) (KM-66a to c; O-F5493); and N.B. (18) (B-18146). Quite common on dead branches.
- Mucronella aggregata** Fr. On fir log, Victoria Park, Aug. 30, 1933 (W-1640) and Aug. 20, 1935 (W-1795), Truro, N.S. Teeth small (400-1000 $\mu$ ) with practically no subiculum.
- Odontia**. This is a very difficult genus, particularly the group of species including *O. arguta*, *O. crustosa*, *O. lactea*, *O. spathulatum*, *O. bicolor*, etc. A large number of collections of this type have been made in Nova Scotia by the author and sent to various authorities as Cejp, Donk, and Cain for determinations, but different individuals have different conceptions of species. More recently Dr. Cain has kindly made a comparative study of these collections, and the following distribution and remarks are largely from his notes, kindly furnished for this purpose.
- **barba-Jovis** Fr. On *Abies balsamea* (L.) Mill., Victoria Park, Truro, N.S., July 5, 1935 (W-1719 pr. p.), det. R. F. Cain.
- **bicolor** (Alb. & Schw.) Bres. On decayed coniferous logs, from Colchester (66, det. K. Cejp) (W-1757, -1757a and b; fide R. F. Cain) and Kings (KM-111; O-F5139, -F5480) Co., N.S. This species has cystidioles that are capped by radiate crystalline deposits and has ellipsoid spores 4-6  $\times$  2-3 $\mu$ .
- **crustosa** (Pers.) Quél. Collections from Colchester Co., N.S., on *Fagus* and *Abies* (W-483, -349, -1289) were checked by R. F. Cain; a fourth, on *Sambucus pubens* Michx. was not (66). Also collected in Kings Co. (KM-112; O-F5206), on *Picea*. This species is ceraceous, has small pointed cystidioles without any resinous or crystalline caps, and has ellipsoid spores as in *O. bicolor*. The surface cracks up on drying.
- **fimbriata** Fr. (*Mycoleptodon fimbriatum* (Fr.) Bourd. & Galz.). On decayed hardwoods, from Halifax (55b, 37) and Colchester Co. (66), N.S. A pale tan separable species with very minute teeth and incrusting hyphae in the axis of the teeth.
- **fusco-atra** (Fr.) Bres. (*Acia fusco-atra* (Fr.) Pat.). On decayed hardwood stick (66, det. Cejp and Donk) (W-1731, July 1935; fide H. S. Jackson), from Colchester Co., N.S.
- **lactea** Karst. Collections from Colchester Co., N.S., on *Abies* (W-1641, -1719 (pr. p.), -1719a to c, -1737) and *Betula* (W-1779) were determined by R. F. Cain. Other collections on *Abies* and coniferous wood, from Kings Co., N.S. (KM-108, -108a and b; O-F5207, -F5210, -F5211) have not been seen. This is a very common soft, floccose, creamy-white species with short "molar" teeth and subglobose spores, 3-5  $\times$  2.5-3.5 $\mu$ . There are numerous subulate cystidioles, capped with apical resinous globules, that have been overlooked because of their solubility in potassium hydroxide, lactic acid, and other reagents commonly used as mounting media.
- **papillosa** (Fr.) Bres. On decayed beech, Colchester Co., N.S. (66), det. K. Cejp. This species is very similar to *O. lactea*, but has ellipsoid spores.
- **spathulata** (Fr.) Litsch. Collections on decayed wood, from Colchester (W-1101, -1201, -1730) Co., and on *Abies*, from Kings (KM-113, -113a; O-F5485, -F5490) Co., N.S., were determined by R. F. Cain. KM-113b (O-F5491) was not examined. This is another confused species, very similar to *O. lactea* but with a more compact hymenium and ceraceous texture and larger, irregular teeth.
- Phellodon coriaceo-membranaceus** (Schw.) Banker. Under spruce, from Colchester Co., N.S. (62); and from N.B., according to Banker (3).
- **graveolens** (Delast.) Banker. Reported from Annapolis Co., N.S., by MacKay (38) and from Cumberland (KM-688, -689) and Kings (KM-684, -686, -690, -708, etc.) Co., N.S., by Harrison (sub *Hydnum graveolens* Delast.).
- **niger** (Fr.) Karst. From N.B., by Hay (31, sub *Hydnum nigrum* Fr.).
- **tomentosus** (L.) Banker (*Hydnum cyathiforme* Schaeff.). Reported, under conifers, from Colchester (62), Cumberland (KM-710), Kings (KM-664, -709), Lunenburg (KM-691), and Pictou (38) Co., N.S.; and from N.B., by Hay (31).
- **vellereus** (Pk.) Banker. Under hardwoods, Colchester Co., N.S. (62).



- Phlebia merismoides** Fr. On beech, Kentville, N.S. (KM-114a; O-F5460).
- **radiata** Fr. On beech, Colchester Co., N.S. (66), fide M. A. Donk.
- **strigoso-zonata** (Schw.) Lloyd. On *Populus* sp., Colchester Co., N.S. (66).
- Radulum orbiculare** Fr. On *Abies balsamea* (L.) Mill. (O-F5486), *Acer saccharum* Marsh. (O-F2990), *A. spicatum* Lam. (W-1723), *Alnus* sp. (W-1784), *Betula alba* L. (66), and *Pinus* sp. (O-F5209), from N.S., and no doubt to be found in the other two provinces. These collections may include forms that would be put under the next species by some investigators, but the validity of various characters is still doubtful in this group.
- **quercinum** Fr. On *Malus pumila* L., from Sheffield Mills, N.S. (O-F6136).
- Sarcodon fennicus** Karst. Reported under conifers, by Fraser, in MacKay's list (38), from Merigonish, N.S.
- **fragilis** (Fr.) Quél. MacKay (37) reports a *Hydnum fragile* Fr. from Halifax, N.S. Lloyd (letter 54, note 224) refers a collection by Miss Hibbard, from Nova Scotia, to *Hydnum reticulatum* (*Sarcodon reticulatus* Banker), which also has hyaline spores similar to *H. fragile*. It seems probable that both these collections are the species *S. stereosarcinon* (q.v. and 62, p. 102).
- **imbricatus** (L.) Karst. Reported, on soil in woods, from Kings (KM-673-674) (29), Lunenburg (KM- J. A. Bagle, 1933), and Pictou (27, 38) Co., N.S.; and from N.B., by Hay (30) and Van Horne (59).
- **laevigatus** (Swartz) Karst. Reported by Hay (31; sub *Hydnum laevigatum* Swartz), from N.B.
- **radicatus** Banker. On soil, beneath overturned stump, Colchester Co. (62), N.S.
- **reticulatus** Banker. See *S. fragilis*, above.
- **scabrosus** (Fr.) Bourd. & Galz. ? Reported from N.S., by MacKay (38), as *Hydnum scabrosum* Fr.
- **stereosarcinon** Wehm.\* Described (62) from collections made in Colchester Co., N.S. This species is very abundant under conifers in Nova Scotia, often forming large clusters of the solid-fleshed brown pilei. It is intermediate between *Sarcodon* and *Hydnum* and has tuberculate, hyaline (pale brown in mass) spores. It differs from other species with light colored spores, as *S. montanus* Kauffm. and *S. reticulatus* Bank. in the heavier build, lack of true reticulation between the teeth, etc. (62, p. 102). No authentic material of the *S. fragile* of Europe has been seen for comparison.
- Sistotrema confluens** (Pers.) Fr. Somers (55a) reports this species from Halifax, N.S., but he may have had a form of *H. repandum*.
- Steccherinum ochraceum** (Fr.) S. F. Gray. On *Alnus*, *Betula*, and *Fagus*, from Colchester (66) (W-1806) and Kings (KM-110; O-F5474) Co., N.S.

#### Polyporaceae

- Daedalea confragosa** (Bolt.) Fr. On alder, beech, birch, and willow, throughout N.S., reported by Somers (55b), MacKay (37, 38), Harrison (KM-54a and b) and the author (62). Also from N.B., by Fowler (18) and from Tobique River (O-F3875) and Edmundston (B-16711G), N.B.; and from P.E.I. (O-F2234). Quite common on hardwood stumps and logs.
- **quercina** (L.) Fr. Reported on old trunks, from Halifax (37), Lunenburg, and New Glasgow (38), N.S., in Mackay's lists.
- **unicolor** (Bull.) Fr. Reported on many hardwood hosts including alder, apple, beech, birch, and cherry, from Annapolis (KM-121a), Colchester (62), Kings (KM-30, 38, 56, -121, -751 to -754), Lunenburg (38), and Pictou (37, 38, 55b) Co., N.S.; from N.B., on *Betula* (O-F697) and *Acer pennsylvanicum* L. (D. V. Baxter, Aug., 1945) and by Hay (31, sub *D. cinerea*) and Fowler (18); and from P.E.I., on *Alnus* (O-F5066), *Betula* (O-F5760), and *Acer* (D. V. Baxter, Aug., 1945). Very common on decaying wood throughout this area.
- Favolus canadensis** Klotzsch (*F. europaeus* Fr.). On *Fagus grandifolia* Ehrh., from N.S., by MacKay (37, 38), Harrison (KM-53a), and the author (62). Common on this host, probably in the other provinces also.

\*Recent correspondence with Dr. W. C. Coker indicates that this species is the same as his *Sarcodon bresipes*, which binomial, because of previous publication (*Elisha Mitchell Sci. Soc. 65: 375. 1939*) should be used.

- Fistulina hepatica** Fr. ? Reported by MacKay (37), from N.S.
- Fomes annosus** (Fr.) Cke. Reported by Somers (55a, sub *Polyporus annosus* Fr.) and MacKay (37), from Truro, N.S.
- **applanatus** (Pers.) Wallr. (*Ganoderma applanatum* (Pers.) Pat.). Reported on the dead wood of many hardwood trees as follows: from N.S., on dead wood (37, 38), *Acer* (62), apple (62) (KM-750), *Betula* (KM-22b; O-F2196), blue beech (*Carpinus* ?) (KM-22a), and *Quercus borealis* Michx. f. var. *maxima* (Marsh.) Ashe (O-F7207); from N.B. on dead wood, by Hay (31), and on *Fagus* (B-14122K), by Baxter; and from P.E.I., on *Betula populifolia* Marsh. (O-F5049, F5050), *Populus tremuloides* Michx. (O-F5059, F7207), and *Ulmus* sp. (O-F5054).
- **conchatus** (Pers.) Gill. On *Salix*, from Kentville, N.S. (KM-1258); on *Fraxinus*, from St. Andrews (O-F4534) and on *F. nigra* Marsh., from Edmundston (B-14139F), N.B.
- **connatus** (Weinm.) Gill. On *Acer saccharum* Marsh., from N.S. (62) (KM-52, -107; O-F5475) and P.E.I. (O-F5064); on apple (KM-52b), from N.S.; on *Betula lutea* Michx. f., from Spring Hill, N.B. (O-F7996); and on *Acer pennsylvanicum* L., from Edmundston, N.B. (B-14145B).
- **Everhartii** (Ell. & Gall.) von Schrenk. On *Betula alba* L. var. *papyrifera* (Marsh.) Spach., from Orwall, P.E.I. (O-F5060).
- **fomentarius** (L.) Gill. Reported on maple (62), from N.S.; on beech, from N.S. (62) (KM-18) and P.E.I. (O-F5061) [9(9)]; on birch, from N.S. [9(10), 55a, 62] (O-F7276), from N.B. (O-F3829; B-141750), and P.E.I. (O-F3943); and on dead wood, from N.S. (38) and N.B. (30). A common sap rot throughout this area; the sporophores often occurring in large numbers on standing beech.
- **igniarius** (L.) Gill. This species has been reported from various hosts as follows: from N.S., on dead wood (38), *Betula* spp. (62) (KM-90; O-F2895), *Fagus* (O-F5027, F5028), *Populus* spp. (37, 56a, 62), and *Malus pumila* L. (62) (KM-20a); from N.B., on dead wood (31), *Acer* [9(9)], *Betula* [9(7)], *Populus tremuloides* Michx. (B-14201B), *Salix* [9(6)], and *Ulmus* [9(6)]; and from P.E.I., on *Betula populifolia* Marsh. (O-F3958) and *Populus tremuloides* (O-F5063) [9(9)]. The resupinate form, commonly cited as a variety or species, *F. laevigatus* Fr., is also common on down birch, etc. Sterile specimens cited under this name are, often, actually *Poria obliqua* (q.v.).
- var. **nigricans** Fr. This variety is reported, usually on birch, from N.S., by Somers (56a), MacKay (37, 38), and Harrison (KM-73a, -749); from N.B., on *Betula lutea* Michx. f. and *Acer pennsylvanicum* L. (B-14226 G and H); and from P.E.I., by R. R. Hurst.
- **Pini** (Thore ex Fr.) Lloyd (*Trametes Pini* Thore ex Fr., *Polyporus piceinus* Pk., etc.). On fir and spruce (16, 62) (KM-84) and on beech (KM-748), from N.S.; and by Hay (31) and Baxter (B-22021L), from N.B. This is a very widespread and variable species, with many synonyms (see Haddow, Trans. Brit. Mycol. Soc. 22: 182) causing a great deal of damage in the decay of coniferous wood.
- **pinicola** (Swartz) Cke. Reported on coniferous wood, from N.S. (37, 38, 61); on *Betula* (62) (KM-20, -1270), from N.S.; on *Picea*, from N.S. (KM-51; O-F2197); N.B. (B-14271X); and P.E.I. (O-F3968, F3970, F5035, F5055, F5776); and on *Pinus*, from N.B. (O-F694).
- **Ribis** (Schum.) Gill. Reported on the bases of old red currant bushes, by MacKay (38), from Dartmouth, N.S. Rather rare.
- **roseus** (Alb. & Schw.) Cke. On *Picea*, from N.S. (O-F2202, -3087); and Brackley Pt., P.E.I. (O-F3980). Mounce and Macrae (Can. J. Research, C, 15: 154) have shown that *F. roseus*, with ellipsoid spores  $5-7 \times 2.5-3.5 \mu$ , is specifically distinct from *F. subroseus* (q.v.), with slightly curved spores,  $4-7 \times 1-2 \mu$ , and report a collection from Fredericton, N.B., on *Abies balsamea* (L.) Mill.
- **scutellatus** (Schw.) Cke. On *Alnus*, from Colchester, Co., N.S. (62); and Bass River, N.B., by Fowler (18, sub *Polyporus*). Fairly common on this host.
- **subroseus** (Weir) Overh. (*Trametes subroseus* Weir, *Polyporus carneus* Nees). Reported on fir, hemlock, and spruce logs, from N.S. (37, 62) (KM-24, -24b, -747); and N.B. (31). These collections are placed here tentatively, inasmuch as spores were seen from only one (KM-747). These were  $4-5 \times 1.5 \mu$ . Any of them may be *F. roseus* (q.v.).

- Lenzites abietina** Fr. On larch stump, from Halifax and Pictou Co., N.S., by MacKay (37). This species differs from *L. sepiaria* only in the presence of ventricose cystidia. This collection may have been that species.
- **betulina** (L.) Fr. (*L. flaccida* (Bull.) Fr.). This species is found on the dead wood of many different hosts. It has been reported from N.S. on dead wood (37, 38, 55b), apple (KM-57, -59, -744), beech (62) (KM-60, -60a, -61, -745), birch (37, 55a, 55b, 62) (KM-57, -59, -62; O-F2215), hazelnut (KM-58), oak (KM-57; O-F7205), poplar (55b), and willow (55b); from N.B., on dead wood (31); and from P.E.I., on *Betula lutea* Michx. (O-F5888). Very common throughout this region, on hardwoods.
- **sepiaria** (Wulf.) Fr. Reported on coniferous wood from N.S. (38) (KM-63), N.B. (18, 31), and P.E.I. (Hurst); on *Abies* from N.S. (62), and N.B. (O-F695, -3828; B-11347R); on *Pinus* from N.S. (37, 55b); and on *Picea* from N.B. (O-F3830; B-11347S) and P.E.I. (O-F5038, -F5744). The common brown *Lenzites* on coniferous wood.
- **trabea** (Pers.) Fr. One collection from St. Andrews, N.B. (O-F3838). This species is similar to *L. sepiaria* but has elongate pores rather than true lamellae and usually occurs on hardwoods. It may have been overlooked by collectors for this reason.
- Merulius aureus** Fr. On coniferous wood, Portapique Beach, Colchester Co., N.S., July 1935 (W-1758), fide H. S. Jackson.
- **lacrymans** Wulf. ex Fr. Reported on planks and cordwood, usually of conifers, from N.S. by Somers (55b, 37), Harrison (KM-99, -757; O-F5498), and the author (62); and from N.B. by Hay (31), as a variety, *pulverulenta* (determined by Atkinson).
- **niveus** Fr. On *Alnus*, from Kentville (KM-147; O-F5458) and Truro (W-1808, Sept., 1935, det. H. S. Jackson), N.S. Very soft and cottony, light-colored, ridges or pores often tardily formed and then easily mistaken for a *Stereum*.
- **porinoides** Fr. On *Fagus* sp., Colchester Co., N.S. (62), det. M. A. Donk.
- **tremellosus** (Schröd.) Fr. Reported on beech (KM-91, -998; O-F3184) and maple (KM-756) limbs, from Kings Co., N.S., by Harrison.
- Polyporus abietinus** (Dicks.) Fr. Reported on *Abies* from N.S. (62) (KM-45; O-F2899), N.B. (30) (O-F707, -F708, -F3834, -F4010; B-5815A), and P.E.I. (O-F4025); on *Picea* from N.S. (37, 55b) (KM-44a, -802) and P.E.I. (O-F5056); on *Pinus* from N.S. (KM-44; O-F2923); and on *Tsuga*, from N.S. (37, 55b) (O-F7206) and N.B. (18). Hay (32) reports a *Trameetes abietinus*, which may be either this or *T. Abietis* (*T. Pini*). In another paper (31), he reports a variety, *lenzitoides*, of *Irpex fusco-violaceus* Fr., named by Peck. The writer has reported (62) collections of this species with radiate, lamellate, or irpicoid hymenophore, which is probably what was sent to Peck. This common coniferous species is quite distinct from *P. pargamensis*, on hardwoods, in this region.
- **adustus** (Willd.) Fr. From N.S. (37, 62), on *Betula* (KM-1240), *Populus* (KM-17a, -29, -801; O-F2199, -F2210), and *Salix* (KM-27; O-F2209); and from N.B., by Hay (32).
- **albellus** Pk. (*P. chioneus* Fr.). This species has been reported from N.S., on *Acer saccharum* Marsh. (62), *Alnus* (KM-80b; O-F2988), *Betula* (62) (KM-80a), *Fagus* (62) (KM-805), and *Salix* (37), and on dead wood, from N.S. (38) and P.E.I. (O-F4055, -F4064, -F4065). There has been much difference of opinion regarding the interpretation of the closely related species, *P. albellus* and *P. chioneus*, and reports cannot always be depended upon. *P. chioneus* has been reported from N.S., by MacKay (37, 38); and from N.B., by Hay (31).
- **anceps** Pk. On pine, from Salt Springs, Pictou Co., N.S. (62).
- **balsameus** Pk. On *Abies balsamea* (L.) Mill. (16, 62) (KM-74) and on *Picea* (O-F2894), from N.S.
- **benzoinus** (Wahl.) Fr. Reported on *Tsuga canadensis* (L.) Carr., from Halifax, Pictou (37), and Colchester Co. (62), N.S.; and from N.B. by Hay (31), det. W. G. Farlow. This is considered as a form of *Polyporus resinosus* by most authorities, but the plants on hemlock, seen by the author, were so distinct in their hispid, blue-black, zonate pilei, that they are kept separate here.
- **betulinus** (Bull.) Fr. Common everywhere on birch; reported from N.S. (37, 38, 62) (KM-1271; O-F2194); N.B. [30, 59, 9(9)]; and P.E.I. [9(9)] (O-F4074).
- **biformis** Klotzsch. Reported on old fence logs, from Pictou, N.S., by MacKay (37).

- Polyporus borealis** Fr. On *Tsuga canadensis* (L.) Carr. (37) and *Picea* spp. (62), from N.S.; and on *Abies balsamea* (L.) Mill. (O-F3833) and *Picea* spp. (O-F3581), from N.B.
- **brumalis** (Pers.) Fr. Reported on dead wood, from N.S. (37, 38) (KM-1246), and P.E.I. (O-F3336); on *Fagus*, from N.S. (KM-3,-804; O-F2232); and on *Betula*, from N.S. (KM-3a) and N.B. (O-F3379). The common stalked, black-brown, small-pored species on decaying wood.
- **caeruleoporus** Pk. Reported on soil, near birch tree, from Kentville, N.S. (KM-14,-14a, -800,-1241,-1244; O-F2229); and from N.B., by Hay (31), det. W. G. Farlow. A stalked fleshy polypore with a blue to violet pileus of the ovinus type, considered to be very rare.
- **caesius** (Schrad.) Fr. Reported on dead wood, from Pictou (37) and Kings (KM-798) Co., N.S.; on coniferous wood, from Kings Co. (KM-797), N.S. and St. Andrew's, N.B. (O-F3822,-F3831); on *Abies*, from Kings Co. (KM-799), N.S.; on *Acer*, from Cape Breton, N.S. (O-F3333); on *Betula*, from P.E.I. (O-F4066); and on *Fagus*, from Colchester (62), and Kings (KM-77C; O-F2900,-F2901) Co., N.S.
- **chioneus** Fr. The reports of this fungus by MacKay (37, 38), from N.S.; and by Hay (31), from N.B. belong under *P. albellus*.
- **cinnabarinus** (Jacq.) Fr. (*Trametes cinnabarina* (Jacq.) Fr.). Reported from N.S., on dead wood (38, 55b) (KM-771; O-F2897), birch (37, 62) (KM-78; O-F2896), and beech (62); from N.B., on dead wood (18, 31), and beech (O-F9199); and from P.E.I., on dead wood (O-F4098,-F4100), and *Prunus* (O-F1978). Common and often collected, because of its bright cinnabar color.
- **cinnamomeus** (Jacq.) Fr. On soil, by MacKay (38), from Annapolis and Lunenburg Co., and by the author (62), from Inverness Co., N.S. Much rarer in occurrence than the similar *P. perennis*.
- **circinatus** Fr. On soil, under conifers, usually spruce, from N.S. (37, 38, 62) (KM-16,-68b and c, -780,-1245, etc.; O-F2221,-F2230); N.B. (31) (O-F3090,-F3816,-F3824); and P.E.I. (O-F2343,-F4105,-F4106,-F4108). Haddow (Trans. Brit. Mycol. Soc. 25: 179) says that the plant called *P. circinatus* in America is the *P. tomentosus* of Fries and that the species (or variety) *P. dualis* Pk. is the *P. circinatus* of Fries with curved setae. Gosselin (Farlowia, 1: 525), furthermore, separates *P. tomentosus*, with centrally stalked sporophores, on soil, and straight setae, from *P. circinatus* with laterally attached sporophores, on wood, and with both straight and curved setae. Hay's report, from N.B., was under the name of *P. tomentosus*; the author's collections had straight setae and would fall within *P. tomentosus* according to these views; the remaining collections were not examined.
- **conchifer** (Schw.) Fr. On dead and down limbs of elm, Kings Co., (KM-26,-794; O-F2207), N.S.
- **confluens** (Alb. & Schw.) Fr. Collected on soil, under woods, from Colchester (62) and Kings (KM-12,-13,-13a,-792,-793,-1243; O-F2224,-F2225) Co., N.S. Differing from *P. ovinus* in the reddish coloration of the pore surface when dried.
- **cristatus** (Pers.) Fr. From Mountville, N.B. (O-F3217).
- **destructor** Fr. This species was reported on decaying fir wood, by Somers (37), from Halifax, N.S. It is a rare species of the *albellus* group and the determination is doubtful.
- **dichrous** Fr. From Annapolis Co., N.S., by Harrison (KM-102; O-F5476). Fowler (18) reports a *P. nigropurpurascens* Schw., from N.B. Overholts (Mycologia, 15: 217) says the type of this species is *P. dichrous* or *P. adustus*. Fowler may have had this species.
- **dryadeus** (Pers.) Fr. This species is reported by Somers (56a, 37), from Dutch Village, N.S., on dead trees.
- **dryophilus** Berk. (*P. Rheades* (Pers.) Fr. var. *vulpinus* (Fr.) Overh.). On *Populus* sp., from Bocabec, N.B. (O-F5024,-F5025).
- **dualis** Pk. Reported by Hay (31), from N.B., and determined by W. G. Farlow. This is the form of *P. circinatus* with curved setae, which Haddow considers to be the true *P. circinatus* (q.v.) of Fries.
- **elegans** (Bull.) Fr. On decaying sticks and logs of birch, hemlock, and other hosts, from N.S. (37, 38, 62) (KM-5,-6,-791; O-F2968,-F2969,-F7208); N.B. (30, 31); and P.E.I. (O-F4141,-F4142).



- Polyporus epileucus** Fr. Reported in MacKay's lists, from Lunenburg (38) Co. and on birch, from Halifax and Pictou Co. (37), N.S. This is a doubtful species; these collectors probably had *P. albellus* or a related white polypore.
- **fagicola** Murrill (*P. squamosus* var. *fagicola* (Murr.) Graff.). On *Fagus grandifolia* Ehrh., from Colchester (62) and Kings (O-F3861) Co., N.S.
- **fibrillosus** Karst. On *Abies balsamea* (L.) Mill., from Colchester (62) and Kings (KM-100; O-F5497) Co., N.S.; and from Brackley Pt., P.E.I. (O-F4146). Not common.
- **fragilis** Fr. On coniferous wood, from N.S. (62) (KM-49,-1239; O-F2246,-F2892); and N.B. (O-F3586,-F5008).
- **frondosus** (Dicks.) Fr. On an oak stump (29) (KM-7,-7a), from Kentville, N.S.
- **fumosus** (Pers.) Fr. Reported as common on old stumps, in N.B., by Hay (30); and on *Aesculus*, from P.E.I. (O-F5065).
- **galactinus** Berk. On *Betula lutea* Michx. f., from Kentville, N.S. (KM-81,-81a; O-F2989).
- **glomeratus** Pk. On maple log, from Colchester (62) and on beech limbs, from Kings (KM-65; O-F2223) Co., N.S.
- **guttulatus** Pk. On coniferous wood, from Colchester Co., N.S. (62) (W-1247a); and from Brackley Pt., P.E.I. (O-F4163).
- **hirsutulus** Schw. On *Acer pennsylvanicum* L., from Colchester Co., N.S. (62). This collection differs from *P. versicolor* in the small, thin (0.1 mm.), light-colored pilei.
- **hirsutus** (Wulf.) Fr. Reports from N.S., on dead wood (37, 38, 55b), *Betula* (62) (KM-790), *Fagus* (62) (KM-34,-35,-37; O-F2970,-F2974), and *Salix* (O-F2975); from N.B., on dead wood (18, 31), *Betula lutea* Michx. f. (B-5832E), and *Ulmus* (O-F3818); and from P.E.I., on dead wood (O-F4170). A very common species on many hardwood substrata.
- **hirtus** Qué. At the base of a balsam fir, Colchester Co., N.S. (62). A western species, seemingly rare in the east.
- **incarnatus** Fr. This species is reported on willow, by Somers (55b) and MacKay (37), from Halifax and Pictou, N.S. This name refers to a *Poria*, but it is difficult to say what these collectors had.
- **leptocephalus** Fr. Reported on dead willow, from Halifax, N.S., by Somers (55b, 37), in 1880. Lloyd (Stip. Pol. 3: 170) gives this as a form of *P. elegans* without a black stipe (*P. albiceps*).
- **lucidus** (Curt.) Fr. See *P. Tsugae*.
- **nidulans** Fr. (*P. rutilans* (Pers.) Fr.). On *Betula* (62) (KM-31,-789; O-F2220) and *Fagus* (62) (KM-31a; O-F3085,-F5496), from N.S.
- **osseus** Kalchbr. Reported by MacKay (37), from Pictou, N.S.
- **ovinus** (Shaeff.) Fr. Collected on soil, in Colchester (62) and Kings (KM-10,-11,-11a, -803,-1247; O-F2226,-F2227) Co., N.S.; and at St. Andrew's (O-F3582) and Joe's Pt. (O-F3730), N.B.; and reported from N.B., by Hay (31).
- **pargamenus** Fr. Found on hardwood logs and stubs, from N.S. (37, 38, 62), N.B. (18, sub *P. elongatus* Fr.), and P.E.I. (O-F4196); on *Acer*, from P.E.I. (O-F5759); on *Betula*, from N.S. (O-F2925), and N.B. (O-F706,-F9542); and on *Fagus*, from N.S. (KM-47,-47a,-48; O-F2926,-F2927).
- **perennis** (L.) Fr. Very common and widely distributed on soil. Reports from N.S. (37, 38, 55b, 62) (KM-1a,-2,-2a,-778,-779,-811 to -813; O-F2222,-F2228,-F3083,-F4190); N.B. (30, 59) (O-F8329); and P.E.I. (O-F4186,-F4192). Approaching *P. cinnamomeus* in appearance in the young condition, but with the pileus duller, lighter in color, and more zonate with age and with a large guttula in the spores.
- **picipes** Fr. Found on decaying or buried wood, from N.S. (37, 38, 62) (KM-4a to c,-788, -1238; O-F2902,-F2903); and on willow, from N.B., by Hay (30).
- **radiatus** (Sow.) Fr. Reported from N.S. on dead wood (37, 55b), *Acer* (62), *Alnus* (KM-116), *Betula* (62) (KM-772; O-F5457), and filbert (*Corylus*) (KM-773); from N.B. on dead wood (31), *Alnus* (30), *Betula* (O-F3084,-F3380,-F3398; B-6077H), and hazel (*Corylus*) (30); and from P.E.I. on dead wood (R. R. Hurst). Differing from *P. gilvus* in the fibrous context, striate and zonate, lighter yellow-brown pileus, and usually found on genera of the Betulaceae.

- Polyporus resinosus** (Schr.) Fr. From N.S. (KM-787), on spruce stump (KM-15; O-F2200), and on apple wood (KM-795, sub *P. connatus*, in error); and on *Fraxinus* (O-F3827), from St. Andrews, N.B. The variety found on hemlock is placed under *P. benzoinus* in this list. Harrison's collection on spruce may belong there.
- **salignus** Fr. The fungus reported by Somers (55b, 37) on willow, from Halifax, N.S., as *P. saligenus* Fr. is probably a typographical error for this species. Lloyd considers this species a form of *P. fumosus* with globose spores.
- **Schweinitzii** Fr. On the roots, or at the base of conifers, particularly firs and pine, from N.S. (16, 38, 62) (KM-8; O-F2204, -F4744); N.B. (31) (O-F5043); and P.E.I. (O-F4243; Baxter, August, 1945). MacKay (38) reports *P. hispidioides* Pk., which is a synonym of this species, on spruce, from New Glasgow, N.S.
- **semisupinus** Berk. & Curt. On *Betula* and *Fagus*, from Colchester Co., N.S. (62). Not uncommon.
- **spumeus** (Sow.) Fr. Reported by Somers (55b, 56b, 37), from Halifax Co., N.S., on poplar.
- **squamosus** (Huds.) Fr. Reported on stump of *Ulmus*, Kentville, N.S., Aug., 1934, by K. A. Harrison.
- **sterioides** Fr. *sensu* Romell. On *Alnus* sp., from Edmundston, N.B., by D. V. Baxter (B-6145F).
- **sulphureus** (Bull.) Fr. Reported on dead wood, from Antigonish, Colchester, Halifax, Pictou (37), and Kings (29) Co., N.S., and from P.E.I. (O-F4245); on conifer stump, from Halifax (38) Co. N.S.; and on *Betula*, from Colchester (62); on *Prunus*, from Kings (KM-776, -777); and on *Quercus*, from Kings [9(5, 10)] (KM-119, -119a; O-F1392) Co., N.S.
- **tephroleucus** Fr. On *Betula lutea* Michx. f., from Kentville, N.S. (O-F2992). Similar to *P. albellus*, but with a grayish pileus and unbranched hyphae.
- **tomentosus** Fr. See discussion of *P. circinatus* Fr.
- **Tsugae** (Murr.) Overh. (*Ganoderma Tsugae* Murr.). On logs and stumps of hemlock, spruce, and other conifers, throughout N.S. (29, 37, 38, 62) (KM-746, -796, -1269; O-F2203, -F5978, -F8131); and from N.B., by Hay (30). This species is sometimes lumped with *P. lucidus* Fr. The form occurring on conifers, and chiefly hemlock, is large, stipitate, with a heavily incrustated surface having the appearance of a dark mahogany varnish and a whitish context. It appears to be a distinct species in this area.
- **ulmarius** (Sow.) Fr. Reported, by MacKay (37), from Pictou, N.S. *Fomes geotropus* is supposed to be a southern form of this species, but its occurrence in this region seems doubtful.
- **varius** Fr. Collected in N.S., on apple, from Colchester (62), Hants (KM-770; O-F2219), and Kings (KM-23a) Co.; on beech, from Kings (KM-1242; O-F5494) Co.; and on maple, from Colchester (62) Co. This species was seen to cause a heart rot of apple at Truro, N.S., and fruiting bodies were collected year after year from the trunk.
- **velutinus** Fr. On *Alnus* (KM-33a), *Betula populifolia* Marsh. (O-F2971), *Fagus* (62), and *Populus* (KM-33b), from N.S. This species is sometimes united with *P. pubescens* (Schum.) Fr., but differs in the thinner somewhat grayish or brownish pileus.
- **versicolor** (L.) Fr. Abundant everywhere on decaying wood. Found on *Alnus*, *Betula*, *Fagus*, *Larix*, *Malus pumila* L., and *Tsuga*. Reported from N.S. (55a, 37, 38, 62) (KM-39 to -43, -774, -775; O-F2245, -F2976); N.B. (18, 30) (O-F4295; B-5865J); and P.E.I. (O-F4301, -F5062, -F5770). Hay (31) reports a form with dark pores, determined by W. G. Farlow, from N.B.
- **zonatus** Fr. Reported by MacKay (37), from Pictou, and collected on *Populus* (O-F2972), at Kentville, N.S. Differs from *P. versicolor* chiefly in the thicker context and orange-brown colors.
- Poria ambigua** Bres. On *Populus* and inside old stump, from Colchester Co., N.S. (62).
- **attenuata** (Pk.) Cke. See *Poria eupora* (Karst.) Cke.
- **candidissima** (Schw.) Cke. On fallen fir, from Kentville, N.S. (KM-64; O-F3342).
- **corticola** (Fr.) Cke. On *Populus*, Colchester Co., N.S. (62).
- **crustulina** Bres. On *Abies balsamea* (L.) Mill., Truro, N.S. This is the plant previously placed as *P. flavicans* Karst. by American authors, and cited as *Poria* sp. in a previous paper (62).

- Poria eupora** (Karst.) Cke. Reported (62), on *Fagus* and *Salix*, from Colchester, and on *Betula*, from Victoria Co., N.S., under the name of *Poria attenuata* (Pk.) Cke.
- **ferrea** (Pers.) Bourd. & Galz. On *Alnus*, from Truro, N.S. (62); and on *Acer saccharum* Marsh. (B-22659BC) and *A. pennsylvanicum* L. (B-22659BD), from Edmundston, N.B.
- **ferruginosa** (Schröd. ex Fr.) Karst. (*Polyporus ferruginosus* Fr.). Found on decayed wood, in N.S. (KM-117,-117a; O-F5484,-F5495) and N.B. (18); and on *Abies balsamea* (L.) Mill. (W-1686), *Fagus* (62), and *Salix* (O-F4770), in N.S.; and on *Acer pennsylvanicum* L. (B-227140), from N.B.
- **medulla-panis** (Pers.) Cke. See *P. unita*.
- **obliqua** (Pers.) Bres. Reported on *Betula*, from Kentville, N.S. (O-F2277); and on *B. lutea* Michx. f., from Fredericton (O-F1384) and Edmundston (B-23049B), N.B. Campbell and Davidson (Mycologia, 30: 553) have pointed out that many of the sterile conks formerly referred to *Fomes ignarius*, and related species, belong here as a distinct species.
- **prunicola** (Murr.) Sacc. & Trott. On *Betula lutea* Michx. f., from Kentville, N.S. (O-F3197); and on *Prunus* sp., from Edmundston, N.B. (B-22915F).
- **punctata** Fr. On *Salix* sp., Truro, N.S. (62); and on *Acer pennsylvanicum* L., from Edmundston, N.B. (B-22756).
- **semitincta** (Pk.) Cke. On *Betula* and other decayed wood, Colchester Co., N.S. (62).
- **sericeo-mollis** (Romell) Baxter. From Whiskey Springs, Cloud Lake, N.S. (O-F5129).
- **subacida** (Pk.) Sacc. On coniferous logs, from N.S. (16, 62) (O-F5477); and Fredericton, N.B. (O-F2192).
- **subiculosa** (Pk.) Cke. On *Thuja occidentalis* L. (B-23049B), Edmundston, N.B., Aug. 8, 1943, by D. V. Baxter. Rather rare in North America.
- **subincarnata** (Pk.) Murr. Collected on coniferous logs (62), fir (62) (KM-106a; O-F5132), and spruce (KM-106; O-F5133), in Colchester, Kings, and Victoria Co., N.S.
- **unita** (Pers.) Karst. Reported, under the synonym *P. medulla-panis* (Pers.) Cke., by MacKay (37), from Dalhousie and Pictou, N.S.; and from Edmundston, N.B., by Baxter (B-22822).
- **vulgaris** Fr. *sensu* Romell. On *Abies*, Colchester Co., N.S., (62), det. D. V. Baxter. This species is very similar to *P. lenis* but differs in the less strongly curved spores (see Papers Mich. Acad. Sci. 28: 224). *Polyporus vulgaris* is also reported from N.S., by Somers (55b) and MacKay (37), but it is difficult to say what plant they had. Two of four collections (KM-782 to -785) examined from Harrison's herbarium, under this name proved to be a *Hydnellum* and *Polyporus perennis*, so that the others are also under suspicion.
- **xantha** (Lind.) Cke. On *Populus*, Colchester Co., N.S. (62). This specimen is the thin form typical of *P. xantha* and not the thick one, sometimes segregated into *P. crassa*, according to D. V. Baxter.
- Porothelium fimbriatum** (Pers.) Fr. On *Betula*, *Fagus*, *Populus*, and other hardwoods, by the author (62) and Somers (55b, 37), as *P. Friesii* Mont., from N.S. Quite common.
- Trametes americana** Overh. (*T. protracta* Fr.). On *Picea* sp., from Kentville, N.S. (KM-115; O-F5500); and from Tobique River, N.B. (O-F4268). This species has previously gone under the name of *T. odorata* Wulf. ex Fr. and was considered by some as a pored form of *Lenzites sepiaria*, but Mounce and Macrae (Can. J. Research, 14: 215) have shown them to be distinct. MacKay (37) reports a *Trametes odora* Fr., in his list, which is probably *T. odorata* and should be placed here.
- **heteromorpha** (Fr.) Lloyd. On hemlock, from Kings (KM-810,-997; O-F2613,-F3183) and on other conifers (62), from Colchester Co., N.S.
- **hispida** Bagl. On *Populus* sp., from Colchester Co., N.S. (62).
- **mollis** (Sommerf.) Fr. On elm (KM-50,-50a; O-F2247,-F2991) and maple (KM-809), from Kentville, N.S.
- **sepium** Berk. On *Abies balsamea* (L.) Mill., from Albert Co., N.B. (O-F3219).
- **serialis** Fr. From Glace Bay, N.S. (O-F4813).
- **sterioides** (Fr.) *sensu* Romell (*Polyporus planellus* (Murr.) Overh.). This species is reported on *Alnus*, from Edmundston, N.B., by Baxter (August, 1943).
- **suaveolens** (L.) Fr. On willow, from Kings Co., N.S. (KM-67; O-F2994).
- **variiformis** Pk. On spruce log, from Annapolis Co., N.S. (KM-104; O-F5549).

*Boletaceae*

- Boletinus cavipes** Kalchb. Reported from Shelburne, Halifax, and New Glasgow, N.S., by MacKay (37, 38); and from N.B., by Hay (31) and Farlow (15). See also *Boletus ampli-  
porus* Pk.
- **merulioides** (Schw.) Coker & Beers (*B. porosus* Pk.). From New Glasgow (38) and on lawn, from Wolfville, N.S. (KM-593). Snell (in litt.) says "I am convinced that Murrill was right in calling this (*B. porosus*) *merulioides* Schw. Murrill of course, put it in *Boletinellus* and no one has made the *Boletinus* combination. I examined Schweinitz's type of *Daedalea murulioides* and am sure that it is the same as *B. porosus*."
- **paluster** Pk. Reported from Halifax, Pictou, and Shelburne (55b, 37) and under fir, from Colchester Co. (52), N.S.; from N.B., by Hay (31); and from P.E.I., by R. R. Hurst.
- **pictus** Pk. Under fir, from Colchester (52) Co., and on soil, from Kings (29) (KM-551, -996) and Shelburne (37) Co., N.S.
- **porosus** Pk. See *B. merulioides* (Schw.) Coker & Beers.
- Boletus aeruginascens** Secr. (*B. viscidus* Fr.). Snell and Slipp (in litt.) give this as the proper name for *Boletus viscidus*, which was found singly, under conifers, in Colchester Co., N.S. (52). Snell (Mycologia, 25: 211) also considers *B. elbensis* as the same as this species. This latter species was reported from N.B., by Hay (32).
- **affinis** Pk. Reported by MacKay (38), from Waverly, N.S.
- **albus** Pk. Reported by Hay, from N.B. (31). Snell (Mycologia, 25: 231) says this is the European *B. placidus* (q.v.).
- **albellus** Pk. Reported by Hay (31), from N.B.
- **americanus** Pk. Reported by MacKay, from Middleton (37) and New Glasgow (38); by Harrison (KM-738), from Kentville; and by the author (52), under *Alnus* and other shrubs, from Truro, N.S.; and by Hay (31), from N.B.
- **ampliporus** Pk. Reported from Pictou, N.S. (55b, 37). Peck gives this as a synonym of *Boletinus cavipes*.
- **badius** Fr. Reported under pine and hemlock in Halifax and Pictou (37, 55b) Co., and under beech woods, in Colchester Co., N.S.; and from Campobello, N.S., by Hay (31), det. W. G. Farlow.
- **bicolor** Pk. Under oak, from Kentville, N.S. (KM-727, -728).
- **bovinus** (L.) Fr. From Lunenburg and Dartmouth, N.S., by MacKay (38); and in pine woods, from N.B., by Hay (30). Snell (in litt.) says "as far as I know, this species has not with certainty been found in this country."
- **calopus** Fr. Snell (Mycologia, 28: 464) states that *B. pachypus* Fr. is the same as *B. calopus* Fr., which is rare in this country, whereas a similar form, *B. albidus* subsp. *eupachypus* Konr. (now considered by Snell (in litt.) to be *B. radicans* Pers. ex Fr.) is more common. *B. calopus* is reported, by MacKay (37), from Middleton, N.S. and *B. pachypus* is reported from Pictou and Halifax Co., N.S., by Somers and MacKay (56b, 37), and in a hay field, from Colchester Co., N.S. (52).
- **castaneus** Fr. In mixed woods, from Colchester (52) and Kings (KM-552, -992, -994) Co., N.S.
- **chromapes** Frost. Under fir and spruce, from Middleton, Dartmouth, and New Glasgow, N.S., by MacKay (37, 38); on grassy soil under spruce, from Truro, N.S. (52); and from Kentville, N.S., by Harrison (KM-553, -554). From N.B., by Hay (30) and Van Horne (58, 59); and from P.E.I., by R. R. Hurst.
- **chrysenteron** Fr. Reported from Middleton (37), New Glasgow (38), and Kentville (KM-725, -729, -730), N.S.; Minister's Island, N.B. (59); and from P.E.I., by R. R. Hurst.
- **Clintonianus** Pk. See *B. elegans* Fr.
- **collinitus** Fr. Reported by MacKay (37), from Pictou, N.S. Generally supposed to be the same as *B. granulatus* (Snell, in litt.).
- **conicus** Rav. Reported from Dartmouth, N.S., by MacKay (38), with spores  $12 \times 4\mu$ . Snell (in litt.) states that this report is doubtful, inasmuch as this species has never been reported north of S. Carolina, and its spores range from  $14-20 \times 3.5-7\mu$  (usually  $16-18 \times 6-7\mu$ ).



- Boletus cyanescens** Fr. Found gregarious, on a bare hillside, under maple, in Colchester (52) Co., and also in Hants (KM-600) and Kings (KM-555) Co., N.S.; from Minister's Island, N.B. (58, 59), in frondose woods, N.B. (15); and from P.E.I. by R. R. Hurst.
- **dartmouthi** MacKay. Described by MacKay (37) from material from a "forest covered town site", near Dartmouth, N.S. This species was given, by Murrill, as the same as *B. luridus*. Snell (in litt.) after a study of the description, says that it is impossible to tell whether or not it is a good new species. Concerning its relationships, he says "this species is certainly not *luridus*—at least on the basis of the description—as Murrill states. It is likewise not *erythropus* or *subvelutipes*, unless MacKay forgot to mention the turning to blue all over. It could be *firmus* Frost, if the stipe were reticulate and the flesh turned to blue, and it could be *vermiculosus* Pk., if the flesh were not so decidedly yellow. The flesh of many of these *Luridi* varies from white to yellow."
- **edulis** Fr. Found under conifers and on grassy areas, in Colchester (52) Co., and reported from Kings (29) (KM-556) and Lunenburg (38) Co., N.S.; by Hay (30), from N.B.; and by R. R. Hurst, from P.E.I. The most common species throughout the summer, occurring singly and in groups.
- var. **clavipes** Pk. Reported by MacKay (37), from Middleton, N.S.; and by Van Horne (59), from Minister's Island, N.B.
- **elbensis** Pk. See *B. aeruginascens* Seer.
- **elegans** Fr. According to Kallenbach (Pilze Mitteleur. Bd. I) and Snell (Mycologia, 24: 339; 25: 221) *B. Clintonianus* is the same as *B. elegans* and *B. flavus* is a synonym of this latter species. Later, Singer (Rev. Mycol. 3: 42) considered *B. flavus* as a good distinct species, and Snell (in litt.) now agrees with this conclusion. *B. elegans* was found under spruce (52), in Colchester Co., and under larch (KM-557), in Kings Co., N.S.; and in P.E.I., by R. R. Hurst. *B. Clintonianus* Pk. has been reported by MacKay (37, 38) from N.S.; by Hay (30) and Van Horne (59), from N.B.; and by Hurst, from P.E.I.
- **eximius** Pk. Gregarious, under conifers and in grassy areas, Colchester (52), Halifax (38), and Kings (KM-558) Co., N.S.
- **felleus** Fr. Reported on very rotten wood, from Colchester Co. (52) under hardwoods, from Kings Co. (KM-559, -560, -595, -596, -726, -734) and by MacKay (37, 38), from Middleton and New Glasgow, N.S.; and from Minister's Island, N.B., by Van Horne (59).
- **firmus** Frost. Gregarious, on bare soil, under beech, Colchester Co., N.S. (52).
- **flavus** (With.) Fr. Reported by Somers (55b) and MacKay (37), from Halifax and Pictou Co., N.S.; and by Hay (30), from N.B. (see remarks under *B. elegans*).
- **gracilis** Pk. Reported from Middleton, N.S., by MacKay (37).
- **granulatus** Fr. Gregarious, under conifers, from Colchester Co. (52) and from Kentville (KM-561 to -563), Middleton (38), and New Glasgow (37), N.S. (See *B. collinitus*).
- **hemichrysus** Berk. & Curt. On old stump, Colchester Co., N.S. (52).
- **luridus** Fr. Reported by Somers (55a; sub *B. lividus*) and found singly under conifers, in Colchester (52) and Kings (KM-564 to -566, -590, -595, -597) Co., N.S.; by Van Horne (59), from N.B.; and by Hurst, from P.E.I. The variety *erythropus* Fr., has been reported, by MacKay (37), from N.S.; and by Farlow (15), from N.B. Snell (in litt.) states that this species has been very much confused in this country and makes the following comment concerning the Maritime reports, "I am convinced that most of what is called *luridus* or *erythropus* is Peck's *subvelutipes*. This species can very readily be determined by the rich yellowish, orange or reddish velvetyness at the base of the stipe, usually only in a small patch but sometimes  $\frac{1}{2}$  the way up the stipe. It would be my suspicion that most of the collections in Nova Scotia would turn out to be *subvelutipes*."
- **luteus** (L.) Fr. Under spruce, from Halifax (55b), Lunenburg (38), Pictou (37), and Kentville (KM-731), N.S. Snell (Mycologia, 24: 338) is inclined to believe that the common American species (*B. subluteus* Pk.) (q.v.) differs from the European *B. luteus*.
- **magnisporus** Frost. Reported by MacKay (37), from Halifax Co., N.S.
- **ornatipes** Pk. Reported by MacKay (38), from Middleton, N.S. Snell (in litt.) says, "thought by many to be the same as *retipes* B. & C".

**Boletus pachypus** Fr. See *Boletus calopus* Fr.

- **Peckii** Frost. On the ground, in open woods, Colchester Co., N.S. (52).
  - var. **laevipes** Pk. Reported from Halifax, N.S., by MacKay (38).
  - **piperatus** Fr. On soil, in open fields, from Middleton and New Glasgow (38), N.S.; under conifers, from Truro (52) and from Kentville (KM-567,-568), N.S.; and in woods, from N.B., by Hay (30) and Van Horne (59).
  - **placidus** Bonord. Harrison (KM-736) reports this species for a plant "white, like *luteus* except for color". Snell considers this species the same as *B. albus* (q.v.).
  - **punctipes** Pk. Reported by MacKay, from Halifax Co., N.S. (37).
  - **purpureus** Fr. Reported by MacKay (38), from Dartmouth, N.S.
  - **radicans** Fr. Reported by MacKay (37), from Halifax, N.S.
  - **Ravenellii** Berk. & Curt. From Kentville, N.S., determined by K. A. Harrison (KM-569, -594).
  - **retipes** Berk. & Curt. From Middleton (37) and Kentville (KM-570,-571,-993), N.S. (see *B. ornatipes*).
  - **rubinellus** Pk. Scattered, in mixed woods, from Truro (52) and Kentville (KM-572 to -574), and under conifers, from New Glasgow (38), N.S.
  - **salmonicolor** Frost. Reported by MacKay (38), from Dartmouth, N.S. Spores given as  $8-9 \times 3\mu$ . Snell (in litt.) says, of this species, "probably a form or variety of *luteus*".
  - **Satanas** Lenz. Reported from Antigonish, N.S., by MacKay (37).
  - **scaber** Fr. It is obvious from Snell's (*Mycologia*, 26: 349) discussion of this species that there has been a good deal of confusion in its determination and that the older reports may not be reliable. No attempt at placing these reports has, therefore, been made. They are all listed as originally given. This species is reported by MacKay (37), from Pictou and Shelburne and by Harrison (29) (KM-575,-576), from Kentville, N.S.; by Hay (30, 31) and Van Horne (59), from N.B.; and by R. R. Hurst, from P.E.I.
  - var. **fuliginus** Pk. From Middleton, N.S. by MacKay (38).
  - var. **fuscus** Pk. From Lunenburg and Middleton, N.S., by MacKay (37, 38).
  - var. **mutabilis** Pk. Under spruce, Colchester Co., N.S. (52).
  - var. **niveus** Pk. On humus, in mixed woods, Colchester Co., N.S. (52).
  - **separans** Pk. Reported by MacKay, from Halifax, N.S. (37).
  - **speciosus** Frost. Reported from Kentville, N.S., by Harrison (KM-577,-578); and from Campobello, N.B., by Hay (31), determined by W. G. Farlow.
  - **subaureus** Pk. Scattered, in open mixed woods, Colchester (52) and Kings (29) (KM-579,-580) Co., N.S.
  - **subglabripes** Pk. Reported by MacKay (38), from Middleton, and by Harrison (KM-741), from Kentville, N.S.
  - **subluteus** Pk. Reported from Halifax (37) and Lunenburg (38), N.S., by MacKay, and from Kentville, N.S., by Harrison (KM-581). Snell (*Mycologia*, 24: 238) believes this to be the common American species and distinct from *B. luteus* L.
  - **subtomentosus** Fr. Reported on soil, from Colchester (52), Halifax (37), Hants (KM-592), and Kings (KM-582,-583,-598,-599) Co., N.S.; and from N.B. (30). A common and variable species.
  - **unicolor** Frost. Reported by MacKay, from Dartmouth, N.S. (38). Snell (in litt.) says, "I have examined Frost's type at Burlington, Vt., and I cannot decide what this all-yellow form is. It might be either *americanus* Pk. or *subaureus* Pk. At least I cannot see that it is distinct enough to be retained as a separate species."
  - **vermiculosus** Pk. From Kentville, N.S. (KM-732,-735), det. by K. A. Harrison.
  - **versipellis** Fr. Clustered, in woods and open places, Kentville (29) (KM-584,-733), New Glasgow (38), and Truro (52), N.S.; and from N.B., by Hay (30) and Van Horne (59).
- Strobilomyces strobilaceus** Berk. Singly, under hardwoods, from Colchester (52), and on soil, from Annapolis (KM-589), and Cumberland (KM-755) Co., N.S.; and from P.E.I., by R. R. Hurst.

*Agaricaceae*

- Amanita adnata* (Smith). Reported under spruce, by Somers (55a) and MacKay (37), from Halifax, N.S. MacKay says of Somers' report "probably *Amanitopsis adnata* of Roze".
- *bisporiger* Atk. Under hemlock, after the middle of August, Colchester Co., N.S. (52).
  - *brunnescens* Atk. On humus, in coniferous woods, Colchester Co., N.S. (52).
  - *caesarea* (Fr.) Quél. Reported in MacKay's lists, from Lunenburg (38), Antigonish and Truro (37), N.S.
  - *flavoconia* Atk. In coniferous and mixed woods, from Colchester (52), Kings (KM-151, -152, -814, -815), and Pictou (38) Co., N.S.; and from N.B., by Hay (31). Quite common and no doubt throughout this area.
  - *flavorubescens* Atk. Under conifers, oak, and mixed woods, Kings Co., N.S. (KM-153, -817, -818).
  - *Frostiana* Pk. Reported throughout N.S., by MacKay (38) and Harrison (KM-154, -816); and from N.B., by Hay (31). According to A. H. Smith, most reports of this species are doubtless based on *A. flavoconia* which is much more common. Singer (Mycologia, 25:161) has shown that *A. Frostiana* has amyloid spores and consequently is closely related to *A. muscaria*.
  - *junquillea* Quél. Reported from Kings Co., N.S., by Harrison (KM-155, -156).
  - *mappa* (Fr.) Quél. Reported from Kentville, N.S., by Harrison (29) (KM-158, -819); and from N.B., by Hay (31).
  - *muscaria* (Fr.) Quél. Reported under conifers and mixed woods, throughout N.S., by Somers (55a), MacKay (37, 38), Harrison (29) (KM-159, -160, -528), and the author (52); from N.B., by Fowler (18), Hay (30, 31), and Van Horne (59); and from P.E.I., by R. R. Hurst. Very abundant throughout the season.
  - *phalloides* (Fr.) Quél. Reported under spruce and on sandy lawns, throughout N.S., by Somers (55d), MacKay (37, 38), and Harrison (29) (KM-161, -163, -820, -821); and from N.B., by Hay (31, det. W. G. Farlow) and Van Horne (59).
  - *porphyria* (Fr.) Gill. On humus, under spruce, Colchester Co., N.S. (52).
  - *rubescens* (Fr.) Quél. Reported on grassy areas, near woods, or in open conifer or mixed woods, from Colchester (52), Halifax (38), Kings (29) (KM-162), and Pictou (38) Co., N.S. Fairly common and no doubt in all three provinces.
  - *solitaria* (Fr.) Quél. Found on humus, along the border of or under coniferous or mixed woods, Colchester (52) and Kings (29) (KM-164) Co., N.S.
  - *spissa* (Fr.) Quél. Reported under larch, Halifax, N.S., by Somers (55b) and MacKay (37).
  - *strobiliformis* (Fr.) Quél. MacKay (37) reports this species from Pictou, N.S., as a doubtful determination. Kauffman (34) believes American reports of this species are *A. chlorinosoma* Pk.
  - *tomentella* Kromb. From Evangeline Beach, N.S., by Harrison (KM-821).
  - *verna* (Fr.) Quél. Found on humus, under hardwoods, throughout N.S., by Somers (55d), MacKay (37, 38), Harrison (KM-822), and the author (52); and from N.B., by Van Horne (59) and Hay (31).
  - *virosa* (Fr.) Quél. Reported on humus, under mixed woods, from Colchester (52), Kings (KM-823), and Shelburne (37) Co., N.S.; and from N.B., by Hay (31).
- Amanitopsis parcovolvata* Pk. Collection by Harrison, from Grand Pré, N.S. (KM-168), checked by A. H. Smith.
- *strangulata* (Fr.) Roze. Collected at Kentville, N.S., by Harrison (KM-169).
  - *vaginata* (Fr.) Roze. Common and widespread in coniferous, broadleaf, and mixed woods. Reported from N.S., by Somers (55a), MacKay (37, 38), and Harrison (29) (KM-170 to -172, -825). Its many color varieties are reported as follows:
    - var. *alba* Sacc. Reported from Colchester (52) and Kings (KM-824) Co., N.S.; Minister's Island, N.B. (59); and from P.E.I., by R. R. Hurst.
    - var. *fulva* Sacc. Reported from N.S. (52); and N.B., by Hay (30) and Van Horne (59).
    - var. *livida* Pk. From N.S. (52) and N.B. (30, 59).

- Armillaria adnatifolia** (Pk.) Kauff. On dry slope, under spruce, Colchester Co., N.S. (52).
- **granulosa** (Fr.) Kauff. See *Lepiota granulosa* Fr.
- **imperialis** (Fr.) Quél. Reported under conifers, from Kentville, N.S., by Harrison (KM-174). His KM-173 was checked by A. H. Smith and found to be *A. ponderosa*, whereas his KM-985 of *A. ponderosa* was found to be this species, with spores  $14\mu$  long. Also reported from N.B., by Hay (31), Farlow (15), and by Van Horne (58, 59) from a collection determined by C. H. Peck, in woods of spruce and birch, at St. Andrews.
- **megalopoda** Bres. Reported by Hay (31), from N.B.
- **mellea** (Fr.) Quél. Commonly found at the base of decaying stumps of various trees. Reported on birch and hemlock [9(10)] and dead wood (29, 37, 38, 52, 56a) (KM-175,-176) from N.S.; and on dead wood from N.B. (18, 31, 59) (O-F2890); and P.E.I. (R. R. Hurst).
- **ponderosa** Pk. Collected under conifers, at Kentville, N.S. (KM-173). This collection was determined as *A. imperialis* (see that species). Also reported by MacKay, from N.S. (38); and by Hay (31) and Farlow (15), from N.B.
- **robusta** (Fr.) Gill. Reported from Middleton, N.S., by MacKay (38); and from N.B., by Hay (31).
- **ventricosa** Pk. On humus, under spruce, Colchester Co., N.S. (52); and from P.E.I., by R. R. Hurst. Fairly common.
- **viscidipes** Pk. Found singly, under spruce and birch, from Colchester Co. (52) and from Lunenburg, N.S., by MacKay (38).
- Bolbitius fragilis** Fr. On cow dung, from Halifax, N.S., by Somers (55b, 37).
- Cantharellus aurantiacus** Fr. On soil or very rotten logs, in conifer or mixed woods, throughout N.S., by MacKay (37, 38), Harrison (29) (KM-177,-178), and the author (52); from N.B., by Hay (30) and as the variety *pallidus* Pk., by Van Horne (59).
- **brevipes** Pk. Reported by Hay (31) and Van Horne (58), from N.B. The latter report was determined by Peck, the plant given as rare, and similar to *C. cibarius* except for the purplish tints. From Peck's description this species seems to be *C. clavatus*.
- **cibarius** Fr. Reported on humus, in coniferous and mixed woods, throughout N.S. (56a, 37, 38, 52) (KM-179,-928); and from N.B., by Hay (30, 31) and Van Horne (58, 59). This is the edible and much sought after "Chantarelle" of Europe. The egg-yellow to orange fruit bodies are quite common on rich humus, but are often spoiled or destroyed by grubs that feed on the flesh. The following varieties have been reported:
- var. **simplex** Pk. by Hay (31), from N.B.
- var. **confertifolius** Pk.
- var. **plicatellus** Pk. These two latter varieties are named as new, with no formal description, in Hay's list (31) of 1903. A note from Peck states, "they seem to run so close and vary so much that I conclude they should be considered as varieties. The last one (*plicatellus*), I thought at first was var. *simplex*, but I find its lamellae are decidedly more narrow than in typical specimens."
- **clavatus** Fr. Gregarious, under spruce and fir, Colchester (52) and Kings (KM-180,-526) Co., N.S.
- **floccosus** Schw. Found on humus, usually under conifers, throughout N.S. (29, 37, 38, 52) (KM-181,-929,-961); and from N.B. (31, 59). The large, stout, fleshy, vase-shaped fruit bodies of this species occur in large troops and are very common in coniferous woods.
- **infundibuliformis** Fr. Gregarious, under conifers, throughout N.S. (37, 52, 55d) (KM-183 to -187,-959); and from St. Andrews, N.B. (58). Also quite common.
- **lutescens** Fr. Gregarious, under spruce, on swampy ground, Colchester Co., N.S. (52).
- **multiplex** Underw. (*Craterellus multiplex* (Und.) Shope). Found under mixed conifers, from Coldbrook, Kings Co., N.S., by Harrison (KM-188), fide A. H. Smith. For notes on this species see Mycologia, 29: 286 and 30: 372.
- **umbonatus** Fr. On moss, from Kings Co., N.S. (KM-189,-190,-960); and from N.B. (31). Hay's report of *C. dichotomous* Pk. (31) also belongs here.



- Claudopus depluens** (Fr.) Gill. Reported in a pasture, on Melville Island, Halifax, N.S., by Somers (55b, 37 (sub *Agaricus*)).
- **nidulans** (Fr.) Karst. On beech and birch logs, from Kentville, N.S. (KM-192); and on decaying wood, from N.B. (30). MacKay's report (37) of *Panus dorsalis* may be this species.
- **variabilis** (Fr.) Gill. On sticks and leaves, Colchester Co., N.S. (52).
- Clitocybe bella** (Fr.) Gill. Under pines, from Halifax, N.S., by Somers (55b, 37) (sub *Agaricus*).
- **candicans** (Fr.) Qué. In woods, from Halifax (55b, 37), Lunenburg (38), and Pictou (KM-898), N.S.
- **clavipes** (Fr.) Qué. Reported from Kentville (KM-193), Middleton (38), and Shelburne (37, 38), N.S.; and from N.B. (31).
- **connata** (Fr.) Gill. On a decayed stump, Colchester Co., N.S. (52).
- **cyathiformis** (Fr.) Qué. On old logs and mossy lawn near shrubs, from Colchester (52) and Kings (KM-194,-895) Co., N.S.; and from N.B. (31).
- **decora** (Fr.) Gill. On rotten logs and in coniferous woods, Colchester (52), Hants (KM-547), and Kings (KM-195) Co., N.S.
- **ectypoides** Pk. On rotten coniferous wood, Annapolis (38), Colchester (52), and Kings (KM-196,-899) Co., N.S.
- **flaccida** (Fr.) Qué. Given by MacKay (37) as doubtful, for a *Clitocybe* sp. described by Somers (55b), from Halifax, N.S.
- **fumosus** (Fr.) Qué. Listed by Somers (55b) and MacKay (37, 38), from Halifax and Lunenburg, N.S. (sub *Agaricus*).
- **gigantea** (Fr.) Qué. Reported by Somers (55b, 56a (sub *Agaricus*)), from Halifax, N.S.; and by R. R. Hurst, from P.E.I.
- **gilva** Fr. *sensu* Ricken. On grassy hillside, under fir, Colchester Co. (52) and in windbreak, Kings Co. (KM-197), N.S.
- var. **splendens**. From Kentville, N.S. (KM-198,) by Harrison.
- **infundibuliformis** (Fr.) Qué. Reported from Colchester (52), Kings (KM-199,-200), Pictou (38), and Shelburne (37) Co., N.S. Plentiful after rains in N.B., according to Hay (30).
- (**Laccaria**) **laccata** (Fr.) Qué. On mossy, moist, or swampy areas. This most common, widespread, and variable species has been abundantly reported and collected from N.S. (37, 38, 52, 55a) (KM-201 to -204,-980); and N.B. (31). The following varieties have been reported.
- var. **amethystina** (Bolt.) Qué. From Hants (KM-205) and Kings (KM-546) Co., N.S.
- var. **pallidifolia** Pk. From Minister's Island, N.B. (59).
- var. **striatula** Pk. From Middleton, Pictou (38), and Kentville (KM-206) N.S.
- **leptoloma** Pk. At base of a beech stub, Colchester Co., N.S. (52).
- **metachroa** (Fr.) Qué. Reported by Hay (31), from N.B.
- **multiceps** Pk. Reported by MacKay (38), from Lunenburg, N.S.
- **nebularis** (Fr.) Qué. From Lunenburg (38) and Shelburne (37) Co., N.S.; and Minister's Island, N.B. (31, 59).
- (**Laccaria**) **ochropurpurea** Berk. On grassy or wooded areas, Annapolis (38) (KM-208), Colchester (52), and Kings (KM-270,-979) Co., N.S.; and from N.B., by Hay (30, 32). This species with bright purple gills can become quite large and striking, and often occurs in troops in wet areas.
- **odora** (Fr.) Qué. From Kings Co., N.S. (KM-209,-537,-548); and Chamcook Mt., N.B. (59).
- var. **anisearea** Pk. Under spruce, from Colchester Co., N.S. (52). Frequent.
- **opaca** (Fr.) Gill. Reported by Somers (55b, 37), from Halifax, N.S. (sub *Agaricus*). This species is not recognized from North America by Kauffman (Papers Mich. Acad. Sci. 8: 153).
- **piceina** Pk. Closely gregarious, on humus, under conifers, Colchester Co., N.S. (52).
- **tortilis** (Fr.) Gill. Collected in a greenhouse, at Kentville, N.S., by D. W. Creelman, determined by Harrison, fide A. H. Smith.

- Clitopilus abortivus** Berk. & Curt. Collected on hardwood debris, from Colchester (52) and Kings (KM-215,-987) Co., N.S.; and from N.B., by Hay (31).
- **albogriseus** Pk. Under conifers, Colchester Co., N.S. (52).
- **caespitosus** Pk. From Kentville (KM-915; fide A. H. Smith) and Coldbrook (KM-896), N.S.
- **micropus** Pk. Reported from Middleton, N.S., by MacKay (38).
- **novaboracensis** Pk. On hardwood debris, Colchester Co., N.S. (52).
- **orcella** (Fr.) Quél. Collected under spruce, in Colchester Co., N.S. (52); in pastures and open places, by Hay (30) and from Minister's Island, by Van Horne (59), in N.B.; and by R. R. Hurst, from P.E.I. Considered by some to be the same as *C. prunulus*.
- **prunulus** (Fr.) Quél. Reported under conifers, from Colchester (52) and Halifax (55b, 37) Co., N.S.; Bass River (18) and Minister's Island (59), N.B.; and from P.E.I., by R. R. Hurst.
- **subvilis** Pk. Reported by Van Horne (58, 59), from Minister's Island, N.B.
- Collybia acervata** (Fr.) Gill. Reported under mixed woods, from Lunenburg (38) and Colchester Co., N.S. (52); and on decaying wood and fallen leaves, from N.B. (30).
- **alcalinolens** Pk. From Colchester Co., N.S. (52).
- **butyracea** (Fr.) Quél. Reported under coniferous woods, Annapolis (38), Colchester (52), and Kings (KM-220 to -224,-767,-867,-868) Co., N.S.; and from N.B., by Hay (30). A common species under conifers, similar to *C. dryophila* of hardwoods, but with a striate stem and a "fatty" luster.
- **clausilis** Fr. *sensu* Schroet. In a sphagnum bog, Colchester Co., N.S. (52).
- **cirrhatta** (Fr.) Quél. Found on decaying pilei of agarics and boletes, in Hants (KM-1099) and Kings (KM-226 (fide A. H. Smith),-860) Co., N.S. There are three closely related species of *Collybia* found on decayed caps of fleshy fungi according to Davidson (Mrs. C. A. Arnold) (Papers Mich. Acad. Sci. 19:55). *C. cirrhata* forms no sclerotia and is usually found on caps of the current year, *C. cirrhata* var. *Cookei* forms wrinkled, yellowish sclerotia and *C. tuberosa* forms "apple-seed" red-brown sclerotia on caps of the preceding year.
- var. **Cookei** Bres. From Hants (KM-859) and Kings (KM-225,-861; fide A. H. Smith) Co., N.S. See above.
- **confluens** (Fr.) Quél. Gregarious, in clusters, under mixed woods. Reported from Colchester (52), Cumberland (KM-866), Hants (KM-863), and Kings (KM-227,-229,-233,-264,-265,-966) Co., N.S.; and from N.B., by Hay (31). Harrison's collection (KM-234) of *C. hariolorum*, from Kentville, N.S., is this species according to A. H. Smith. Quite common late in the summer.
- **dryophila** (Fr.) Quél. Reported on sphagnum, from Colchester (52), and on decaying leaves under hardwoods, from Halifax (37, 55a), Kings (KM-231,-232), and Lunenburg (38) Co., N.S.; and from N.B., by Hay (32). Similar to *C. butyracea* (q.v.).
- **familia** Pk. Reported on moss covered log, from Colchester Co., N.S. (52); and from N.B. by Hay (31).
- **lacunosa** Pk. On rotten logs of maple and conifer, from Halifax, Kentville, and Iona, N.S. (KM-235,-236,-237; fide A. H. Smith).
- **maculata** (Fr.) Quél. Reported from Kentville, N.S., by Harrison (KM-238,-965), fide A. H. Smith; and from N.B., by Hay (31).
- **myriadophylla** Pk. On moss covered log, from Colchester Co. (52) and on debris, from Kentville (KM-239,-862), N.S.
- **platyphylla** (Fr.) Quél. Found on old logs, and about old stumps, by MacKay (37, 38), from Lunenburg, and by Harrison, from Kings (KM-240,-241,-768) Co., N.S.; and by Hay (31), from N.B.
- **radicata** (Fr.) Quél. Reported on dead wood and on soil, probably from buried wood, from Colchester (52), Halifax (37, 55b), Kings (29) (KM-242), Lunenburg (37), Pictou (37, 38) Co., N.S. and throughout N.S. (55b, 29, 37, 38, 52) (KM-242). Very common and no doubt to be found in the other provinces also.
- var. **furfuracea** Pk. On soil (from stump ?), Truro, N.S. (52).
- var. **pusilla** Pk. On humus, Colchester Co., N.S. (52).
- **tuberosa** (Fr.) Quél. On old decayed caps of fleshy fungi, Colchester (52), Halifax, Hants, and Kings (KM-243,-244,-869,-1257) Co., N.S. See *C. cirrhata*.
- **velutipes** (Fr.) Quél. On elm and other buried wood, Kentville, N.S. (KM-245,-529).

- Coprinus atramentarius** Fr. On lawns and rich soil, Kentville (29) (KM-550) and Middleton (37), N.S.; and Minister's Island, N.B. (30, 58, 59).
- **comatus** Fr. On lawns and other rich soil, throughout N.S. (29, 37, 38, 55b); and from N.B. (31); and P.E.I., by R. R. Hurst. The "shaggy mane", sought as an edible species.
- **domesticus** Fr. Reported by MacKay (37), from Shelburne, N.S.
- **lagopoides** Karst. Collected on soil, in woods, at Kentville, N.S., by Harrison (KM-923).
- **micaceus** Fr. About stumps and on dung and compost, throughout N.S. (37, 38, 52, 55a) (KM-248,-249) and no doubt in the other provinces as well. Another edible species growing in large clumps.
- **miser** Karst. On rabbit dung, Colchester Co., N.S. (52).
- **ovatus** Fr. Reported, by Somers (37, 55b), from the Public Gardens, in Halifax, N.S.
- **plicatilis** Fr. On lawns and in pastures, Halifax (55b), Lunenburg (38), and Truro (52), N.S.; and from N.B., by Hay (31).
- **sterquilinus** Fr. Reported on cow dung, in woods, by Somers (37, 55a), from N.S.
- Cortinarius acutus** Fr. Gregarious, on moss, under spruce, Colchester Co., N.S. (52).
- **albo-violaceus** Fr. Reported by MacKay, from Lunenburg (38), and Pictou (37), N.S.; and by Van Horne (59), from Minister's Island, N.B.
- **annulatus** Pk. On humus, under mixed woods, Colchester Co., N.S. (52).
- **anomalus** Fr. Reported from Pictou, N.S., by MacKay (37), and as gregarious under beech, from Colchester Co., N.S. (52).
- **armeniacus** Fr. Reported by Somers (55a, 37), from Halifax, N.S.
- **armillatus** Fr. Reported in mixed woods, from Colchester (52), Kings (KM-250), and Pictou (37) Co., N.S.; and from Minister's Island, N.B. (30, 58, 59). Very common after the middle of August.
- **bolaris** Fr. On humus, under mixed woods, Colchester (52) and Kings (KM-910) Co., N.S.
- **caerulescens** Fr. Reported from N.B., by Van Horne (58, 59) and Hay (31), but doubtful.
- **callisteus** Fr. Reported from Halifax, N.S., by Somers (37, 55a).
- **caninus** Fr. Gregarious, on humus, Colchester Co., N.S. (52).
- **castaneus** Fr. Gregarious, on moss, under spruce, Colchester (52) and Halifax (37, 55a) Co., N.S.
- **chrysolitus** Kauff. Found singly, on sphagnum, Colchester Co., N.S. (52).
- **cinnamomeus** Fr. Gregarious, on grassy areas and under spruce, from Colchester (52), Halifax (55a), Kings (KM-986), Lunenburg (38), and Pictou (37) Co., N.S.; and from N.B. (31, 58, 59). Reports of the variety *semisanguineus* Fr. are placed under the species of that name.
- **collinitus** Fr. Reported from Halifax, N.S., by Somers (37, 55a); and from Minister's Island, N.B., by Van Horne and Hay (31, 59).
- **corrugatus** Pk. On humus, under beech-maple woods, Colchester Co., N.S. (52). Found only once.
- **cylindripes** Kauff. Reported singly, under fir and spruce, in Colchester (52) and Kings (KM-901,-902) Co., N.S. Not common.
- **delibutus** Fr. Solitary, under spruce, on a wet hillside, Colchester Co., N.S. Spores  $6.5-7.5 \times 5.6-5\mu$ , smooth. Reported under the synonymous binomial *C. sphaerosporus* Pk. (52).
- **dilutus** Fr. Gregarious, on humus, under mixed woods, Colchester Co., N.S. (52). Rather rare.
- **duracinus** Fr. Scattered, on moss, under spruce and fir, Colchester Co., N.S. (52).
- **erythrinus** Fr. Gregarious, on humus under hardwoods, Colchester Co., N.S. (52).
- **evernius** Fr. Reported as gregarious, on sphagnum, Colchester Co., N.S. (52); and from Minister's Island (59) and Campobello (31), N.B., the latter collection determined by W. G. Farlow.
- **firmus** Fr. On grassy soil, in open spruce woods, Colchester Co., N.S. (52, see for notes on this collection).
- **herpeticus** Fr. Gregarious, under spruce and fir, Colchester Co., N.S. (52).
- **hircinus** Fr. Gregarious, under spruce and fir, Colchester Co., N.S. (52, see for description). Rather rare.
- **infractus** Fr. Gregarious, under conifers, Colchester Co., N.S. (52).



- Cortinarius iodes** Berk. & Curt. Crowded, under second growth hard maple, Colchester Co., N.S. (52).
- **juberinus** Fr. On swampy ground, under spruce, Colchester Co., N.S. (52).
  - **lignarius** Pk. Reported by Hay (31) from N.B.
  - **lilacinus** Pk. On swampy ground, under spruce, Colchester Co., N.S. (52).
  - **lucorum** Fr. Gregarious, in wet upland woods, Colchester Co., N.S. (52).
  - **malicorius** Fr. Gregarious, under spruce and fir, Colchester Co., N.S. (52). Not common.
  - **Morrisii** Pk. Gregarious, in mixed woods, Colchester Co., N.S. (52).
  - **mucifluus** Fr. Scattered, under spruce, Colchester (52) and Kings (KM-911) Co., N.S.
  - **multiformis** Fr. On humus, under mixed woods, Colchester Co., N.S. (52).
  - **nigrellus** Pk. Scattered, under hardwoods, Colchester Co., N.S. (52).
  - **ochroleucus** Fr. Reported from Pictou, N.S. (37); and from Minister's Island, N.B. (59).
  - **pholideus** Fr. Gregarious, under fir and beech, Colchester Co., N.S. (52).
  - **plumiger** Fr. Widely gregarious, under mixed fir and beech, Colchester Co., N.S. (52, see for description).
  - **rimosus** Pk. Reported by Hay (31), from N.B.
  - **salor** Fr. On humus, under beech and maple, Colchester Co., N.S. (52). Differing from *C. iodes* in the broader spores (see 52).
  - **sanguineus** Fr. On humus, under spruce, Colchester Co., N.S. (52).
  - **scaurus** Fr. Reported by Hay (31), from Campobello, N.B., determined by W. G. Farlow.
  - **scutulatus** Fr. *sensu* Kauff. Gregarious, under spruce, Colchester Co., N.S. (52).
  - **semisanguineus** (Fr.) Kauff. Collected on soil, under conifers, Colchester (52) and Kings (KM-251, 252), Co., N.S. Collections cited as *C. cinnamomeus* var. *semisanguineus* Fr., also belonging here, are those of MacKay (38), from Middleton, N.S.; and of Hay (30, 31) and Van Horne (58, 59), from N.B.
  - **squamulosus** Pk. Solitary, under hardwoods, Colchester (52) and Kings (KM-253, 254) Co., N.S.
  - **subflexipes** Pk. On soil, under beech and maple, Colchester Co., N.S. (52). The spores of this collection averaged  $7.5-8.5(9) \times 4.5\mu$  and were distinctly roughened.
  - **sublanatus** Fr. Reported from Halifax (55b) and Pictou (37) Co., N.S. Not recognized as occurring in North America, by Kauffman.
  - **submarginalis** Pk. On humus, under hardwoods, Colchester Co., N.S. (52, see for notes).
  - **subpulchrifolius** Kauff. Scattered, under hemlock and birch, Colchester Co., N.S. (52).
  - **subpurpurascens** Fr. Gregarious to subcaespitose, under spruce and fir, Colchester Co., N.S. (52). Common in rainy periods in August and September.
  - **traganus** Fr. Under fir and spruce, Colchester Co., N.S. (52, see for notes). Frequent from July onwards, but apparently not previously reported from North America.
  - **triumphans** Fr. Gregarious, under conifers, Colchester Co., N.S. (52). Not infrequent during September, although reported as rare. Spores  $10-12 \times 5-6\mu$ .
  - **turbinatus** Fr. Reported by Somers (55b), from Pictou and by MacKay (37), from Halifax, N.S. Not recognized as occurring in North America by Kauffman.
  - **turmalis** Fr. Reported by Van Horne (58, 59), from Minister's Island, N.B.
  - **versicolor** Blytt. Reported by Hay (31), from N.B.
  - **vibratilis** Fr. Singly, on mossy ground under conifers, from Colchester (52) and Kings (KM-255) Co., N.S.
  - **violaceus** Fr. Occurring singly, under conifers, throughout N.S. (37, 38, 52) (KM-256); and reported from N.B., by Hay (31) and Van Horne (59).
  - **Whitei** Pk. Gregarious, in mixed woods, Colchester Co., N.S. (52).
- Crepidotus applanatus** (Fr.) Karst. On beech logs, Colchester (52) and Kings (KM-877) Co., N.S. Characterized by globose spores and narrow, tapering, decurrent gills. Harrison's collection (KM-261) of *C. malachius* seems to be this species, according to A. H. Smith.
- **haerans** Pk. On wood of deciduous trees, Colchester Co., N.S. (52).
  - **herbarum** Pk. On *Abies balsamea* (L.) Mill., from York Co., N.B. (O-F3396).
  - **malachius** Berk. & Curt. See under *C. applanatus*.
  - **mollis** (Fr.) Quél. Reported from N.B., by Hay (31).
  - **putrigenus** Berk. & Curt. Collected by Harrison (KM-263, 264), at Kentville, N.S., fide A. H. Smith.



- Crepidotus stipitatus** Kauff. On beech debris, Colchester Co., N.S. (52).  
 — **versutus** Pk. On beech, Colchester Co., N.S. (52).  
**Eccilia atrides** Fr. See *Leptonia serrulata*.  
 — **carneogrisea** Berk. & Br. Reported as common at Halifax, N.S. (37), by Somers.  
 — **rhodocylix** (Lasch) Gill. On an old stump, Colchester Co., N.S. (52).  
 — **roseoalbocitrina** Atk. On humus, under hardwoods, Colchester Co., N.S. (52, see for notes).  
**Entoloma clypeatum** (Fr.) Quél. Reported from Kentville, N.S., by Harrison (KM-266).  
 — **cuspidatum** Pk. On wet humus and sphagnum, under hardwoods, Colchester (52) and Hants (KM-267) Co., N.S. A striking pale waxy yellow species, resembling a *Hygrophorus*.  
 — **cyaneum** Pk. Solitary, on humus, under beech-maple woods, Colchester Co., N.S. (52).  
 — **grande** Pk. Gregarious, under fir, Colchester (52, see for descriptive notes) and Kings (KM-268,-532) Co., N.S.  
 — **Grayanum** Pk. Collected on soil, from Kentville, N.S., by Harrison (KM-269,-271,-879).  
 — **griseum** Pk. Reported as gregarious, on moist soil, Princeport, N.S. (52); and from P.E.I. by R. R. Hurst (det. at Ottawa).  
 — **lividum** (Fr.) Quél. On humus, under spruce and fir, Colchester Co., N.S. (52); and Minister's Island, N.B. (59).  
 — **luteum** Pk. Occurring singly, under beech-maple woods, Colchester and Halifax Co., N.S. A rather rare, yellow species (52, see for description).  
 — **madidum** (Fr.) Gill. Occurring singly, on humus, under mixed woods, Colchester Co., N.S. (52).  
 — **niderosum** (Fr.) Quél. Collected at Kentville, N.S., by Harrison (KM-272).  
 — **porphyrophaeum** (Fr.) Karst. Collected at Kentville, N.S., by Harrison (KM-273).  
 — **rhodopolium** (Fr.) Quél. Reported by Hay (32), from N.B., with a grayish shining pileus.  
 — **salmoneum** Pk. Scattered, on humus, under hardwoods, Colchester (52) and Halifax (KM-274) Co., N.S. Another striking species differing from *E. cuspidatum* in the bright salmon color.  
 — **sericatum** Britz. On needles, under spruce, Colchester (52) and Kings (KM-275) Co., N.S.  
 — **sericellum** (Fr.) Quél. Scattered, under hardwoods, Colchester Co., N.S. (52).  
 — **strictius** Pk. From a swamp, near Kentville (KM-276,-988) N.S. The *E. strictor* Pk., of MacKay's list (37), is probably a misprint for this species name.  
**Flammula alnicola** Fr. var. **marginalis** Pk. See *Pholiota malicola*.  
 — **decorata** Murr. On moss and debris, Colchester Co., N.S. (52).  
 — **lenta** (Fr.) Gill. On buried sticks of birch, Colchester Co., N.S. (52).  
 — **penetrans** (Fr.) Quél. This binomial is given with a question mark in Hay's list (31).  
 — **spumosa** (Fr.) Karst. Reported on coniferous wood, from Colchester Co., N.S. (52); and from N.B., by Hay (31).  
**Galera Hypnorum** (Fr.) Quél. (*Galerina Hypnorum* (Fr.) Kühner, *Galerula Hypnorum* (Fr.) Atk.). Reported from Halifax, N.S., by Somers (37).  
 — **ovalis** (Fr.) Gill. (*Conocybe ovalis* (Fr.) Kühn.). Reported by Somers (37, 55a), on cattle droppings, from Halifax, N.S.  
 — **tenera** (Fr.) Quél. Reported by MacKay (38), from Lunenburg, N.S.  
**Gomphidius glutinosus** Fr. Reported from Halifax, (37, 55a) and Kentville (KM-279), N.S.  
 — var. **roseus** Fr. Reported in woods, from Halifax, N.S., by Somers (37, 56a).  
 — **maculatus** Fr. Under spruce and fir, Colchester (52) and Kings (KM-280,-982) Co., N.S.  
 — **subroseus** Kauff. In a bog, under conifers, Colchester Co., N.S. (52).  
 — **viscidus** Fr. var. **testaceus** Fr. From Kentville, N.S. by Harrison (KM-281 to -283), fide A. H. Smith.  
**Hebeloma crustuliniforme** (Fr.) Quél. On humus, under beech and maple, Colchester (52) and Lunenburg (38) Co., N.S.  
 — **fastibile** (Fr.) Quél. Reported as common about Halifax, N.S., by MacKay (37).  
 — **glutinosum** (Fr.) Quél. Reported by MacKay (38), from Lunenburg, N.S.  
 — **mesophaeum** (Fr.) Quél. On lawn, beneath shrubs, Kentville, N.S. (KM-284), fide A. H. Smith.

- Hygrophorus aureus** Fr. Reported by Hay (31), from N.B.
- **borealis** Pk. Under mixed woods, Colchester (52) and Kings (KM-891) Co., N.S.
  - **ceraceus** Fr. On humus, under beech and maple, Colchester Co., N.S. (52).
  - **chlorophanus** Fr. Reported on bare soil, under beech, from Colchester (52) and Halifax (37) Co., N.S.; and from N.B., by Hay (32).
  - **chrysodon** Fr. From Minister's Island, N.B., by Van Horne (58, 59) and Hay (31).
  - **coccineus** Fr. Reported from Lunenburg, N.S., by MacKay (38). Harrison's collection (KM-287) of this species is *H. puniceus* according to Smith.
  - **Colemanianus** Blox. Collected by Harrison, at Kentville, N.S. (KM-288), fide A. H. Smith.
  - **conicus** Fr. Reported on humus, in mixed woods, from Annapolis (37), Colchester (52), and Kings (KM-289, 290) Co., N.S.; and from N.B. (32); and P.E.I. (R. R. Hurst).
  - **distans** Berk. Reported from Lunenburg, N.S., by MacKay (38).
  - **eburneus** Fr. Found scattered, under spruce and pine, from Colchester (52), Halifax (55a, 37), and Kings (KM-892) Co., N.S.; and in woods and pasture, from N.B., by Hay (30).
  - **erubescens** Fr. Reported by Hay (30, 31), in pine woods, from N.B.
  - **flavodiscus** Frost. Reported by MacKay (38), from Middleton, N.S.; and by Hay (31), from N.B. A. H. Smith considers Harrison's collection (KM-Oct. 15, 1932), under this species name, from Annapolis Royal, N.S., to be a slender form of *H. gliocyclus* Fr.
  - **fuliginus** Frost. Reported from Middleton, N.S., by MacKay (38); and from N.B., by Hay (31). Harrison's collections (KM-300, 301, 893), labelled *H. olivaceo-albus* Fr., from Kentville, N.S., are this species, according to A. H. Smith.
  - **laetus** Fr. Reported from Kentville, N.S., by Harrison (KM-296, 299). *Hygrophorus Peckii* Atk., which was previously reported (52) as common on soil and humus under conifers and hardwoods, from Colchester Co., N.S., is now considered, by Smith and Hesler (Lloydia, 5: 72), as the same as this species.
  - **Laurae** Morg. From Kentville, N.S., by Harrison (KM-294, 295), fide A. H. Smith.
  - **limacinus** Fr. Reported from Lunenburg, N.S., by MacKay (38), but a doubtful species.
  - **marginatus** Pk. Occurring singly, on humus, under maple, Colchester (52) and Kings (KM-297, 298) Co., N.S.
  - **miniatus** Fr. Found on soil, under mixed woods, Antigonish (37), Colchester (52), and Kings (KM-894) Co., N.S.; and from N.B., by Hay (30).
  - **nitidus** Berk. & Curt. On humus, in coniferous woods, from Colchester (52) and Hants (KM-299) Co., N.S.
  - **Peckianus** Howe. A collection determined by Harrison (KM-293), as *H. foetans* Phill., is probably this species according to A. H. Smith.
  - **pratensis** Fr. On soil, in mixed woods, Colchester (52) and Kings (KM-302 to -304, 888) Co., N.S.
  - var. **pallidus** Kauff. In a hayfield, near deciduous woods, Colchester Co., N.S. (52).
  - **psitticinus** Fr. Found singly, on humus, in mixed woods, Colchester (52) and Kings (KM-932) Co., N.S.
  - **pudorinus** Fr. From Middleton (38) and Kentville (KM-533, 971), N.S.; Minister's Island, N.B. (31, 59); and from P.E.I., by Hurst (det. at Ottawa).
  - **puniceus** Fr. Found scattered, on humus, under mixed woods, from Colchester (52), Halifax (38), Kings (KM-889) and Lunenburg (38) Co., N.S.; Minister's Island and Chamcook Mt., N.B. (59). Harrison's KM-287, of *H. coccineus*, belongs here, also.
  - **Russula** (Fr.) Qué. Found singly, under beech-maple woods, Colchester (52) and Kings (KM-305, 306, 968 to -970) Co., N.S.; and from N.B., by Hay (31, sub *Tricholoma*).
  - **speciosus** Pk. Reported from Halifax, N.S., by Somers (56b); and from N.B., by Hay (31).
  - **unguinus** Fr. Under spruce, from Colchester Co., N.S. (52). A rare species with white gills.
  - **virgineus** Fr. Reported from Minister's Island, N.B., by Van Horne (58, 59), and from N.B., by Hay (31).

**Hypholoma appendiculatum** Fr. See *H. Candolleianum*, below.

— **Candolleianum** Fr. *H. appendiculatum* Fr. is a confused species. The name, as commonly used, is applied to a plant that should be called *H. Candolleianum*. *H. appendiculatum* is reported by Harrison (KM-315 to -317,-917), from Kentville and Woodville, N.S.; and by Hay (31), from N.B. Two of Harrison's collections, sent for study, were *H. Candolleianum*, according to A. H. Smith. See also *H. incertum* Pk.

— **capnoides** (Fr.) Quél. Reported from Halifax, N.S., by MacKay (37); and from N.B., by Hay (31).

— **delineatum** Pk. On rotten log. Two collections, determined by Harrison (KM-319,-320) as *H. rugocephalum*, are this species according to A. H. Smith. A third (KM-918) was not seen.

— **fasciculare** (Fr.) Quél. Reported from Pictou, N.S., by MacKay (37).

— **hydrophilum** Fr. *sensu* Ricken. Found at the base of a beech stump, in Colchester Co., N.S.; and reported from N.B., by Hay (31). Infrequent, but in large groups when found.

— **incertum** Pk. Reported by Van Horne (59), from Minister's Island, N.B. This is also merely a form of *H. Candolleianum* Fr., according to Smith (Contribs. Univ. Mich. Herb. 5: 42).

— **var. sylvestris** Kauff. Found singly, on hardwood debris, Colchester Co., N.S. (52).

— **perplexum** Pk. This species is reported from Dartmouth, Middleton, Halifax, and Lunenburg, N.S., by MacKay (38); and from St. Andrews and Minister's Island, N.B., by Van Horne (58, 59), and N.B., by Hay (31). MacKay states "from *H. sublateritium* it is distinguished by its usually smaller size, more slender hollow stem, the greenish-yellow and purplish tints of the gills and the absence of a bitter flavor." A. H. Smith considers this species merely as a variety of the following, *H. sublateritium*.

— **sublateritium** (Fr.) Quél. At the base of old stumps, particularly beech and maple, throughout N.S. (29, 37, 38, 52) (KM-318,-963); and from N.B. (31, 59). Very common. A variety is represented by *H. perplexum* (see above).

**Inocybe calamistrata** (Fr.) Gill. On soil, under spruce, Colchester (52), Hants (KM-321), and Kings (KM-984) Co., N.S.

— **cinninata** (Fr.) Quél. On sandy soil, Colchester Co., N.S. (52).

— **eutheles** Berk. & Br. var. **pallidipes** (Ell. & Ev.) Heim. On bare soil, Colchester Co., N.S. (52).

— **fastigiata** (Fr.) Quél. On sandy soil, Colchester (52) and Kings (KM-323,-324) Co., N.S.; and from Minister's Island, N.B. (59). Harrison's collection (KM-535), labelled *I. rimosa* Fr., is also this species, according to A. H. Smith.

— **geophila** (Fr.) Quél. var. **lilacina** (Fr.) Heim. On mossy hillsides, Colchester Co., N.S. (52).

— **hystrix** (Fr.) Karst. On humus, in spruce woods, Colchester Co., N.S. (52).

— **lacera** (Fr.) Quél. On soil, along roadside, Colchester Co., N.S. (52).

— **lanuginosa** (Fr.) Quél. var. **longicystis** (Atk.) Heim. On an old log, Colchester Co., N.S. (52).

— **leptophylla** Atk. On very rotten (conifer ?) wood and debris, Colchester Co., N.S. (52).

— **multicoronata** A. H. Smith. Scattered, on soil, in a ravine, near Truro, N.S. Described as new from this Truro collection (Papers Mich. Acad. Sci. 24: 95).

— **nodulosa** Kauff. On soil, under conifers, Colchester Co., N.S. (52).

— **prominens** Kauff. On soil, under conifers, Colchester Co., N.S. (52).

— **rimosa** (Fr.) Quél. Reported from Halifax, N.S., by Somers (56a) and MacKay (37) under the names of *Agaricus rimosus* and *Hebeloma rimosum*, respectively.

— **sambucella** Atk. In mixed woods, Colchester Co., N.S. (52).

— **substricta** Kauff. This collection, from Kentville, N.S., was determined by Harrison (KM-322) as *I. destriata* Fr., but is this species, according to A. H. Smith.

— **subochracea** (Pk.) Earle. On bare soil, in a ravine, Colchester Co., N.S. (52).

— **vatricosa** Fr. On moist soil, Colchester Co., N.S. (52). Rare.

— **virgata** Atk. On humus, in mixed woods, Colchester Co., N.S. (52).

- Lactarius affinis** Pk. Reported under fir and spruce, from Halifax (37, 55d), under mixed woods, from Kentville (KM-325), N.S.; and from Minister's Island, N.B. (59).
- **aspidioides** Burl. Gregarious, under conifers, Colchester Co., N.S. (52).
- **atroviridis** Pk. Reported from N.B., by Hay (31).
- **aurantiacus** Fr. Reported from Middleton, N.S., by MacKay (38).
- **camphoratus** Fr. On mossy banks and wet ground, Colchester (52) and Kings (KM-326, -838, -975) Co., N.S.
- **chrysorheus** Fr. From Kings Co., N.S., by Harrison (29) (KM-327, -540, -827), fide A. H. Smith.
- **chelidonium** Pk. Found scattered, on grassy hillsides, under spruce, from Colchester (52), and reported by MacKay (38), from Pictou Co., N.S.
- **cinereus** Pk. From Kings Co., N.S., by Harrison (29) (KM-238; fide A. H. Smith, -836, -977).
- **colorascens** Pk. On moss and needles, under spruce, Colchester Co., N.S. (52).
- **cyathula** Fr. Reported by MacKay, under fir woods, Halifax, N.S. (37).
- **deceptivus** Pk. From Cloud Lake (KM-329), Kentville (KM-330, -837; fide A. H. Smith, -974), and Middleton (38), N.S.
- **deliciosus** Fr. From moist woods, in Colchester (52), Kings (29) (KM-331, -834) Co., N.S.; MacMaster's and Minister's Islands, N.B. (59), N.B. (30); and P.E.I., by R. R. Hurst. This is the sought after, edible, peach-colored *Lactarius* and is quite abundant in the proper season.
- **flexuosus** Fr. Reported by Hay (32), from N.B.
- **fuliginosus** Fr. Reported as scattered, under conifers, on moist hillsides, Annapolis (KM-332), Colchester (52), and Kings (KM-844) Co., N.S.; and from N.B., by Hay (31).
- **glyciosmus** Fr. Found under conifers, in Colchester (52) and Kings (KM-333) Co., N.S.; and on Minister's Island, N.B. (59); and in N.B. (31).
- **griseus** Pk. Gregarious, on mossy or swampy hummocks, under conifers, Colchester (52), Digby (KM-833), and Kings (KM-334, -832) Co., N.S.
- **helvus** Fr. Reported as scattered, over wide areas, in sphagnum bogs, Colchester (52), Hants (KM-335), and Kings (KM-831, -841) Co., N.S.; and from Minister's Island, N.B. (58, 59), as *L. aquifluus* Pk. var. *brevissimus* Pk.
- **hygrophoroides** Berk. & Curt. Found along grassy roadside, under beech and maple, Halifax (52), and on soil, Kings (KM-336, -972) Co., N.S.
- **hysginus** Fr. Reported from Middleton (38) and Evangeline Beach (KM-840; fide A. H. Smith), N.S.; and from N.B., by Hay (31).
- **insulsus** Fr. Reported from Kentville, N.S., by Harrison (KM-830), fide A. H. Smith.
- **lignyotus** Fr. Reported on moist sphagnum, under conifers, from Colchester (52), Halifax (37, 56b), Kings (29) (KM-337, -846), and Lunenburg (38) Co., N.S.; and from N.B., by Hay (31) and Van Horne (59). Similar to *L. fuliginosus* but much less common, and restricted to sphagnum bogs.
- **luteolus** Pk. Gregarious, along roads and under hardwoods, Halifax Co., N.S. (52).
- **mucidus** Burl. Under hemlock, Kentville, N.S. (KM-339, -976).
- **oculatus** (Pk.) Kauff. Collected at Kentville, N.S., by Harrison (KM-828, -829), fide A. H. Smith.
- **pallidus** Fr. Reported from Dartmouth, N.S., by MacKay (38).
- **piperatus** Fr. Reported on humus, in mixed woods, from Colchester (52), Halifax (37, 56a), Kings (29) (KM-340), Lunenburg (38), and Pictou (37) Co., N.S.; and from N.B. by Hay (30) and Van Horne (59). Very common.
- **plumbeus** Fr. Reported by MacKay (37), from Dartmouth, N.S.
- **pubescens** Fr. *sensu* Bres. Under hemlock, Colchester Co., N.S. (52).
- **pyrogalus** Fr. Reported from Pictou (37) and Kings (KM-341, -826, -843) Co., N.S.; and from N.B. (31).
- **quietus** Fr. Reported from woods, near Halifax, N.S., by MacKay (37).
- **representaneus** Britz. Under conifers, from Colchester Co., N.S. (52).
- **resimus** Fr. Reported under conifers, from Antigonish (37, 38), Middleton (38), and Truro (52), N.S.



- Lactarius rimosellus** Pk. On mossy ground, Kings Co., N.S. (KM-342), fide A. H. Smith.
- **rufus** Fr. Reported from Minister's Island, N.B., by Van Horne (58, 59). Hay's reports of both this species and *L. rubescens* (31) belong here.
- **sanguifluus** Fr. Reported from Billtown, Kings Co., N.S., by Harrison (KM-343).
- **scrobiculatus** Fr. Under hemlock, or other conifers, from Annapolis (38), Colchester (52), and Kings (29) (KM-345,-845) Co., N.S.
- var. **violascens** Fr. From Stillwater, N.S., by Harrison (KM-344).
- **sordidus** Fr. Reported from Campobello, N.B., by Hay (31), det. W. G. Farlow.
- **subdulcis** Fr. Found on humus, in mixed woods, in Annapolis (38), Colchester (52), Kings (29) (KM-346,-347,-545,-887), Pictou (37), and Shelburne (37) Co., N.S.; and reported from N.B., by Hay (31).
- **subvellerus** Pk. On humus, under conifers, Colchester Co., N.S. (52).
- **theiogalus** Fr. Reported on humus, in mixed woods, from Annapolis (38), Colchester (52), and Kings (KM-348) Co., N.S.; and from Minister's Island, N.B. (59) and N.B. (31).
- **torminosus** Fr. Reported under conifers, from Colchester (52), Halifax (37), and Kings (KM-349,-541) Co., N.S.
- var. **necator**. Reported by Van Horne, from Minister's Island, N.B. (59).
- **trivialis** Fr. Found on humus, under hardwoods, Colchester (52), Hants (KM-351), and Kings (29) (KM-350,-839,-842,-978) Co., N.S.
- var. **viridilactis** Kauff. Under hemlock, Colchester Co., N.S. (52).
- **turpis** Fr. Found scattered, under hardwoods, from Colchester (52) and Kings (KM-352) Co., N.S.; and from N.B., by Hay (32).
- **uvidus** Fr. Widely gregarious, under conifers, from Colchester (52) and Pictou (37) Co., N.S.
- **vellerus** Fr. Scattered, under hardwoods, reported from Colchester (52), Halifax (37), Kings (KM-353,-354,-973), Lunenburg (38), and Pictou (37) Co., N.S.; and from N.B., by Hay (31).
- **volemus** Fr. From New Glasgow (38) and Kentville (29) (KM-355,-356), N.S., fide A. H. Smith.
- Lentinus cochleatus** Fr. On decayed stumps of beech, oak, etc., Colchester (52), Halifax (37, 55d), and Kings (KM-364,-907) Co., N.S.
- **lepideus** Fr. On both deciduous and coniferous wood of various sorts, from Halifax and Pictou (37) and Kings (KM-365,-366) Co., N.S.; and from N.B. (30, 58, 59).
- **ursinus** Fr. On old log, Kentville, N.S. (KM-369) (see *L. vulpinus*).
- **vulpinus** Fr. Reported from Middleton, N.S., by MacKay (37). Two collections on Lombardy poplar from Wolfville, N.S., by Harrison (KM-367,-368), determined as *L. ursinus*, are given as this species by A. H. Smith.
- Lepiota adnatifolia** Pk. Reported from N.B., by Hay (31).
- **americana** Pk. Reported from N.B., by Hay (31).
- **clypeolaria** (Fr.) Quél. On soil, under spruce, Colchester Co., N.S. (52).
- **cristata** (Fr.) Quél. On humus, from Annapolis (KM-370), Colchester (52), and Lunenburg (38) Co., N.S.
- **fuscosquamea** Pk. Under spruce, Colchester Co., N.S. (52). A Harrison collection (KM-904), from Coldbrook, N.S., labelled *L. felina* Fr., is this species, according to A. H. Smith.
- **glioderma** (Fr.) Gill. On humus, under conifers or hardwoods, Colchester Co. (52) and other localities (37, 56a) in N.S.
- **granulosa** (Fr.) Quél. This species is reported from Lunenburg (38) and Kings (KM-371,-373,-903; fide A. H. Smith) Co., N.S.; and the varieties *rufescens* Berk. and Br. and *carcharius* (Fr.) Gill. are reported, by Hay (31), from N.B. Kauffman (Papers Mich. Acad. Sci. 2: 60; 4: 317) places this species in *Armillaria*, as *A. granulosa* (Fr.) Kauff.
- **illinita** (Fr.) Quél. Reported from Lunenburg, N.S., by MacKay (38).
- **naucina** (Fr.) Quél. Occurring singly, in meadows and orchards, reported from Colchester (52) and Kings (KM-372) Co., N.S.; and from N.B., by Hay (31). Also from Fort Tipperary, St. Andrews, N.B., by Van Horne (58, 59), under the name of *L. naucinoides* Pk., which is a synonym.
- **procera** (Fr.) Quél. Occurring singly, near old stumps or in pastures and open fields, Annapolis (37) (KM-530), Colchester (52), and Kings (29) (KM-527) Co., N.S.

- Leptonia asprella** (Fr.) Quél. Under beech, Colchester Co., N.S. (52).  
 — **formosa** (Fr.) Gill. On humus, mixed woods, Colchester (52) and Kings (KM-374) Co., N.S.  
 — **lampropoda** (Fr.) Quél. Gregarious, under hardwoods and in pastures, Colchester (52), Halifax (37), and Kings (KM-375) Co., N.S.  
 — **serrulata** (Fr.) Quél. Reported from Scotts Bay, Kings Co., N.S., by Harrison (KM-376). Collections under the name of *Eccilia atrides* Fr., from Colchester (52) and Kings (KM-265) Co., N.S., belong here, as the name is a synonym.  
**Marasmius alliaceus** Fr. Reported from Halifax, N.S., by Somers (37, 55b).  
 — **androsaceus** Fr. Scattered, on conifer needles, Colchester Co., N.S. (52).  
 — **cohaerens** (Fr.) Bres. Found among leaves, in beech-maple woods, Colchester (52), Halifax (38), and Kings (KM-377, 378) Co., N.S.; and from Minister's Island, N.B. (58, 59).  
 — **foetidus** Fr. On hardwood twigs and sticks, Colchester (52) and Kings (KM-379) Co., N.S.  
 — **glabellus** Pk. On soil, Kentville, N.S. (KM-380), fide A. H. Smith.  
 — **oreades** Fr. Reported on lawns, pastures, and other grassy areas, throughout N.S. (29, 37, 52, 55a) (KM-381, 878); and N.B. (30, 59); and from P.E.I., by R. R. Hurst. The "fairy ring" mushroom, as this species is called, is also sought after as an edible species, and is widely distributed and common on grassy areas.  
 — **peronatus** Fr. Reported by Somers (37, 56b), from Halifax, N.S.  
 — **rotula** Fr. Reported under both conifers and hardwoods, Annapolis (KM-383), Colchester (52), and Kings (KM-384) Co., N.S.; and from N.B., by Hay (31).  
 — **scorodonius** Fr. On leaves and sticks, among soil debris, Colchester (52) and Kings (KM-385, 386) Co., N.S.  
 — **siccus** Fr. Reported among hardwood leaves, Cape Breton (KM-387) and Colchester (52) Co., N.S.; and from N.B., by Farlow (15).  
 — **terginus** Fr. Reported by Somers, from Halifax and Pictou, N.S. (37, 55b, 56b).  
 — **urens** Fr. From deciduous woods, Kentville, N.S. (KM-1252, 1253), fide A. H. Smith; and from golf links and lawns, Minister's Island, N.B. (58, 59).  
**Mycena alcalina** (Fr.) Quél. Scattered, on debris, under hardwoods, Colchester Co., N.S. (52).  
 — **atrocyanea** (Fr.) Gill. Gregarious, on bare soil, under conifers, Colchester Co., N.S. This collection was described under the name of *M. nigricans* (52), but Dr. Smith (in litt.) says he now considers this name a synonym of *M. atrocyanea*.  
 — **atroumbonata** Pk. Subcaespitose to gregarious, on beech logs, Colchester Co., N.S. (52).  
 — **borealis** A. H. Smith. On coniferous wood. This was the most abundant of all species of *Mycena*, in Nova Scotia, during the season of 1931, according to A. H. Smith, and was described from material from Colchester Co. It is also known from N.B. from material of Atkinson. It is quite variable in form and differs from *M. polygramma* var. *albida* Kauff. chiefly in the darker color and the fusoid-ventricose, projecting cystidia with numerous fine projections (see Mycologia, 27: 587).  
 — **clavicularis** (Fr.) Gill. On humus, under conifers, Colchester Co., N.S. (52). A collection (KM-391) determined as a variety *luteipes* of this species is *M. epipterygia* var. *lignicola* (q.v.).  
 — **cyaneobasis** Pk. See *M. subcoerulea* (Pk.) Sacc.  
 — **delectabilis** Pk. On moss or humus, in shallow depressions, under spruce, Colchester (52, see for description) and Halifax (37, 56b) Co., N.S.  
 — **elegantula** Pk. Scattered, on sticks of fir, Colchester Co., N.S. The collections previously reported (52) as *M. rubromarginata* var. *Laricis* Smith belong under this binomial. Both two- and four-spored forms were found by A. H. Smith.  
 — **epipterygia** (Fr.) Quél. Scattered, on hemlock logs, Colchester Co., N.S. (52).  
 — var. **lignicola** A. H. Smith. A collection, by Harrison (KM-391), on hemlock logs, from Kentville, N.S., determined as the var. *luteipes* Kauff., of *M. clavicularis* Fr., is this variety, according to A. H. Smith.  
 — **filipes** (Fr.) Quél. A. H. Smith places here a collection of Harrison's (KM-398), determined as *M. pilcosa*, although the typical cystidia of *M. filipes* were few and hard to find.

- Mycena galericulata* (Fr.) Quél. Reported from Halifax, Pictou (37), and Lunenburg (38) Co., N.S., by MacKay and from Kings (KM-392,-876) Co., N.S. by Harrison.
- *haematopus* Fr. Gregarious or caespitose, on hardwood logs, Colchester Co., N.S. (52, see for notes). Quite common, without colored gill edge.
- var. *marginata* Lange. Gregarious or caespitose, on hardwood logs, Colchester (52, see for notes) and Kings (KM-395) Co., N.S. Plants with colored gill edges, due to a colored sap in the cystidia, previously placed in *M. haematopoda*, are included here.
- *iodiolens* Lundell. Scattered, on moss, under conifers, Colchester Co., N.S. (52).
- *latifolia* Pk. Under spruce and fir, after heavy rains, Annapolis (38) and Colchester (52, see for description) Co., N.S. Abundant.
- *Leaiana* (Berk.) Sacc. Caespitose, on beech logs, Annapolis (38), Colchester (52), and Kings (KM-396,-397,-534,-875) Co., N.S. Rather common.
- *leptocephala* (Fr.) Gill. Found singly, under conifers, Colchester Co., N.S. (52).
- *pelianthina* (Fr.) Quél. Occurring singly, under beech-maple woods, Colchester Co., N.S. (52). Frequent.
- *pura* (Fr.) Quél. Scattered, under spruce, Colchester (52) and Kings (KM-399) Co., N.S. Frequent.
- *rorida* (Fr.) Quél. Scattered over large areas, under conifers, after heavy rains, Colchester Co., N.S. (52).
- *rosella* (Fr.) Quél. On duff, under conifers, often occurring in large numbers, Colchester (52) and Kings (KM-933) Co., N.S.
- *rubromarginata* (Fr.) Quél. var. *Laricis* A. H. Smith. See *M. elegantula* Pk.
- *sanguineolenta* (Fr.) Quél. Scattered, on decayed wood and debris, on mossy hummocks of sphagnum bogs, Colchester (52) and Kings (KM-400) Co., N.S.
- *stylobates* (Fr.) Quél. On fallen leaves of hardwoods, Colchester Co., N.S. (52).
- *subcoerulea* (Pk.) Sacc. Scattered, on hardwood debris, Colchester Co., N.S. Reported (52) under the synonymous binomial, *Mycena cyaneobasis* Pk.
- *sudora* Fr. Reported from N.B., by Hay (31). A doubtful species; may be *M. radicatella* Pk., according to A. H. Smith.
- *tenax* A. H. Smith. On moist needles and duff, under conifers, Colchester Co., N.S. This collection was previously determined and published (52) under the name of *M. quinaltensis* A. H. Smith, but was later found to be this species. Dr. Smith states that it is a western species and that this and a collection in Peck's undetermined material are the only two eastern collections known.
- *urania* (Fr.) Gill. Gregarious, under spruce and fir, Colchester Co., N.S. (52).
- *vulgaris* (Fr.) Quél. On duff, under spruce, on wet hillsides, Colchester (52) and Kings (KM-401) Co., N.S.
- Naucoria erinacea* (Fr.) Quél. One of Harrison's collections (KM-430), determined as *Pholiota erinaceella* Pk., is this species, according to A. H. Smith. It was collected on a deciduous tree, at Kentville, N.S.
- *firma* Pk. On buried sticks of birch, Colchester Co., N.S. (52, see for description).
- *melinoides* (Fr.) Quél. Reported by Somers (37, 55b, sub *Agaricus*), from Halifax, N.S.
- *nucea* (Fr.) Sacc. Reported, as *Agaricus nuceus* Bolt., by Somers (37, 55a), under conifers, at Halifax, N.S. The species is not sufficiently well known to be recognizable, according to A. H. Smith.
- *pediades* (Fr.) Quél. Reported (sub *Agaricus*) from "open spaces", Halifax (55a) and Lunenburg (38), N.S.
- *semiorbicularis* (Fr.) Quél. Found on grassy areas, Halifax (55b) and Kentville (KM-404), N.S.; and St. Andrews, N.B. (58, 59, sub *Agaricus*).
- Nolanea coelestina* (Fr.) Gill. var. *violacea* Kauff. Scattered, on bare soil, under beech, Colchester Co., N.S. For notes see (52), where the variety was omitted by mistake.
- *dysthales* (Pk.) Atk. Occurring singly, on humus, Colchester Co., N.S. (52).
- *mammosa* (Fr.) Quél. On humus, under hardwoods, Colchester Co., N.S. (52).
- *pascua* (Fr.) Quél. On soil, Hants (KM-405), Halifax (KM-406), and Kings (KM-925) Co., N.S.

- Nyctalis asterophora** Fr. Parasitic upon the caps of *Russula* sp. and *Lactarius* sp., Colchester (52) and Kings (29) (KM-407) Co., N.S.
- **parasitica** Fr. On the decayed and blackened remains of *Russula* fruit bodies, from Colchester (52) and on *Russula nigricans* Fr., from Hants (KM-408) Co., N.S.
- Omphalia campanella** (Fr.) Quél. Reported on coniferous stumps and debris, from Annapolis (37), Colchester (52), Kings (29) (KM-409), and Pictou (38) Co., N.S.; and from Bass River (18) and other points (30, 31) in N.B. Occurring in dense clusters, quite common.
- **chrysophila** (Fr.) Gill. On conifer logs, Colchester Co., N.S. (52).
- **epichysium** (Fr.) Quél. One or a few, on old beech logs, Colchester Co., N.S. (52).
- **fibula** (Fr.) Quél. Reported on moss from Colchester (52), Halifax (37; 55b, sub *Agaricus*), and Kings (KM-934) Co., N.S.
- **Gerardiana** Pk. On moss, Colchester Co., N.S. (52). Similar to, and sometimes united with *O. epichysium*, but Smith (52) found the differences pointed out by Kauffman (34) to be constant in this area.
- **gracillima** (Weinm.) Quél. Reported from Kentville, N.S., by Harrison (KM-410), fide A. H. Smith.
- **hepatica** (Fr.) Gill. Reported by Somers (37, 55b), from Halifax, N.S., as *Agaricus hepaticus* Batsch.
- **onisca** (Fr.) Gill. On sandy bank, among moss, Colchester Co., N.S. (52). The basidia of this collection were two-spored and the spores were  $7-8 \times 4\mu$ .
- **rugosodisca** Pk. On old stumps and logs of fir, etc., Colchester (52) and Kings (KM-411) Co., N.S. Very abundant and widespread. This species is placed in the genus *Hydropus* by Singer. (Mycologia, 35: 159.)
- **Schwartzii** (Fr.) Pk. Occurring singly, on moss, Colchester Co., N.S. (52).
- **umbellifera** (Fr.) Quél. Reported by Somers (37; 55b, sub *Agaricus*), from Halifax, and by MacKay (38), from Lunenburg, N.S.
- Panaeolus campanulatus** Fr. On cow dung and pasture land, Colchester (52), Lunenburg, (38), Kings (KM-417, -418), and Pictou (37) Co., N.S. Common in such areas.
- **retirugis** Fr. Reported on dung, from Annapolis (38), Antigonish (37), and Kings (KM-539) Co., N.S.; and from Minister's Island, N.B. (58, 59).
- **separatus** (Fr.) Quél. Reported (sub *Agaricus*) by Somers (37, 55b) from Halifax, N.S.
- Panus dorsalis** Fr. Reported by MacKay (37), from Pictou, N.S. Probably the same as *Claudopus nidulans*.
- **laevis** Berk. & Curt. (*Panus strigosus* Berk. & Curt.). On stumps and limbs of maple, beech, etc., Kings Co., N.S. (29) (KM-412, -989). Singer (Lloydia, 5: 131) considers these two species the same and *laevis* is the older name.
- **rudis** Fr. On dead maple and beech, Lunenburg (KM-413) and Kings (KM-872) Co., N.S.
- **stipticus** Fr. Found clustered, on birch, beech, and other decaying wood, from Annapolis (38), Colchester (52), Kings (29) (KM-414), and Pictou (37, 38, 55b) Co., N.S.; and from N.B. (30) and Bass River, N.B. (18).
- **torulosus** Fr. On stumps and branches of beech, elm, etc., Kings Co., N.S. (KM-415, -416, -870, -871), fide A. H. Smith.
- Paxillus atrotomentosus** Fr. Reported on old stump, Kings Co. (KM-421), fide A. H. Smith and by MacKay (38), from New Glasgow, N.S.
- **involutus** Fr. Reported on mossy hummocks, under fir and on beech logs, Annapolis (38), Colchester (52), and Kings (29) (KM-422) Co., N.S.; and from Minister's Island, N.B. (31, 58, 59). Fairly common.
- Pholiota acericola** Pk. On decaying trunks of beech, etc., Colchester (52) and Kings (KM-424, -883) Co., N.S.
- **adiposa** (Fr.) Quél. On dead wood of beech, birch, and apple, Kentville, N.S. [52, 9(6)] (KM-425, -881, -882).
- **aegerita** (Brig.) Quél. Somer's (37, 56a) report of *Agaricus capistratus*, from Halifax, N.S., is probably this species, according to A. H. Smith.
- **albocrenulata** Pk. On fallen birch trunk, Colchester Co., N.S. (52).



- Pholiota aurivella** (Fr.) Quél. On fallen trees, Kentville, N.S. (KM-427).
- **caperata** (Fr.) Gill. On dry slopes, under maple and also in wet, boggy areas, on humus, Annapolis (38), Colchester (52), and Kings (KM-428, -429) Co., N.S.; and N.B. (31, 58, 59).
- **confragosa** (Fr.) Karst. On hardwood log, Colchester Co., N.S. (52).
- **erebia** (Fr.) Quél. On old logs and debris, sometimes apparently on soil, Colchester Co., N.S. (52).
- **erinaceëlla** Pk. On rotten wood and willow stub, Kentville, N.S. (KM-431, -432). KM-430 of this species is *Naucoria erinacea* (q.v.).
- **flammans** (Fr.) Quél. On decayed wood, under conifers and mixed woods, Colchester (52) and Kings (KM-885) Co., N.S.
- **floccosa** Schaeff. Reported from N.B., by Hay (31). Probably the same as *P. squarrosa*.
- **lutea** Pk. Reported on birch, from Minister's Island, N.B., by Van Horne (58, 59). Overholts (Ann. Missouri Botan. Garden, 14: 145) considers this merely a form of *P. spectabilis* (Fr.) Quél.
- **malicola** (Kauffm.) Smith. Van Horne (58, 59) reported *Flammula alnicola* var. *marginalis* Pk. from Minister's Island, N.B. The variety was considered by Kauffman (Am. J. Botany, 13: 24) to be a form of his *Flammula malicola*, which Smith (Ann. Mycol. 32: 480) says is a *Pholiota* and for which he gives the above binomial.
- **marginella** Pk. On sawdust pile, Kentville (KM-433) and Stillwater (KM-434), N.S., fide A. H. Smith.
- **mutabilis** (Fr.) Quél. On birch log, Colchester Co., N.S. (52).
- **radicans** Fr. This binomial is given by Somers (56b) and MacKay (37), from Halifax, N.S., but it does not seem to appear in the literature. It may possibly be an error for *P. radicata*, which in turn is known only from the Pacific Coast (?).
- **spectabilis** (Fr.) Quél. On apple, willow, and other frondose wood and on fir, from Colchester (52), Lunenburg (O-F6627), and Kings (29) (KM-435 to -437) Co., N.S. Overholts (Ann. Missouri Botan. Garden, 14: 144) reports a collection from N.B. See also under *P. lutea*.
- **squarrosa** (Fr.) Quél. On apple and oak, from Annapolis (37), Halifax (55b), and Kings (KM-438) Co., N.S.; and from Minister's Island, N.B. (59); and N.B. (31).
- **squarosoides** Pk. On stumps and logs of beech, white birch, and willow, Colchester (52), Lunenburg (38), and Kings (KM-439 to -442, -862, -884; fide A. H. Smith) Co., N.S.
- **trachyspora** Clem. & Clem. On mossy soil, under conifers, Colchester Co., N.S. (52). Reported previously only from Colorado, by Overholts (Ann. Missouri Botan. Garden, 14: 125). This collection differs only in the more conical cap (see (52) for notes and description).
- **vermiflua** Pk. In open fields or on lawns, Colchester (52) and Kings (KM-443 to -445, -880) Co., N.S. Harrison's collection (KM-886) of *P. praecox* Fr. is this species, according to A. H. Smith.
- Phylloporus rhodoxanthus** (Schw.) Bres. Singly, in mixed woods, Colchester (52) and Kings (KM-423, -900) (sub *Paxillus*, fide A. H. Smith).
- Pilosace eximius** Pk. Reported by Somers (55a, sub *Agaricus*; 37), on a decaying log, Halifax, N.S.
- Pleurotus applicatus** (Fr.) Gill. Reported on small stumps, by Somers (37, 56a), from Dutch Village, N.S.
- **atrocaeruleus** (Fr.) Gill. var. **griseus** Pk. On hardwood logs and rotting debris, Colchester Co., N.S. (52).
- **candidissimus** (Berk. & Curt.) Sacc. On hardwood, Colchester Co., N.S. (52).
- **chioneus** (Fr.) Gill. Reported by Somers (37, 56a), on twigs, from N.S. Pileus given as small, thin, villous, resupinate.
- **Coldwelli** MacKay. This species was described in the Educational Review (St. John) of March, 1891, p. 172, and of April, 1891, p. 192. It was found growing on a piece of whalebone in the Museum of Acadia College at Wolfville, N.S. MacKay (37) quotes Peck as saying that it is closely allied to *P. pometi* Fr. and *P. pantoleucus* Fr., differing from the latter species only in the downy stem and caespitose habit. Downy patches occurred also on the pileus and seem abnormal.

- Pleurotus dryinus** (Fr.) Quél. Two collections (KM-457, 458), from Kentville and on apple, from Starr's Point, N.S., determined as *P. subareolatus* Pk., by Harrison, are *P. corticatus* (Fr.) Quél., which in turn is the same as *P. dryinus*, according to A. H. Smith.
- **lignatilis** (Fr.) Gill. Reported on beech trees, by Somers (37, 56a), from Halifax and by MacKay (38), from Lunenburg, N.S.; and by Hay (31), from N.B.
- **ostreatus** Fr. Reported on poplar stubs, from Colchester (37, 52) and Kings (KM-453, 874) Co., and on beech, from Kings (29) Co., N.S.; and from Minister's Island, N.B. (59). (See *P. salignus*.)
- **petaloides** (Fr.) Quél. Reported by MacKay (38), from Lunenburg, N.S.
- **porrigens** (Fr.) Gill. Reported on rotten stump, Kentville, N.S. (KM-454) and on stumps, chiefly of pine, from N.B. (30). Harrison's collection, on a log, from Kentville, N.S., determined as *P. albolanatus* Pk. (KM-452), is this species, according to A. H. Smith.
- **salignus** (Fr.) Quél. Reported on living and dead poplars, from Halifax, N.S., by Somers (37, 55b, 56a). Not uncommon. Considered as a variety of *P. ostreatus*, by some authors.
- **sapidus** (Schulz.) Quél. On birch, Colchester Co., N.S. (52).
- **serotinus** (Fr.) Gill. Reported on logs of beech, birch, and maple, from Annapolis (38), Colchester (37, 38), Kings (KM-456, 990), Lunenburg (38), and Pictou (38) Co., N.S.; and from N.B. (30), by Hay.
- **tremulus** (Fr.) Quél. On moss (*Dicranum*), Colchester Co., N.S. (52).
- **ulmarius** (Fr.) Quél. From Coldbrook (KM-459, on poplar), Kentville (KM-460), and Truro (37), N.S.; and from N.B. (31).
- Pluteus admirabilis** Pk. On decaying log, Colchester Co., N.S. (52).
- **cervinus** (Fr.) Quél. On hardwood logs and rotting wood, throughout N.S. (37, 38, 52) (KM-468, 469); and from P.E.I., by R. R. Hurst. Common, but scattered.
- **granularis** Pk. var. **umbrosellus** Atk. From Kentville, N.S. (KM-470), fide A. H. Smith.
- **longistriatus** Pk. On rotten stump, Colchester Co., N.S. (52).
- **tomentosulus** Pk. Singly, on humus, in spruce swamp, Colchester Co., N.S. (52).
- **umbrosus** (Fr.) Gill. On rotten wood, mostly of conifers, Colchester (52) and Kings (KM-471, 472, 924) Co., N.S.
- Psalliota arvensis**\* (Fr.) Quél. Reported in pastures and on dykeland, Halifax (37, 55b) and Kings (29) (KM-926, 927) Co., N.S.; and from P.E.I., by R. R. Hurst. Occurring in the fall in the marshes about the Bay of Fundy, along with *Psalliota campestris*.
- **Benesi** Pilat. Miss Van Horne (59) reports, from N.B., a fungus similar to *Agaricus arvensis* with blood red juice and color on bruising, which she called *Agaricus hemmorrhoidarius* Schulz. This latter species has a coarse scaly cap and does not resemble *A. arvensis*, however, and what she had was probably *P. Benesi*, which was also described, later, as *Agaricus albosanguineus* Hotson & Stuntz (see Smith, Papers Mich. Acad. Sci. 25: 120).
- **campestris** (Fr.) Quél. In pastures and grassy marshes, throughout N.S. (29, 37, 38, 52, 55a) (KM-473); N.B. (30, 59); and reported from P.E.I., by R. R. Hurst. This species occurs in great abundance in the fall in the marsh lands about the Bay of Fundy and furnishes a supply of edible mushrooms for market and home consumption.
- **diminutiva** Pk. Reported as scattered, on humus, in mixed woods, Colchester Co., N.S. (52); and from N.B., by Hay (32).
- **hemmorrhoidaria** (Schulz.) Rich. & Roze. Given, by Harrison (29), as common in conifer woods, near Kentville, N.S., throughout August and September. The report of this species for N.B. by Miss Van Horne is probably *P. Benesi* (q.v.).
- **silvicola** (Vitt.) Lloyd (*Psalliota abruptulba* Pk.). Under mixed hardwoods, Colchester (52) and Kings (29) (KM-474) Co., N.S.; and Minister's Island and Chamcook, N.B. (30, 58, 59).
- **subrufescens** Pk. Under beech-maple woods, Colchester Co., N.S. (52).
- Psathyra spadiceo-grisea** (Fr.) Quél. Reported from Pictou, N.S., by MacKay (37).
- Psathyrella disseminata** (Fr.) Quél. Reported among sphagnum, from Halifax, N.S., by Somers (37, 55b), as *Agaricus disseminatus*.
- **gracilis** (Fr.) Quél. On cow droppings, from Dutch Village and Halifax, N.S., by Somers (37, 55a, 55b).

\* In strict accordance with the Rules of Botanical Nomenclature, the genus name *Agaricus* should be applied to the species placed here under *Psalliota*.

- Psilocybe cernua** (Fr.) Quél. Under willows, Halifax, N.S., by MacKay (37).
- **conissans** Pk. On poplar and near birch, from Kentville, N.S. (KM-475,-477,-991), fide A. H. Smith.
- **foenisecii** (Fr.) Quél. From Halifax and Glace Bay, N.S. (37, 38, 55b). The Glace Bay collection was reported as causing an apparent intoxication of three children, who had eaten this fungus, which was determined by Peck, but who considered it nonpoisonous.
- **semilanceata** (Fr.) Quél. Abundant, under spruce, Halifax Co., N.S., according to Somers (37, 56b).
- **spadicea** (Fr.) Quél. Reported from Halifax and Pictou, N.S., by MacKay (37).
- Russula abietina** Pk. Under conifers, Colchester Co., N.S. (52).
- **adusta** Fr. In pine woods, Halifax (37, 55b), Lunenburg (38), and Kings (KM-847) Co., N.S.
- **aeruginea** Lindbl. On bare soil, Colchester Co., N.S. (52).
- **albella** Pk. Reported from Minister's Island, N.B., by Van Horne (58, 59).
- **albida** Pk. In mixed woods, Colchester Co., N.S. (52).
- **albidula** Pk. From Evangeline Beach, N.S., by Harrison (KM-August, 1936).
- **alutacea** Fr. Scattered, under conifers, Colchester (52), Halifax (37, 55a, 56b), and Lunenburg (38) Co., N.S.; and from Minister's Island, N.B. (30, 59).
- **amygdaloides** Kauff. Collected at Kentville, N.S., by Harrison (KM-478). The spores of this collection are more reticulate and less echinulate than those of the type of this species, according to A. H. Smith.
- **aurantialutea** Kauff. Reported from Kentville, N.S., by Harrison (KM-479), fide A. H. Smith.
- **aurata** Fr. Reported in woods, from N.B., by Hay (30).
- **aurea** Fr. Reported by Van Horne (58, 59), from Minister's Island, N.B.
- **basifurcata** Pk. Singly, on humus, in mixed woods, Colchester Co., N.S. (52).
- **borealis** Kauff. On humus, under conifers, Colchester Co., N.S. (52).
- **brevipes** Pk. Reported from Lunenburg, N.S., by MacKay (38); and from Minister's Island, N.B., by Van Horne (58, 59).
- **brunneola** Burl. Under spruce, Colchester Co., N.S. (52).
- **caerulea** Cke. Collected by Harrison (KM-480), at Kentville, N.S.
- **chamaeleontina** Fr. Under fir, Colchester Co., N.S. (52).
- **citrina** Gill. Reported by Hay (31), from N.B.
- **cyanoxantha** Fr. On humus, under mixed woods, Colchester Co., N.S. (52).
- **decolorans** Fr. Singly, in mixed woods, Colchester Co., N.S. (52).
- **delica** Fr. On humus, in mixed woods, Colchester (52), and Kings (29) (KM-481,-983) Co., N.S. Van Horne reports *Lactarius exsuccus* W. G. Sm., from Minister's Island, N.B. A. H. Smith considers this the same as *R. delica*. Rea gives it as a variety of *R. chloroides* (Kromb.) Bres.
- **densifolia** Secr. In troops, on humus, under mixed woods, Colchester Co., N.S. (52). Very common; flesh of stem changing to red and then black when bruised.
- **depallens** Fr. Under spruce, from Coldbrook (KM-853), Halifax (37), and Lunenburg (38), N.S.; and from N.B. (32).
- **emetica** Fr. Reported as gregarious, in sphagnum bogs and open woods, Colchester (52), Kings (KM-531), and Shelburne (37) Co., N.S.; and from Minister's Island, N.B. (59), and N.B. (30). Very common during late summer.
- **fallax** Cke. On humus, under hemlock, Colchester (52) and Kings (KM-482) Co., N.S.
- **flava** Romell. Under mixed woods, Colchester (52) and Kings (KM-483 to -485) Co., N.S.
- **flavida** Frost. Reported by MacKay (38), from Lunenburg, N.S.
- **foetans** Fr. Found gregarious, in coniferous woods, Annapolis, Pictou (38), Colchester (52), and Kings (29) (KM-486) Co., N.S. The most common and abundant of the genus *Russula* under conifers, during the summer.
- **foetentula** Pk. Collected at Aylesford Lakes, Kings Co., N.S., by Harrison (KM-857).
- **fragilis** Fr. On conifer duff, Colchester (52) and Kings (KM-487) Co., N.S.
- **furcata** Fr. This species is reported from N.B., by Hay (32), who remarks, "pileus green". Kauffman (34) considers *R. furcata* as doubtful, and thinks plants referred here, in America are *R. variata* Banning & Pk. or *R. virescens* Fr.

- Russula heterophylla** Fr. Reported by MacKay (37, 38), from Dartmouth, Lunenburg, and Shelburne, N.S.; and by Hay (30) and Van Horne (59), from N.B. It is significant that this species is recorded only by the earlier writers and that Kauffman (34) gives it as quite rare. These plants may have been *R. aeruginosa* or a related species.
- **integra** Fr. On soil, under fir, Colchester Co., N.S. (52).
  - **lutea** Fr. From Aylesford Lakes, N.S., by Harrison (KM-549).
  - **Mariae** Pk. On humus and grassy ground, Colchester (52) and Kings (KM-488,-851) Co., N.S.
  - **nigricans** Fr. Found singly, in mixed woods, Cape Breton, Colchester (52), and Kings (KM-489) Co., N.S.
  - **ochroleuca** Fr. Reported from Kentville, N.S., by Harrison (KM-490).
  - **ochroleucoides** Kauff. On humus, under hardwoods, Colchester Co., N.S. (52, see for description).
  - **pectinata** Fr. Reported from N.B., by Hay (32), who says, "pileus toast-brown".
  - **puellaris** Fr. Reported by Harrison (KM-848), from Kentville, N.S.
  - var. **intensor** Cke. Reported from N.B., by Hay (32).
  - **pulverulenta** Pk. Reported by Harrison (KM-855), from Aylesford Lakes, N.S.
  - **rugulosa** Pk. Under hemlock, Colchester Co., N.S. (52).
  - **sanguinea** Fr. Reported by Somers (37, 55b), from pine woods, near Halifax, N.S.
  - **sericionitens** Kauff. Reported under hardwoods, from Colchester Co., N.S. (52).
  - **sordida** Pk. Under hemlocks, Colchester Co. (52) and from Kentville (KM-491,-492,-849), N.S.
  - **sphagnophila** Kauff. On moist hillside, under spruce, Colchester Co., N.S. (52).
  - **squalida** Pk. Under mixed woods, Colchester (52) and Kings (KM-493,-494) Co., N.S.
  - **subdepallens** Pk. Singly, under hardwoods, Halifax (52) and Kings (KM-854) Co., N.S.
  - **subsordida** Pk. Under conifers, Colchester Co., N.S. (52).
  - **tenuiceps** Kauff. Under hardwoods, Colchester Co., N.S. (52).
  - **variata** Banning & Pk. Growing singly, in mixed woods, Colchester (52), Halifax (38), and Kings (KM-495,-852) Co., N.S. (see *R. furcata*).
  - **veternosa** Fr. Reported by Somers (37, 55a), from pine grove, Halifax, N.S.
  - **virescens** Fr. Under mixed woods, Colchester Co., N.S. (52); and Minister's Island and Chamecook, N.B. (59).
  - **xerampelina** Fr. Found in mixed woods, in Colchester (52) and Kings (KM-850) Co., N.S.
- Schizophyllum commune** Fr. Reported on old logs and branches of apple, beech, birch, and spruce, from stations throughout Nova Scotia (9, 29, 37, 38, 52, 55b) (KM-501,-502, -536,-1267); and from N.B., by Fowler (18) and Hay (31, sub *S. alneum* Schroet.). Very common.
- Stropharia aeruginosa** (Fr.) Quél. Reported from Dartmouth, N.S., by MacKay (38).
- **depilata** (Fr.) Karst. On very rotten log, Kentville, N.S. (KM-504,-964), fide A. H. Smith.
  - **semiglobata** (Fr.) Quél. Reported on cow dung, from Annapolis and Pictou (37), Colchester (52), Lunenburg (38), and Kings (KM-506) Co., N.S.; N.B. (32); and P.E.I. (by Hurst). Common on this substratum. Harrison's collection (KM-503) of *S. albonitens* Fr. is this species, according to A. H. Smith.
  - **squamosa** (Fr.) Quél. var. **aurantiaca** Cke. On soil, Kentville, N.S. (KM-507), fide A. H. Smith.
  - **stercoraria** (Fr.) Quél. Reported from Dartmouth, N.S., by MacKay (38); and from N.B., by Hay (31).
- Tricholoma albobrunneum** (Fr.) Quél. Reported from Middleton, N.S., by MacKay (38).
- **aurantium** (Fr.) Quél. Reported from Kentville, N.S. (KM-508); and from N.B., by Hay (31, sub *Armillaria aurantia* Fr.).
  - **brevipes** (Fr.) Quél. Reported from Lunenburg, N.S., by MacKay (38).
  - **cinerascens** (Fr.) Gill. Reported under conifers, Halifax, N.S., by Somers (37, 55a, sub *Lepista*).
  - **columbetta** (Fr.) Quél. Reported under spruce, from Halifax (37, 55a), Lunenburg (38), and Kentville (KM-509), N.S.



- Tricholoma crassifolium** (Berk.) Sacc. Reported by Somers (37, 55a), under spruce, from Halifax, N.S.
- **decorosum** Pk. Reported by Hay (32), from N.B.
- **equestre** (Fr.) Quél. Reported as under conifers, from Halifax (37, 56a), Lunenburg (38), and Kings (KM-510,-511,-953) Co., N.S.; and from Minister's Island, N.B. (59); and N.B. (31).
- **frumentaceum** (Fr.) Quél. Reported by Hay (31), from N.B.
- **imbricatum** (Fr.) Quél. Reported by MacKay (38), from Lunenburg, N.S.; and by Hay (31), from N.B.
- **impolitum** Lasch. In mixed woods, Colchester Co., N.S. (52).
- **melaleucum** (Fr.) Quél. A collection by R. R. Hurst, from P.E.I., determined at Ottawa as probably this species.
- **murinaceum** (Fr.) Gill. Reported from Dutch Village, N.S., by Somers (37, 56a); given as "umbonate, silky, 3 inches, stem solid".
- **Naucoria** Murr. Under conifers, Colchester Co., N.S. (52).
- **nudum** (Fr.) Quél. Reported by Somers (37; 55b, sub *Lepista*), from Halifax, N.S.
- **olivaceum** Farl. & Burt. This species was described from a collection made at Campobello, N.B. According to A. H. Smith, it is probably the same as *T. saponaceum*.
- **personatum** (Fr.) Quél. Reported from woods and orchards, Halifax (37; 55a, sub *Lepista*) and Kings (KM-512,-955) Co., N.S.; Minister's Island, N.B. (59); N.B. (30); and P.E.I. (R. R. Hurst). Frequent.
- **portentosum** (Fr.) Quél. Reported under conifers, from Kentville, N.S. (KM-513), fide A. H. Smith; and from N.B., by Hay (31).
- **radicatum** Pk. Reported from N.B., by Hay (31).
- **resplendens** (Fr.) Quél. In mixed woods, Colchester Co., N.S. (52).
- **rutilans** (Fr.) Quél. Reported on coniferous wood and stumps, from Colchester (52), Kings (29) (KM-514,-538,-954,-958), Pictou (37), and Shelburne (37) Co., N.S.; Minister's Island, N.B. (59); and N.B. (30). Quite common.
- **saponaceum** (Fr.) Quél. Scattered, under spruce, Colchester (52) and Kings (KM-515) Co., N.S. A very common species in the summer after rainy periods.
- **sejunctum** (Fr.) Quél. Found in mixed woods, near Halifax (37, 55b), Lunenburg (38), and Kentville (KM-516,-542,-956,-957), N.S.; and from N.B. (31).
- **Schumacheri** (Fr.) Gill. Reported from Middleton, N.S., by MacKay (38).
- **subacutum** Pk. Reported from Minister's Island, N.B. (58, 59) and from N.B. (31).
- **terreum** (Fr.) Quél. Reported under conifers, Colchester (52) and Kings (KM-919) Co., N.S.; and from N.B., by Hay (31).
- **terriferum** Pk. Reported from P.E.I., by R. R. Hurst and determined at Ottawa.
- **transmutans** Pk. Reported from Evangeline Beach (KM-920) and Shelburne (37), N.S.; and from N.B., by Hay (31).
- **ustale** (Fr.) Quél. Given as a doubtful determination of a plant from N.B., by Hay (31).
- **vaccinum** (Fr.) Quél. Reported under conifers, from Colchester (52) and Kings (KM-517,-518) Co., N.S.; from Minister's Island, N.B., by Van Horne (59), and from N.B. by Hay (31).
- **virgatum** (Fr.) Gill. Reported under conifers, Colchester, Co., N.S. (52); and from N.B., by Hay (31).
- var. **acutum**. Reported by MacKay (38), from Middleton, N.S.
- Trogia Alni** Pk. Reported on the bark of alders, from Kentville, N.S. (KM-465); and by Fowler (18), from N.B., under the name of *Plicatura Alni* Pk.
- **crispa** Fr. Reported on logs of alder, beech, and birch, from Halifax (52) and Kings (KM-466,-467) Co., N.S.; and from Bass River (18, sub *Cantharellus*) and York Co. (O-F3397) N.B. Hay (31) reports *Plicatura faginea* (Schrad.) Karst. and a variety *alnicola*, from N.B. These collections on *Alnus* may be *Trogia Alni*. Quite common on beech logs.
- Volvaria gloiocephala** (Fr.) Gill. Reported by R. R. Hurst, from P.E.I.
- Xerotus degener** Fr. Reported by Somers (37, 56b), on moss tussocks, from Halifax, N.S.

## HYMENOGASTRALES

*Hymenogastraceae*

**Rhizopogon rubescens** Tul. In soil, beneath hemlock, Kentville, N.S. (KM-1125). Spores fusoid, hyaline,  $5.3-7 \times 2-3\mu$ .

*Hysteriangiaceae*

**Phallogaster saccatus** Morgan. On soil, above a birch log, Colchester Co., N.S. (62).

## SCLERODERMATALES

*Sclerodermataceae*

**Scleroderma aurantium** (Vaill.) Pers. (*S. vulgare* Fr.). Reported on soil, humus, or much decayed wood, throughout N.S. (29, 37, 38, 55b, 62) (KM-952,-1091,-1092); from Minister's Island, N.B. (59); N.B. (30); and from P.E.I., by R. R. Hurst. Very common.

*Sphaerobolaceae*

**Sphaerobolus stellatus** Tode. On decayed beechwood, from Colchester (62) and Kings (KM-1097) Co., N.S.; and on cow and moose dung, from Colchester and Halifax (62) Co., N.S.

## NIDULARIALES

*Nidulariaceae*

**Crucibulum vulgare** Tul. Reported on dead twigs, herbaceous stems, and other plant debris, throughout N.S. (37, 38, 62) (KM-950,-1073 to -1076); and from P.E.I., by R. R. Hurst and J. H. Eastham (O-Orwell, Sept., 1912).

**Cyathus vernicosus** DC. (*Cyathus olla* (Batsch) Pers.). Found in gardens and orchards, in Kings (29) (KM-1077 to -1080) and Pictou (37) Co., N.S.

## LYCOPERDALES

*Lycoperdaceae*

**Bovista pila** Berk. & Curt. Found on sandy soil and beaches, Colchester, Halifax, Richmond (62), Pictou (38), and Victoria (62) (KM-1072) Co., N.S. Fruit bodies breaking loose and rolling about, the old grayish inner peridia looking like enlarged oak galls. Common on sandy upper beaches where vegetation has established itself.

— **plumbea** Pers. On sandy soil and under conifers, Colchester, Victoria (62), Halifax (55b), and Pictou (37) Co., N.S. Spores ellipsoid rather than globose, as in the above species, and with longer pedicels.

**Calvatia caelata** (Bull.) Morgan (*Lycoperdon caelatum* Fr.). Reported by Somers (37, 55a), in pastures, Halifax, N.S. Given as common.

— **cyathiforme** (Bosc.) Morgan. From Kentville (29), and Pictou (37, sub *Lycoperdon*), N.S.

— **elata** (Massee) Morgan. On old sticks and trunk of *Alnus*, Colchester Co., N.S. (62). Somer's (37, 55b) report of *Lycoperdon saccatum* Vahl., from Halifax, N.S., probably refers to this species.

— **maxima** (Schaeff.) Morgan (*Lycoperdon giganteum* Batsch). Reported from Halifax, N.S., by Somers (37, 55b); and from N.B., by Fowler (18).

**Lycoperdon echinatum** Pers. Reported by MacKay (37), from Pictou, N.S.

— **gemmatum** Batsch. Reported in fields, on humus or badly decayed logs, throughout N.S. (29, 37, 38, 55a, 62) (KM-1081,-1082); and from N.B., by Hay (30) and Van Horne (59). Our common white, echinulate species. Very common and quite variable. Harrison's collections (KM-1083 to -1085) of *L. perlatum* Pers. have finely echinulate spores,  $3.5-4.3\mu$  in diameter, and do not differ from *L. gemmatum*.

— **marginatum** Vitt. A collection made by Harrison, in a pasture, near Kentville, N.S., and determined as *L. Wrightii* Berk. & Curt., has larger fruit bodies, narrower ( $1.5-3.5\mu$ ) colored capillitium and smoother spores,  $3.5-4\mu$  in diameter, than in that species, which indicate that it is *L. marginatum*. This collection also approaches *L. umbrinum*, which has slightly echinulate spores.

— **polymorphum** Vitt. (*L. furfuraceum* Schaeff., *L. cepaeforme* Bull.). Reported from an open pasture, in Colchester Co., N.S. (62, see for notes); and from N.B., by Hay (32).

- Lycoperdon pusillum** Batsch. Found at the roots of a willow, at Halifax, N.S., by Somers (37, 55b). This species is considered by some as merely a small form of *L. polymorphum*, without any subgleba.
- **pyriforme** Schaeff. Usually clustered, on stumps, logs, or decaying wood, collected throughout N.S. (37, 55b, 62) (KM-1086, -1087); and from N.B., by Fowler (18), Hay (30), and Van Horne (59). Very common and widespread on decaying woody substrata.
  - **subincarnatum** Pk. On beech log, decayed wood, and sawdust piles, Colchester Co., N.S. (62).
  - **umbrinum** Pers. On soil, humus, and decayed logs, Colchester Co., N.S. (62).
  - **Wrightii** Berk. & Curt. (*L. Curtisi* Berk.). This species has been reported from Lunenburg, N.S., by MacKay (38); from N.B., by Hay (32); and from P.E.I., by R. R. Hurst. There has been some confusion in the past as to the identity of this species, and such reports are open to question.

#### Geastraceae

- Geaster hygrometricus** Pers. This species was reported from Pictou, N.S., by MacKay (37). It has been transferred to the genus *Astraeus* of the Calostomataceae, as *A. hygrometricus* (Pers.) Morg.
- **mamossus** Fr. A collection of this species, made by Crossland, and in the Lloyd Herbarium, is reported by Coker (8), from Halifax, N.S.

#### Calostomataceae

- Astraeus hygrometricus** (Pers.) Morg. See *Geaster hygrometricus* Pers.

### PHALLALES

#### Phallaceae

- Dictyophora duplicata** (Bosc.) E. Fischer. On soil, Colchester (62) and Kings (KM-769) Co., N.S.
- Ithyphallus impudicus** (L.) Fr. This species is reported by MacKay (37), from Shelburne and by Harrison, as doubtful, from Kings (29) Co., N.S.; and by Van Horne (59), from Minister's Island, N.B. This is a more western species and it may be that these reports actually refer to *I. Ravenelii* (Berk. & Curt.) Fisch.
- Mutinus caninus** Fr. Reported (sub *Cyanophallus*) in a drain, from Halifax (37, 55a) and from Pictou and Lunenburg (38), N.S., and around fir stumps, from Colchester Co., N.S. (62). *Mutinus elegans* (a synonym) is reported from P.E.I., by R. R. Hurst. Hay (31) reports *M. bovinus* Morgan, from N.B. There has been so much confusion as to the use of specific names in this genus that it is impossible to say what these collectors had.
- Phallus daemonum** Rumph. This name was listed by MacKay (38) for a plant collected by Hewitt at Lunenburg, N.S. The name is an old one referring to an uncertain tropical species of *Dictyophora*. Hewitt may have had *D. duplicata*.

## FUNGI IMPERFECTI

### HYPHOMYCETES

- Alternaria Brassicae** (Berk.) Sacc. (*Alternaria herculea* (Ell. & Mart.) J. A. Elliott, *Macrosporium Brassicae* Berk.). *A. herculea* was reported as causing a severe leaf spot of turnips, in N.B. [9(10)]. Conners (in litt.) points out that if this host is turnip, the fungus is *A. Brassicae*, whereas, if it is Swede turnip, the fungus is likely to be *A. oleracea* (see discussion under that species).
- **cucumerina** (Ell. & Ev.) J. A. Elliott (*Macrosporium cucumerinum* Ell. & Ev.). On greenhouse cucumbers, from Falmouth, N.S. (KP-779) and P.E.I. [9(20)]; and on melons, from N.B. [9(17)].
  - **Dauci** (Kühn) Groves. The *Macrosporium Carotae* Ell. & Langl., reported by Hockey (KP-999) [9(18)], on carrot, from Granville, Annapolis Co., N.S. as doing considerable damage during one season only, is this species according to Groves (Can. J. Research, C, 22: 222).
  - **Dianthi** Stev. & Hall. Reported on carnation, from N.B. [9(7, 10)].
  - **herculea** (Ell. & Mart.) J. A. Elliott. See *A. Brassicae* (Berk.) Sacc.

- Alternaria Mali** J. W. Roberts. Reported as causing rot of apples in storage, in N.B. (9).
- **oleracea** Milbrath. There has been a great deal of confusion regarding the species of *Alternaria* causing the so-called gray and black leaf spot of cruciferous plants. Groves and Skolko (Can. J. Research, C, 22: 217-234) give *A. Brassicae* and *A. oleracea*, respectively, as the cause of these diseases. Collections, originally labelled *A. Brassicae*, on Swede seedlings from N.B. (O-7377), Swede turnip from Nappan, N.S. (KP-1284), and on cabbage, from P.E.I. [9(5)] and collections labelled *A. circinans*, on seeds of Swede turnip (O-7487) from N.B. and on cabbage from N.B. [9(22)] and P.E.I. [9(11)], appear to be this species, *A. oleracea*.
- **Porri** (Ell.) Ciferri. Reported on onion, from Pictou, N.S. (O-911) [9(20)]; det. by J. W. Groves (sub *Macrosporium*).
- **radicina** Meier, Drechsl. & Eddy. Reported as causing a rot, defoliation, and seedling blight of carrot, in N.S. [9(23)] (Can. J. Research, C, 22: 225) (KP-1274, 1277, 1311); and also on carrot, from N.B. [9(9)] (O-1679, det. D. J. MacLeod and J. W. Groves).
- **Solani** (Ell. & Mart.) L. R. Jones & Grout. Causing widespread damage on potato (9) (KP-131) and tomato (9) (KP-138; O-Falmouth, N.S., 1913), from all three provinces and on eggplant from N.S. [9(12, 19)] (KP-547), from N.S. and P.E.I. [9(14)].
- **tenuis** auct. sensu Wiltshire. A widespread species, which Groves (Can. J. Research, C, 22: 219) says occurs from "British Columbia to Prince Edward Island"; and which has been reported on tomato, from N.S. [9(23)].
- **Violae** Gall. & Dors. Reported, on pansy, from N.B. [9(5)].
- Aspergillus glaucus** Link. Reported by MacKay (37), from N.S.
- Asterosporium Hoffmanni** Kunze. On bark of *Fagus grandifolia* Ehrh., Colchester Co., N.S., July, 1935 (W-1742). Easily recognized by the stellate, four-armed spores.
- Botryosporium longibrachiatum** (Oud.) Maire. On potato tops, from Fredericton, N.B. [9(16)], collected by J. L. Howett and determined by I. L. Connors (O-5939).
- Botrytis Allii** Munn. Reported (9) from all three provinces as the cause of a neck rot of onion; collections by Hockey (KP-117, 688).
- **cinerea** Pers. This ubiquitous species has been reported (9) on a wide variety of hosts in all three provinces, as follows: from N.S., on apple (KP-881, 1001, 1004), asparagus (KP-1144), beans (KP-1283), blueberry (KP-946), carnation (KP-851), carrot (KP-920), cauliflower (KP-1261), cherry (KP-966), *Clarkia* (KP-877), *Cosmos* (KP-1147), *Daphne Mezereum* L. (KP-893, 916), *Dimorphotheca* (KP-1158), *Hydrangea* (KP-1134), *Lathyrus odoratus* L. [9(23)], lily (KP-972), *Lupinus hirsutus* L. [9(23)], oats (O-5456, 5481), potato (KP-1125), raspberry (KP-968, 1282), *Rhus Cotinus* L. (KP-964, 965), squash, strawberry (KP-951), *Viburnum Opulus* L. (KP-845), and *Zinnia* (KP-375); from N.B. (9), on apple, bean, *Begonia*, honeysuckle, lettuce, lilac, oats, and *Pelargonium*; and from P.E.I. (9), on beans, *Begonia*, carrot, *Cosmos*, *Geranium*, *Lespedeza* (O-4480), lettuce, lilac, potato (O-4474, 4475, 5731), and strawberry. The apothecial, *Sclerotinia*, stage was obtained from cultures of O-4474, on potato, but no species was described (Mycologia, 31: 485).
- **elliptica** (Berk.) Cke. Reported [9(17, 19)] as causing a blight of *Lilium candidum* L. and *L. Hansonii* Leicht., in P.E.I.
- **narcissicola** Kleb. Reported in a field of imported *Narcissus* bulbs, by Hockey [9(23)], from Falmouth, N.S.
- **Paeoniae** Oud. Reported as prevalent and occasionally severe, on peony, from Cumberland, Annapolis, Kings, and Yarmouth Co., N.S., by Hockey (KP-26, 27, 525; O-4525); and also from N.B. and P.E.I. (9).
- **Tulipae** (Lib.) Lind. Reported frequently (9) from all three provinces, on tulip (KP-192).
- Cercospora althaeina** Sacc. Reported on hollyhock, from P.E.I. [9(5)].
- **angulata** Wint. Reported on currant, from N.S. [9(5)].
- **Apii** Fr. Reported from N.S., on celery [9(18)] (KP-998) and parsnip (KP-840); from N.B., on celery [9(24)]; and from P.E.I. on celery [9(6)] and parsnip [9(5)].



- Cercospora Armoraciae** Sacc. On horse-radish, from P.E.I. [9(5,6)].
- **beticola** Sacc. Generally distributed in all three provinces as the cause of a leaf spot of beets (9) (KP-984); and on mangel, from Halifax, N.S. (KP-1005), N.B., and P.E.I. (9).
- **Brunkii** Ell. & Gall. Reported as a greenhouse infection of *Pelargonium*, at Fredericton, N.B. [9(9)].
- **Callae** Pk. & Clint. Reported on leaves of *Calla palustris* L., from New Glasgow, N.S., by MacKay (38).
- **dubia** (Riess) Wint. Reported on *Chenopodium album* L., from P.E.I. [9(5)].
- **guttularia** Ell. & Kellerm. On *Aristolochia*, from Hebron, Yarmouth Co., N.S., by Hockey (KP-628).
- **leptosperma** Pk. On *Aralia nudicaulis* L., from Hants (KP-1269) and Pictou (38) Co., N.S. Hockey states it is common on roadside plants.
- **microsora** Sacc. On *Tilia glabra* Vent., from Annapolis Co., N.S. (KP-627); and from P.E.I. [9(12)].
- **Nicotianae** Ell. & Ev. Reported [9(7)] from N.B. on tobacco. Connors (in litt.) states there are no collections of this species and that its occurrence in Canada is questionable.
- **Pastinacae** (Sacc.) Pk. Reported on parsnip, from Pictou Co., N.S. [9(15)]. Given as a variety of *C. Apii* by some.
- **Persicae** Sacc. Reported on peach, by Halsted and Kelsey (28), from N.S.
- **rosicola** Pass. Reported on rose, from N.S. and N.B. [9(5)].
- **Violae** Sacc. Reported by Halsted and Kelsey (28), on *Viola*, from N.S. and on *Viola tricolor* L., from Kentville, N.S. [9(23)].
- Cercosporella Brassicae** (Fautr. & Roum.) Höhn. (*C. albomaculans* (Ell. & Ev.) Sacc.). Reported on turnip, from N.S. [9(6)], N.B. (9) (O-1668), and P.E.I. [9(16)], as the cause of white leaf spot.
- Cladosporium carpophilum** Thüm. Reported on peach, from N.S. (28); and on plum, from N.B. [9(9)].
- **cucumerinum** Ell. & Arth. Reported, as a cause of scab and fruit spot, on cucumber, from Halifax, Hants, Kings, and Lunenburg Co., N.S. (KP-107, 782) [9(5, 12)]; N.B. (9) (O-1919, det. H. N. Racicot); and P.E.I. (9); and on melons [9(16, 17)], from N.B.
- **fulvum** Cke. Reported as the cause of leaf mold of tomato, from all three provinces (9). Collections from Cumberland, Halifax, and Hants Co., N.S. (KP-671, 915).
- **herbarum** (Pers.) Link. Reported on decaying fungi, by MacKay (38), on apple fruits following insect injury, by Hockey [9(22)] (KP-962), from N.S. and on wheat, from the Maritimes [9(19)].
- **Oxycocci** Shear. A collection on *Vaccinium macrocarpon* Ait., from Arichat, N.S., is mentioned in the original description of this species by Shear (Bull. Torrey Botan. Club, 24: 306).
- **pisicolum** Snyder. Reported [9(22)] on peas, from P.E.I.
- Coniosporium Mali** Dearn. & Foster. Reported [9(20)] from a collection on apple leaves, from Sunbury Co., N.B., which was compared with material from Foster (see Can. J. Research, 16: 274).
- Cylindrocarpon Mali** (All.) Wollenw. On apple, from Queens Co., N.S. (KP-903).
- Epicoccum neglectum** Desm. On corn, from Yarmouth, N.S. [9(13, 14)] (KP-552; O-3677).
- **purpurascens** Ehrbg. Isolated from head blight of barley and wheat, from N.B. [9(21)]; and on oats, from P.E.I. (R. R. Hurst).
- Fusarium avenaceum** (Fr.) Sacc. This species is reported on wheat [9(18, 21)], from N.S. and N.B.; on barley [9(21)], from N.B.; and on oats (R. R. Hurst) from P.E.I.
- **conglutinans** Wollenw. A troublesome organism on *Aster*, found throughout N.S., according to Hockey (KP-798). The variety *Callistephi* Beach on *Callistephus chinensis* Nees is reported (9) as a cause of wilt, from all three provinces. Both probably refer to the same organism.
- **culmorum** (W. G. Smith) Sacc. Reported on wheat, from N.S. [9(19)]; and on barley, from P.E.I., by R. R. Hurst.
- **graminearum** Schwabe. This conidial stage of *Gibberella Zeae* Schw. (*G. Saubinetii*) is reported as being isolated from head blight of wheat, from all three provinces [9(18, 19)].
- **Lathyri** Taub. This species is reported as the cause of a wilt of sweet pea from both N.S. [9(5, 9)] and P.E.I. [9(9)].

- Fusarium Lini** Bolley. Reported on flax, from N.B. [9(10)].
- **Martii** var. **Phaseoli** Burk. On wax beans, from Kentville, N.S., by J. F. Hockey (KP-1216).
- **moniliforme** Sheldon. Reported [9(24)] on sweet corn, from Queens Co., P.E.I.
- **oxysporum** Schl. Reported on potato, from all three provinces (9); on tomato, from Wolfville, N.S. (KP-1298); and on lupine [9(15)] and *Gladiolus* [9(20)], from P.E.I. The forma *Cepae* is reported on onion, from N.S. [9(23)]; and the variety *Gladioli* Massey, on *Gladiolus* corms, from P.E.I. [9(23)].
- **Poa** (Pk.) Wollenw. Isolated from head blight of barley, from N.S. (O-5095,-5096,-5480; det. W. L. Gordon); and N.B. [9(21)], of wheat; from N.B. [9(19)]; and P.E.I. [9(20)]; and reported on oats, by R. R. Hurst, from P.E.I.
- **Solani** (Mart.) var. **Martii** (App. & Woll.) Woll. f. & Snyder. This organism was reported [9 (16)] as the cause of a root rot of beans, at Kentville, N.S.
- Fusicladium dendriticum** (Wallr.) Fck. Reported on apple, pear, and other Rosaceae, by Somers (37, 56a), under *Cladosporium*, and by Halsted and Kelsey (28), from N.S. This is the conidial stage of the apple scab organism, *Venturia inaequalis*, and is so common, particularly in the apple growing regions, that it is rarely collected or reported.
- **saliciperdu** (All. & Tub.) Tub. Widespread and very destructive to willows, as the cause of scab, throughout the Maritime area (9). Collections on *Salix alba* L. var. *vitellina* (L.) Koch (KP-621; O-64), from Grand Pré and on *Populus candicans* Ait. (KP-348), from Digby, N.S.
- Glomerularia Corni** Pk. On *Cornus canadensis* L., from Colchester Co., N.S. (KP-863; O-4504; W-502,-1749).
- **Lonicerae** (Pk.) Dearn. & House. On *Lonicera canadensis* Marsh., from Morristown, N.S. (R-35); and on *L. tatarica* L., from Little York, P.E.I. (O-5354), det. J. W. Groves. Reported (9) from all three provinces. This species has been connected with a basidiomycetous stage by Sinden. Gould (Phytopath. 33: 4) has recently published upon this life history and states the basidia are transversely septate.
- Gonatobotrys simplex** Corda. Reported [9(17)] on twigs of McIntosh apples, from York Co., N.B.
- Gonatorrhodiella Highlei** A. L. Smith. On bark of *Fagus grandifolia* Ehrh., associated with the *Nectria* (*N. coccinea* var. *faginata* Lohm., Wats. & Ayers) of the beech bark disease, from Truro (W-35,-1042) and Mt. Thom (W-1341) N.S. Also from N.S. and Fredericton and Albert Co., N.B., by John Ehrlich (Mycologia, 34: 705). This species has been reported on by Ayers (Mycologia, 33: 178) and it seems to be quite generally associated with this *Nectria*, on beech.
- Helicoma Curtisii** Berk. On *Acer spicatum* Lam., from Colchester Co., N.S. (W-1288), accompanying *Herpotrichia pezizula* (Berk. & Curt.) Ell. & Ev., of which it is the conidial stage.
- Helminthosporium Avenae** Eidam. Widespread, on oats, throughout all three provinces, as the cause of leaf spot or blotch (9). Collections from N.S. (KP-1046; O-4973 to -4975, -4926,-4977,-5110,-5115); N.B. (O-5088,-5108,-5114,-5117,-5118,-5838); and P.E.I. (O-5112,-5113), all det. by I. L. Connors.
- **gramineum** Rabh. Reported on barley, from all three provinces (9). Collection from Kentville, N.S. (KP-977), det. I. L. Connors. Not common.
- **orthospermum** Sacc. & Fairm. Material of this species was collected on the root of a red raspberry, by J. F. Hockey, near Kentville, N.S. The material was sent, by I. L. Connors, to D. H. Linder, who compared it with the type of *H. orthospermum* and found the two to be identical. The fungus has a dense, superficial, setose subiculum of stiff, septate, dark colored hyphae, 7-10.5 $\mu$  in diameter. The conidia are long cylindric, straight or curved, brown, 10- to 13-celled, not constricted at the septa, end cells somewhat paler, 60-90  $\times$  9-12.5 $\mu$ , and borne apically upon the conidiophore. This type of conidial stage is one often found associated with ascus stages of the genus *Zignoella* and its relatives.
- **sativum** P., K. & B. Reported as the cause of spot blotch and root rot of barley and wheat (9), from all three provinces. Collections on barley, from N.B. (O-5099,-5103) and P.E.I. (O-5119); and on mangel seed, from N.B. (O-7492).
- **teres** Sacc. Reported on barley (9), from all three provinces, as the cause of net blotch. Collections from N.S. (O-4510,-4987,-5026,-5111); N.B. (O-5109,-5118); and P.E.I. (O-5462,-7740).

- Heterosporium Iridis** (Fautr. & Roum.) Jacques (*H. gracile* (Wallr.) Sacc.). Reported (9) on leaves of *Iris*, from all three provinces. Collections, on *Iris*, from Kentville and Wolfville, N.S. (KP-240,-548,-750,-1150); and Charlottetown, P.E.I. (O-1911, by Güssow, fide Dearness). Jacques (Contribs. Inst. Botan. Montreal, No. 39:18) discusses the reasons for the above nomenclatorial change. Bisby (Trans. Brit. Mycol. Soc. 27:107) believes the binomial *H. gracile* Sacc. is still available for this species.
- **Phlei** C. T. Gregory. Causing a leaf spot of *Phleum*, N.B.; and P.E.I. [9(16-20)].
- Isaria farinosa** Fr. Reported on pupae, by Harrison (KM-1213,-1214), from Kentville, N.S.
- Isariopsis** sp. An undetermined species of this genus was collected by Connors, on *Aronia melanocarpa* (Michx.) Britt., at Wellington Centre, P.E.I. (O-7758).
- **alborosella** (Desm.) Sacc. Found on *Cerastium* sp., at Kentville, N.S. (KP-862), det. by I. L. Connors.
- Macrosporium Carotae** Ell. & Langl. See *Alternaria Dauci*.
- **Porri** Ell. See *Alternaria Porri*.
- Monilia sitophila** Mont. This common mold is reported on birch veneer, from Kentville, N.S. [9(19)] by Hockey (O-5649) and determined by I. L. Connors.
- Oidium Chrysanthemi** Rabenh. Reported [9(12)], on *Chrysanthemum*, from N.B.
- **consersum** (Link) Linder (*Rhinotrichum repens* Preuss). On decayed logs, Colchester Co., N.S., July, 1929, det. D. L. Linder (W-206).
- Oospora pustulans** Owen & Wakef. Reported (9) from all three provinces as a cause of skin spot of potato.
- Ovularia destructiva** (Phill. & Plowr.) Massee. On *Myrica Gale* L., from Port Mouton, Queens Co., N.S. (KP-1102; O-5859), det. I. L. Connors.
- Penicillium candidum** Link. Reported on apple, from N.B. [9(16)].
- **crustaceum** Fr. Reported as common in N.S., by MacKay (37).
- **expansum** Thom. Reported as common on apples in storage (9), from all three provinces.
- **Gladioli** McCulloch & Thom. Reported on corms of *Gladiolus*, from P.E.I. [9(18)].
- Polythrincium Trifolii** Kze. & Schm. Common on red and alsike clover, from Kentville, N.S. (KP-248). This is the conidial stage of *Cymadothea Trifolii* (Pers.) Wolf.
- Pullularia pullulans** (de Bary) Berkhout. Reported [9(19)] as being isolated from head discolorations of wheat, in the Maritime Provinces (?).
- Ramularia Armoraciae** Fck. Reported as causing a leaf spot of horse-radish, from N.B. [9(7, 9)]; and P.E.I. [9(6, 14)].
- **Pastinacae** (Karst.) Lindr. & Vesterg. On parsnip, from Lunenburg and Kings [9(19)] (KP-1105,-1279) Co., N.S.; and from N.B. [9(6)]. For a discussion of this species see [9(23)], which reports a collection (O-12312) from N.S.
- **Rhei** Allesch. Reported [9(23)] on rhubarb, from Queens Co., P.E.I.
- **Taraxaci** Karst. Reported [9(11)] from Kentville, N.S., on *Taraxacum officinale* Weber (KP-238).
- **Tulasnei** Sacc. On *Fragaria* sp., from Chebogue, Yarmouth Co., N.S., collected by A. R. Prince, July, 1927 (W-113). This is the conidial stage of *Mycosphaerella Fragariae* (Tul.) Lindau.
- Rhizoctonia Solani** Kühn. Reported (9) from N.S., on cabbage, mangel, *Matthiola*, potato, and turnip; from N.B., on beet and potato; and from P.E.I., on lawns and on bean, carrot, potato, and sweet pea. See also *Pellicularia filamentosa*.
- **Tuliparum** (Kleb.) Whetz. & Arth. (*Sclerotium Tuliparum* Kleb.). Reported on tulips, from N.B. [9(7)].
- Sclerotium bifrons** Ell. & Ev. On *Populus tremuloides* Michx., from Cumberland, Hants, and Oxford Co., N.S. (KP-637,-846; O-4517). This is the sclerotial stage of *Sclerotinia bifrons* Whetz. = *S. Whetzii* Seav. (see Mycologia, 32:124).
- **Gladioli** Massey. Reported as the cause of a dry rot of *Gladiolus* bulbs, from N.B. [9(7)]. This is the conidial stage of *Sclerotinia Gladioli* Drayton (Phytopath. 24: 397).

- Scolecotrichum Clavarium** (Desm.) Sacc. Parasitic upon *Clavaria cristata* (Holmsk.) Pers., from Colchester (W-1165,-1669), Annapolis, and Kings (KM-1231,-1232) Co., N.S. This is the conidial stage of *Helminthosphaeria Clavarium* (Tul.) Fck.
- **graminis** Fck. On *Phleum pratense* L., from Kings Co., N.S., [9(21)] (KP-1226), det. G. W. Hope.
- **punctulatum** Tracy & Earle. On *Gladiolus* sp., Truro, N.S., August, 1929 (W-246).
- Sepedonium chrysospermum** (Bull.) Fr. Common on *Boleti*, according to MacKay (38), in N.S. Also found associated with the ascus stage, *Hypomyces chrysospermus* (Bull.) Tul. (q.v.), from N.S. and N.B.
- Spodylocladium atrovirens** Harz. Reported (9) from all three provinces, as the cause of silver scurf of potatoes.
- Stemphylium botryosum** Wallr. On *Medicago sativa* L., from Meteghan Centre, N.S. (O-4982,-7739), det. by I. L. Connors and J. W. Groves.
- **sarcinaeforme** (Cav.) Wilts. Hockey (KP-60) reports a *Macrosporium sarcinaeforme* Cav., as common on alfalfa and red clover, at Kentville, N.S. If properly determined it should belong here (see Can. J. Research, C, 22: 195).
- Thielaviopsis basicola** (Berk. & Br.) Ferraris. Collections (KP-352,-825,-826,-1135) labelled *Thielavia basicola* Zopf, on *Kalanchoe* sp., *Lathyrus odoratus* L., *Lupinus albus* L., and *L. angustifolia*, from Digby and Kings Co., N.S., and given as associated with other fungi in root rot conditions, are no doubt this conidial stage.
- Trichoderma Koningi** Oud. A collection (KP-632), by Hockey, on apple roots, from Middleton, N.S. Bisby (Trans. Brit. Mycol. Soc. 23: 149) does not consider this a tenable species.
- Trichothecium roseum** Link (*Cephalothecium roseum* Cda.). Reported as a storage rot of apples in all three provinces (9) and on *Daphne Mezereum* L., following a *Botrytis* blight, from Kentville, N.S. [9(17)] (KP-912).
- Tubercularia vulgaris** Tode. On *Prunus virginiana* L., from Colchester Co., N.S. (W-14); on *Acer* and *Aesculus*, from Fredericton, N.B. (O-4560,-4561); and on *Ulmus montana*, from Charlottetown, P.E.I.
- Verticillium albo-atrum** Reinke & Berth. Reported on potato and tomato (KP-1276), raspberry [9(23)], and sweet pea [9(17)], from N.S.; on potato [9(9, 10)], from N.B.; and on *Acer* [9(20)], potato [9(17)], raspberry [9(24)], and tomato [9(23)], from P.E.I.
- **ovatum** Berk. & A. B. Jackson. Reported on raspberry, from all three provinces [9(5)].

## MELANCONIALES

- Colletotrichum atramentarium** (Berk. & Br.) Taub. On *Solanum tuberosum* L., from Kentville, N.S., by Hockey [9(22)] (KP-1290), sub *C. tabificum* (Hallier p.p.) Pethybridge, which Grove (27; 2, p. 244) gives as a synonym of his *Vermicularia atramentaria* Berk. & Br.; and from Charlottetown, P.E.I. [9(12, 19)] (O-5716), det. J. W. Groves.
- **circinans** (Berk.) Vogl. On onion, Kentville, N.S. (9) (KP-541,-1292). Grove (27) places this species in the genus *Vermicularia* and similar to *V. Liliacearum* West.
- **erumpens** Sacc. On rhubarb, Kentville, N.S. [9(19)] (KP-1114).
- **graminicolum** (Ces.) Wilson (*Colletotrichum cereale* Manns). On *Digitalia* sp., from Kentville, N.S. (KP-1291); and on oats from P.E.I. [9(5)].
- **lagenarium** (Pass.) Ell. & Halst. On cucumber, from Cape Breton, N.S. [9(9)] (KP-371); and P.E.I. [9(6)].
- **Lindemuthianum** (Sacc. & Magn.) Bri. & Cav. On many varieties of cultivated beans, widely distributed throughout all three provinces (9, 38) (KP-67,-89,-666).
- **phomoides** Sacc. Reported from N.B., on tomato [9(3, 17)].
- **Spinaciae** Ell. & Halst. On spinach, from Queens Co., P.E.I., [9(14)] (O-2339), fide G. A. Scott.
- **Violae-tricoloris** R. E. Smith. On *Viola tricolor* L. (pansy), from Lunenburg Co., N.S. [9(7)] (KP-800); and from N.B. [9(6)].



**Coryneum Negundinis** Berk. & Curt. Reported as a twig blight of *Acer Negundo* L., from P.E.I. [9(6)].

**Cylindrosporium acerinum** (Pk.) Dearn. On *Acer pennsylvanicum* L., from Campbellton, N.B. (O-2374), det. J. Dearness. A second collection on this host from Mt. Thom, Pictou Co., N.S., August, 1931 (W-1336) is no doubt this same species. The spots arise as small, irregular, angular yellow-brown areas that rapidly become confluent and may cover most of the leaf. The acervuli are epiphyllous, and accompanied, later, by *Phyllosticta* pycnidia, opening to the under side, and with minute bacillar conidia,  $2.2.5 \times 1\mu$ . The *Cylindrosporium* conidia are long filiform, curved, and  $43.52 \times 2.2.5\mu$ . A few young perithecia were also seen, but not mature enough to determine. Several *Cylindrosporium* species have been described from *Acer*, and this name would apply, if they were synonymous (see Dearness, Can. Dept. Agr. Bull. 71: 71-73). Reports of *Septoria acerina* Pk. on *Acer pennsylvanicum* L. from New Glasgow, N.S., by MacKay (38) and from P.E.I. [9(14, 16, 18)] and of *Cylindrosporium pennsylvanicum* E. & E. on the same host from Kings Co., N.S. [9(24)] and N.B. [9(24)] (O-Herb.) probably belong here.

— **ariaefolium** Ell. & Ev. On *Spiraea latifolia* (Ait.) Borkh., Hants Co., N.S. (O-645), det. I. L. Connors. There are four species of *Cylindrosporium* on *Spiraea* reported from the Maritime Provinces, which probably represent only two good species. The following remarks apply to these collections.

Specimen O-1879, of *C. ariaefolium*, and O-7752, of *C. Fairmanianum*, have small waxy spore masses on the upper surface of the leaves, and long, filiform, strongly curved spores, bent almost in a semicircle and measuring  $70-85\mu$  across the curve and  $1.5-2\mu$  in diameter.

Specimen O-5160, of *C. salicifolia*, has more cottony spore masses on the under side of the leaves and the spores are filiform-fusoid, slightly curved and  $35-37 \times 1.5-2\mu$ . Davis (Par. Fung. Wis., p.99) follows Gilman and Archer in placing this species as a synonym of *C. Filipendulae* Thüm.

— **Fairmanianum** Sacc. On *Spiraea latifolia* (Ait.) Borkh., Wellington Centre, P.E.I. (O-7752), det. I. L. Connors. See *C. ariaefolium*.

— **Filipendulae** Thüm. *Spiraea salicifolia* L., Port Mouton, Queens Co., N.S. (KP-1103). See *C. ariaefolium*.

— **hiemale** Higgins. On cherry, Kentville, N.S. (O-Güssow, 1919, fide J. Dearness). This is the conidial stage of *Higginsia* (*Coccomyces*) *hiemale* (q.v.).

— **Padi** Karst. Reported by Halsted and Kelsey (28), from N.S. Given as the same as *Septoria cerasina* Pk. Probably *C. hiemale*.

— **Prunophorae** Higgins. On plum, Bay du Vin, N.B. (O-Sept., 1918; det. F. L. Drayton). This is the conidial stage of *Higginsia* (*Coccomyces*) *Prunophorae* (q.v.).

— **salicifoliae** (Tul.) Davis. On *Spiraea latifolia* (Ait.) Borkh., Inverness Co., N.S. (O-5160), det. I. L. Connors. See *C. ariaefolium*.

**Dasycarpoma allantoideum** (Pk.) Dearn. See *Gloeosporium album*.

**Entomosporium maculatum** Lévy. On *Amelanchier canadensis* (L.) Medic., from Victoria Beach (O-5122) and on *Chaenomeles japonica* Lindl., from Meteghan Centre (O-4989), N.S., both determined by I. L. Connors.

— **Thuemenii** (Cke.) Sacc. Reported from Digby (O-5996), Hants (KP-967), Kings (O-147), Lunenburg (O-4497), and Victoria (W-4014) Co., N.S. [9(18)]; and from Charlotte (O-6494) Co., N.B. [9(20)], on *Crataegus Oxycantha* L.

**Gloeosporium album** Osterw. (*G. allantoideum* Pk., *Dasycarpoma allantoideum* (Pk.) Dearn.). Reported [9(16-19)] as the cause of a storage rot in apples, from N.B. The new genus *Dasycarpoma* was erected (Progr. Rept. Dom. Bot. Dept. Agr. Canada, 1938: 60) for this organism, but E. W. Mason later found it to be the same as *G. album*.

— **allantoideum** Pk. See *Gloeosporium album*.

— **apocryptum** Ell. & Ev. Reported from P.E.I., on sugar maple [9(9, 19)].

— **betulosum** Ell. & Mart. Reported from N.B., on birch [9(7)].

— **Coryli** (Desm.) Sacc. On *Corylus americana* Walt., from Kentville, N.S. [9(22)] (KP-537, and June, 1931, by R. W. Ward).

- Gloeosporium fructigenum** Berk. This conidial stage of *Glomerella cingulata* is reported by Halsted and Kelsey (28) from N.S., as causing the anthracnose of apple.
- **irregulare** Pk. Reported on ash, from N.S. [9(10)].
  - **minus** Shear. The report of *G. minor*, on blueberries, from N.B. [9(18)], is meant to be this species.
  - **Ribes** (Lib.) Mont. & Desm. On *Ribes vulgare* Lam., from Amherst, N.S. (28) (O-4329), det. I. L. Connors. Reported on currant, from N.S., by Halsted and Kelsey (28).
  - **saccharinum** Ell. & Ev. See remarks under *Phyllosticta minima*.
  - **Salicis** West. Reported on willow, from N.S. [9(10)].
  - **Tiliae** Oud. On European linden (KP-549) [9(13)] and on *Tilia glabra* Vent. (O-3059), from Halifax, N.S. and P.E.I. [9(22)]. The collection O-3059 has large definite spots that suggest the variety *maculicolum* All.
  - **ulmeum** Miles. On leaves of *Ulmus americana* L., Truro, N.S., July, 1931 (W-1024). This is the conidial stage of *Gnomonia ulmea* (Schw.) Thüm.
  - **venetum** Speg. Reported on raspberry, as the cause of anthracnose, from all three provinces [9(4, 5)]. This is the conidial stage of *Elsinoe veneta* (Burkh.) Jenkins.
- Kabatiella caulivora** (Kirchn.) Karak. (*Gloeosporium caulivorum* Kirchn.). On *Trifolium pratense* L., from Fredericton, N.B. (O-7748), det. I. L. Connors, and on clover, from P.E.I. [9(16)].
- Marssonina Daphnes** Magn. Reported from Kings Co., N.S. [9(24)], on *Daphne*.
- **Juglandis** (Lib.) Magn. Reported on butternut, from N.B. [9(9, 10)].
  - **Populi** (Lib.) Magn. On *Populus candicans* Ait., from Kings Co., N.S. (KP-190), on willow, from Lunenburg Co., N.S. (KP-193); and from P.E.I. [9(6)].
- Melanconium betulinum** Schm. & Kze. On *Betula alba* L., from Truro (W-1652) and on *B. lutea* Michx. f., from North Alton (O-4857), N.S. This is the conidial stage of *Melanconis stilbostoma* (Fr.) Tul., and is very common on recently killed twigs of birch.
- **sphaeroideum** Link? A *Melanconium* collected on *Alnus crispa* var. *mollis* (Fern.) Fern., at Evangeline Beach, N.S., shows alpha conidia that are brown, ellipsoid, and  $9-12 \times 5.5-7.5\mu$ , and beta conidia that are cylindric, curved, hyaline, and  $9-15 \times 1.5-2\mu$ . This may be *M. sphaeroideum*, and if so is of particular interest, for it is the conidial stage of the European *Melanconis Alni*. The American variety *marginalis*, which is abundant in this area, has dilute black alpha conidia that are quite distinct. The author has previously seen only one other collection of *Melanconium sphaeroideum* from America, and that from the Pacific Coast, on *Alnus*. It is possible that this is *M. bicolor* on *Alnus*, but the spore measurements are, on the average, smaller than in that species, on birch. A collection (O-3782) on *Alnus incana* (L.) Moench., from Fredericton, N.B., and determined by J. W. Groves, as *M. bicolor* Nees, proves to have conidia  $10.5-12.5 \times 6-7\mu$ , and seems to fall in this same category.
- Pestalozzia funerea** Desm. On juniper, from Kentville, N.S. (KP-24).
- Polyspora Lini** Lafferty. Reported [9(5)] from P.E.I., on flax.
- Prosthemium formosa** Sacc. & Malbr. On old sphaeriaceous stromata on *Fagus grandifolia* Ehrh., Colchester Co., N.S., September, 1931 (W-1461). The mycelium penetrates the old stromata and forms a light yellowish, tuberculate stroma on the surface. From the surface of this stroma are cut off the numerous staurospore conidia, consisting of a central spherical cell from which 5 to 25, radiating, branching, hyaline, nonseptate arms grow out, forming a complex mass that may adhere or fragment and fall apart. The radiating branches are  $30-50 \times 1.5-4\mu$ , have a swollen base, and are often constricted or nodose above.
- Septonema atrum** Sacc. On twigs of *Salix*, Colchester Co., N.S., July, 1931 (W-473). The branching conidial threads are made up of dark brown, thick-walled cells, and break up into three- to six-celled conidia measuring  $10.5-18 \times 4.5-5\mu$ , which is somewhat less than the measurements given by Lindau (Rabenh. Kr.-Fl. 1(9): 27).
- Sphaceloma Rosae** (Pass.) Jenk. On fruits of *Rosa* sp., in marsh, near Truro, N.S., June, 1933 (W-1530). Also reported by Jenkins (J. Agr. Research, 45: 325), on *Rosa lucida*, from Campobello, N.B.

**Steganosporium pyriforme** (Hoffm.) Corda. *S. pyriforme* is given as having spores  $35-40 \times 15-18\mu$ . Peck (Bull. Torrey Botan. Club, 25: 326) gives his *S. acerinum* as differing from this species in the larger spores ( $50-60 \times 25-30\mu$ ). *S. pyriforme* is reported on *Acer saccharum* Marsh., from North Alton, N.S. (O-4856, det. I. L. Connors) and *S. acerinum* is reported on maple, from Hillcrest [9(14)] (O-2048, det. M. Timonin), and Kentville (KP-241), N.S. O-4856 has conidia  $28.5-32 \times 14-15\mu$  and O-2048 has conidia that are  $30-39 \times 14-16\mu$ . It seems that these are all the same species, and they agree with the measurements for *S. pyriforme*. Whether Peck had another species has not been determined.

**Thyrsidium botryosporum** Mont. On *Fagus grandifolia* Ehrh., Colchester Co., N.S., September, 1931 (W-1462). There has been some question whether this genus belongs in the Hyphomycetes or the Melanconiales. This collection seems to be parasitic upon the erumpent stromata of a *Coryneum* or some pyrenomycete. The spore masses, which consist of a fascicle of chains of one-celled, brown, toruloid spores, are compact and resemble Allescher's (Krypt.-Fl. 1(7): 590) figures of *T. stilbosporoides*, on *Corylus*, rather than those of this species. The individual cells of the chains are  $3.5-4.3 \times 3.5\mu$ , however, and come closer to the species on *Fagus*.

**Toxosporium abietinum** Vuill. On *Abies balsamea* (L.) Mill., Kentville, N.S. (KP-241), causing a needle blight [9(6)]. This is *T. camptospermum* Maubl. according to Grove (27).

**Vermicularia coptina** Pk. On *Coptis groenlandica* (Oed.) Fern., from Colchester Co., N.S., June, 1931 (W-1690).

— **Liliacearum** West. On stems of *Lilium* sp., Colchester Co., N.S., Sept., 1929 (W-280). The spores of *V. Liliacearum* West. are given as  $20 \times 5\mu$ . The American *V. Liliacearum* Schw. is supposed to be the same but no spore measurements are given. The spores of this collection were  $17.5-21.5 \times 2.5-3.5\mu$ .

— **subeffigurata** Schw. On *Dianthus*, Kentville, N.S. (KP-884).

— **trichella** Grev. On English ivy, from Yarmouth, N.S. (KP-63).

### SPHAEROPSIDALES

**Ascochyta althaeina** Sacc. & Bizz. Reported on hollyhock, from P.E.I. [9(9, 16, 18)].

— **Aquilegiae** (Roum. & Pat.) Sacc. Reported on columbine, from N.B. [9(6)].

— **clematidina** Thüm. Reported on *Clematis*, from P.E.I. [9(21)].

— **imperfecta** Pk. (*Phoma Medicaginis* Malbr. and Roum.). On alfalfa, from Kentville, N.S. (KP-861; O-4327), det. F. R. Jones [9(18)].

— **Medicaginis** (Voss) Bres. Reported on alfalfa, from N.B. [9(6)]. Grove (27) considers this to be the same as *Phyllosticta Medicaginis* Sacc.

— **Pisi** Lib. On *Lathyrus odoratus* L. (KP-295) and *Pisum sativum* L. (KP-592), from Kentville, N.S. Also reported [9] from all three provinces as the cause of a leaf and pod spot of pea, and on vetch [9(5)] from P.E.I.

— **Rhei** Ell. & Ev. Reported [9] as causing a leaf spot of rhubarb, from all three provinces; collection (KP-635), from Kentville, N.S. According to Savile [9(24, p. 72)], *Phyllosticta Halstediana* All., *P. Rhei* Ell. & Ev., and *P. straminella* Bres. are all probably the same as *Ascochyta Rhei*. Reports of the last two species are listed under their respective names.

— **Syringae** Bres. Reported on lilac, from P.E.I. [9(5)].

**Bothrodiscus pinicola** Shear. On *Abies balsamea* (L.) Mill.; the conidial stage of *Ascocalyx Abietis* Naum. (q.v.).

**Camarosporium Tanacetii** Oud. On *Tanacetum vulgare* L., Colchester Co., N.S., August, 1929 (W-257). This collection has pycnidia  $200-300 \times 100-150\mu$  and globose to ellipsoid spores, which become brown and muriform and are  $8.5-15.5 \times 8.5-11.5\mu$ . *C. Tanacetii* is given as having larger pycnidia (0.5-1 mm.) but similar spores ( $14 \times 9\mu$ ). *C. Kriegeri* Bres. has similar pycnidia ( $280-320 \times 200-280\mu$ ) but larger spores ( $16-18 \times 14-17\mu$ ) ( $24-26 \times 15-17\mu$ ).

**Catinula turgida** (Fr.) Desm. On *Corylus cornuta* Marsh., Colchester Co. (W-1067) and Casey's Corner, N.S. (O-4631), det. J. W. Groves. This is the conidial stage of *Pezicula corylina* Gr.

- Coniothyrium concentricum** (Desm.) Sacc. On *Yucca filamentosa* L., Kentville, N.S. (9) (KP-528,-633).
- **Fuckelii** Sacc. On apple, from Kentville (KP-351,-394) and on *Rubus idaeus* L. var. *strigosus* Maxim., from Cambridge, N.S., leg. F. L. Drayton, det. J. Dearness.
- Cryptosporiopsis cornina** Petr. This conidial stage of *Pezicula Corni* Petr. (q.v.) was reported from N.S., by Harrison (O-4650) and Groves (O-4654).
- Cytospora chrysosperma** (Pers.) Fr. On willow, from Sheffield Mills, N.S. (KP-185,-355); and Fredericton, N.B. (O-1926, D. J. MacLeod). Also reported on mountain ash, from N.B. [9(9)]; and on *Salix babylonica* L., from N.S. [9(11)].
- **leucostoma** (Pers.) Sacc. On *Sorbus americana* Marsh., from Victoria Park, Truro, N.S., Sept. 1929 (W-288) and on *Prunus virginiana* L., from Salmon River, Colchester Co., N.S., July, 1929 (W-14).
- Dinemasporium graminum** Lév. On grass culms, Truro, N.S., August, 1931 (W-1457).
- Diplodia Zeae** (Schw.) Lév. Given as also present, on a collection of corn (O-3677; det. F. S. Thatcher) bearing *Epicoccum neglectum*.
- Diplodina parasitica** (Horst.) Prill. Reported on *Abies balsamea* (L.) Mill., from P.E.I. [9(5)].
- **salicina** Cke. & Masee. A collection (KP-369) on *Salix alba* L. var. *vitellina* (L.) Koch, from Grand Pré, N.S., is placed under this binomial. Grove (27, p. 337) states that original material of this species is a mixture of various fungi. This collection may be the following species.
- Discella carbonacea** Berk. & Br. On *Salix* sp., Truro, N.S., June, 1933 (W-521). Quite common on willow twigs, often in association with *Cryptodiaportha salicina* (Curr.) Wehm., which is the ascus stage. Variable in form; the following all probably belong in the same life cycle; *Diplodina Salicis* West., *D. salicina* Lév., *Discula microsperma* Sacc., *D. Brenckleana* (Sacc. & Syd.) Petr., *Macrophoma Brenckleana* Sacc. & Syd. See Grove (1, p. 337; 2, pp. 128, 148).
- Discosia splendida** Kirschst. *apud* Died. On dead stems of *Monotropa uniflora* L., Colchester Co., N.S., July, 1912 (W-67). The species is given as having pycnidia  $600 \times 200\text{--}300\mu$  and spores  $14\text{--}20 \times 2.5\text{--}3\mu$ . This collection has pycnidia  $150\text{--}300 \times 100\text{--}150\mu$  and spores  $14\text{--}16 \times 1.5\text{--}2\mu$ .
- Dothichiza populea** Sacc. & Briard. On *Populus nigra* L. var. *italica* DuRoi, St. Andrews, N.B., June, 1917, leg. H. T. Güssow, det. J. Dearness [9(9)].
- Dothiorella Ulmi** Verrall & May. On *Ulmus americana* L., from Waterville (KP-872) and Kentville (O-4496), N.S. Collected and cultured as the *Cephalosporium* stage of the wilt disease, which has been described since under the above binomial (Mycologia, 29: 321).
- Fusicoccum putrefaciens** Shear. Reported on blueberry, from N.B. [9(18)].
- Gelatinosporium abietinum** Pk. On *Abies balsamea* (L.) Mill., and *Tsuga canadensis* (L.) Carr. (W-251,-1792), from Colchester Co., N.S., associated with the ascus stage, *Dermea balsamea* (Pk.) Seav. (q.v.).
- **fulvum** Pk. On *Betula* spp., from Colchester and Kings Co., N.S., associated with the ascus stage, *Dermea molliuscula* (Schw.) Cash (q.v.).
- Gloeodes pomigena** (Schw.) Colby. On apple and plum, Kentville, N.S. (KP-663,-664). Reported (9) from all three provinces, as the cause of sooty blotch of apples.
- Hendersonia sarmentorum** West. On *Acer pennsylvanicum* L., from Wolfville, N.S., June, 1926 (W-404).
- Leptothyrium Periclymeni** (Desm.) Sacc. var. *americana* Ell. & Ev. On *Lonicera canadensis* Marsh. (*L. ciliata* Muhl.), from Truro, N.S. (O-1927; det. I. L. Connors) (W-332).
- **Pomi** (Mont. & Fr.) Sacc. On apple, from Kings Co., N.S. (9) (KP-323); N.B. [9(18)]; and P.E.I. [9(24)]. On raspberry, from Yarmouth, N.S. (KP-617).
- **vulgare** (Fr.) Sacc. On *Aralia nudicaulis* L., Colchester Co., N.S., July, 1929 (W-10).
- Libertella betulina** Desm. On *Betula* sp., Colchester Co., N.S., July, 1931 (W-360,-478).



- Micropera drupacearum** Lév. Collected on *Prunus pennsylvanica* L.f. and *Prunus* spp., Colchester Co., N.S., July, 1929, and September, 1931 (W-202,-252,-1753), and associated with the ascus stage, *Dermea Cerasi* (Pers.) Fr. (W-1471).
- **Sorbi** (Fr.) Sacc. (*Sphaeronema pallida* Pk.). Collected on *Sorbus americana* Marsh., Colchester Co., N.S., July, 1929 (W-175) and associated with the ascus stage, *Dermea Ariae* (Pers.) Tul. (W-402).
- **spuria** (Fr.) Höhn. On *Prunus*, from Casey's Corners, N.S. (O-4647, det. I. L. Connors) and Truro (W-1692, det. J. W. Groves), N.S.
- **stellata** (Ell.) Jacz. On *Nemopanthus mucronata* (L.) Trel., from Oxford, N.S. (KP-886; O-3784), associated with the ascus stage, *Dermea Peckiana* (Rehm) Groves, det. J. W. Groves.
- Phoma Aceris-Negundinis** Arcang. Reported [9(6)] on *Acer Negundo* L., from P.E.I.
- **Betae** (Oud.) Frank. Reported (9) on beet and mangel, from all three provinces. Collections (KP-237,-983; O-148, det. I. L. Connors) from N.S. *Phyllosticta Betae* Oud. is a synonym of this species according to Grove, and Hockey's collection on mangel, from Kentville, N.S. (KP-827), belongs here.
- **Dahliae** Berk. Reported on *Dahlia*, from N.S. [9(7)].
- **Equiseti** Desm. On *Equisetum arvense* L., from Starr's Pt., Kings Co., N.S., det. I. L. Connors (KP-1366).
- **lingam** (Tode) Desm. Reported (9) on turnip, from all three provinces and on cabbage, from N.B. [9(7, 11)]. Collections on turnip, from N.S. (KP-398,-546), and on *Brassica Napobrassica* Mill., from St. Eleanor's, P.E.I. (O-det. J. Dearnness as *P. Napobrassicae* Rostr.).
- **Pomi** Pass. Reported on apple, from N.B. [9(6, 9)].
- **tuberosa** Melh., Rosenb. & Schultz. Reported (9) on potato, from N.B. and P.E.I.
- Phomopsis albicans** Sydow. This fungus was found parasitic upon the upper portions of the flowering stalks of *Leontodon autumnalis* L. in a marsh near Truro, N.S. (W-1452). The flowering stalks are killed and the pycnidia first appear on bleached areas of the living stems and mature on the upper killed portions. The conidia are cylindric-fusoid and  $7-9 \times 2\mu$ .
- **cryptica** (Sacc.) Höhn. On *Lonicera* sp., Victoria Park, Truro, N.S., September, 1929 (W-287). The pycnidia scarcely penetrate to the wood; the alpha conidia are  $7-9.5 \times 2-2.5\mu$ , beta conidia  $17.5-23 \times 0.8-1\mu$ . This appears to be *P. cryptica*, rather than *P. Lonicerae*, according to Grove's conception (27). It is the conidial stage of *Diaporthe cryptica* Nit., a form of *D. eres* Nit.
- Phyllosticta acericola** Cke. & Ell. See notes under *P. minima*.
- **althaeina** Sacc. On *Althaea rosea* Cav., from N.B. [9(6)]; and Charlottetown, P.E.I., by J. Dearnness, August, 1928.
- **Betae** Oud. See *Phoma Betae*.
- **Betulae** Ell. & Ev. Reported [9(7)] from N.B., on birch.
- **Catalpae** Ell. & Mart. Reported on *Catalpa*, from N.S., by Halsted and Kelsey (28).
- **Hydrangae** Ell. & Ev. On *Hydrangea*, Kentville, N.S. (KP-535).
- **Iridis** Ell. & Mart. On *Iris versicolor* L., Long Is., Digby Co., N.S. (O-4971), det. I. L. Connors.
- **minima** (Berk. & Curt.) Underw. & Earle. In regard to the collections of *Phyllosticta*, on *Acer*, Connors (in litt.) [9(23, p. 94)] states "from a study made by D. B. O. Savile and myself . . . *P. acericola* C. & E. is a well recognized synonym of *P. minima* (Berk. & Curt.) Underw. & Earle, which antedates *P. minima* (Berk. & Curt.) Ell. & Ev. This is the proper disposition of the fungus on *Acer spicatum* Lam. All our specimens, however, on *Acer saccharum* Marsh. appear to be *Gloeosporium saccharinum* Ell. & Ev." There are collections on *Acer spicatum*, of *P. acericola* C. & E. (KP-516) and of *P. Negundinis* Sacc. & Speg. (KP-644; O-1886), from Hants Co., N.S., and reports, on this host, of *P. acericola*, from N.S. [9(10)] and P.E.I. [9(14)], all of which are probably *P. minima*. There are reports, from P.E.I., on *Acer saccharum*, of *P. acericola* [9(5, 10)], and *P. minima* [9(9)], which are probably *Gloeosporium saccharinum*.

**Phyllosticta Negundinis** Sacc. & Speg. See *P. minima*.

— **Paviae** Desm. Reported on *Aesculus Hippocastanum* L., from Halifax, N.S., by John Dearness, September, 1919, and from N.S. [9(5)]; and P.E.I. [9(5)]. Reports of *Phyllosticta sphaeropsoidea* Ell. & Ev. (9), from the same provinces and on the same host, also belong here.

— **prunicola** Sacc. On apple, from Kentville, N.S. (KP-19,-74). The variety *Mali*, on apple, of this species, is given by Grove (27; 1, p. 41) as a synonym of *P. Mali* Prill. & Delacr.

— **pyrina** Sacc. On pear, from Kentville, N.S. (KP-92).

— **Pyrorum** Cke. Reported [9(5)] on pear, from N.S.

— **Rhei** Ell. & Ev. Reported [9(21)] on rhubarb, from Kentville, N.S. See *Ascochyta Rhei*.

— **rubicola** Rabh. On raspberry, from Kentville, N.S. (KP-614).

— **sphaeropsoidea** Ell. & Ev. See *P. Paviae*.

— **straminella** Bres. Reported, as the cause of a leaf spot of rhubarb, from all three provinces (9); collections from Halifax (KP-561) and Kentville, N.S. Savile [9(24, p. 72)] states that Bresadola's species probably does not occur in America, and that collections of other authors (*sensu* Stevens) are probably *Ascochyta Rhei* (q.v.)

— **Symphoricarpi** West. Reported [9(5)] on *Symphoricarpos*, from P.E.I.

— **Violae** Desm. Reported [9(23)] on *Viola tricolor* L. from Kentville, N.S.

**Plenodomus Meliloti** Dearn. & Sanford. On alfalfa, from Kentville, N.S., causing a brown root rot, and confirmed by Sanford [9(11)] (KP-808).

**Pleurophomella eumorpha** (Penz. & Sacc.) Höhn. On *Abies balsamea* (L.) Mill., Colchester Co., N.S. (W-1659). Also associated with *Tympanis Pinastri* Tul. (q.v.) as the conidial stage.

— **spermatiospora** Höhn. On *Populus* sp., Colchester Co., N.S., July, 1935 (W-1748). This is the conidial stage of *Tympanis spermatiospora* Nyl.

**Selenophoma bromigena** (Sacc.) Sprague & Johns. Reported (sub *Septoria bromigena* Sacc.) on *Bromus inermis* Leyss., from P.E.I. [9(6)].

**Septoria acerina** Pk. See *Cylindrosporium acerinum*.

— **Apii** Chester. On celery, from all three provinces (9), causing the late blight. *S. Apii-graveolentis* Dorogin, which is reported (9) from N.B. and P.E.I., is considered as a synonym of this species by Grove (27). The reports of *S. Petroselinii* Desm. var. *Apii* Briosi & Cav., on celery, from N.B. [9(5)] and P.E.I. [9(6)], also belong here.

— **Avenae** Frank. On *Avena sativa* L., from North Kensington, N.S. (O-5850,-5851); St. John, N.B. (9) (O-5848); and Springfield, P.E.I. (O-5849).

— **Betulae** (Lib.) West. On *Betula lutea* Michx. f., from St. Peters, N.S. (O-984), det. John Dearness.

— **cannabina** Pk. Reported on hemp (*Cannabis*), from P.E.I. [9(5)].

— **canadensis** Pk. On *Cornus canadensis* L., from Victoria Park, Truro, N.S., June, 1929 (W-3) and Portapique Beach, N.S., July, 1935 (W-1450).

— **Chrysanthemi** All. On greenhouse chrysanthemums, Annapolis Co., N.S. [9(18)] (KP-1000).

— **Convolvuli** Desm. On *Convolvulus sepium* L., from Wellington Centre, P.E.I. (O-7753), det. I. L. Connors.

— **Coptidis** Berk. & Curt. On leaves of *Coptis groenlandica* (Oed.) Fern., from Moore's Lake, Halifax Co., N.S. (W-32). Occurring on the same spots with *Mycosphaerella Coptis* (Schw.) House (64), which is probably the ascus stage.

— **cornicola** Desm. On *Cornus canadensis* L., from Rawdon, Hants Co., N.S. (KP-817). The only difference between this species (spores  $30-40 \times 2-3\mu$ ) and *S. canadensis* (spores  $25-37\mu$  long) is in the spore length and host species. If the same, they should both be under this name; if different, this collection is probably *S. canadensis*.

— **corylina** Pk. On leaves of *Corylus cornuta* Marsh., Colchester Co., N.S., July, 1931 (W-1688). The minute pycnidia are on rounded necrotic spots with a purplish border. The spores were curved, filiform,  $35-44 \times 1.5-2\mu$ .

- Septoria divaricata** Ell. & Ev. Reported on *Phlox paniculata* L., from Kentville, N.S. [9(21)] (KP-1209); N.B. [9(9)]; and P.E.I. [9(23)]. In gardens. *S. Phlogis* Sacc. & Speg., reported on *Phlox drummondii* Hook., from Kentville, N.S. (KP-797), is considered, by Grove (27), to be merely an advanced stage of this species.
- **Gladioli** Pass. Reported as causing a hard rot of *Gladiolus*, from N.B. and P.E.I. (9).
- **Helianthi** Ell. & Kellerm. On sunflower, from Kentville, N.S. (9) (KP-380).
- **Lycopersici** Speg. Reported as causing a leaf spot of tomato, from all three provinces (9). Collections on tomato, from Hants and Kings Co., N.S. (KP-1235).
- **malvicola** Ell. & Mart. On *Malva rotundifolia* L., from N.B. [9(13)].
- **nodorum** Berk. On wheat, as the cause of glume blotch, from N.S. (9) (O-5458,-5460); N.B. (9) (O-5089,-5106,-5465,-5478); and P.E.I. (9) (O-5433,-5461,-5503).
- **Oenotherae** West. Reported on leaves of *Oenothera biennis* L., from New Glasgow, N.S., by MacKay (38).
- **Paeoniae** West. On peony, from Kentville, N.S. (KP-297).
- var. **berolinensis** All. This variety (with concentric ridges on the leaf spot?) is reported from P.E.I., by R. R. Hurst.
- **Petroselinii** Desm. Reported on parsley, from N.B. [9(5)].
- **Phlogis** Sacc. & Speg. See *Septoria divaricata*.
- **Pisi** West. On garden peas, from Kentville, N.S. [9(21)] (KP-1217); and Brackley Beach, P.E.I. (9) (O-3711), det. I. L. Connors.
- **Polygonorum** Desm. On *Polygonum Persicaria* L., from Kentville, N.S. [9(5)] (KP-829); and from P.E.I. [9(14)].
- **Ribis** Desm. Reported (9) on currant, from all three provinces and on gooseberry [9(15)], from P.E.I.
- **Rubi** West. On *Rubus* spp., from N.S. (28) (KP-641; O-1889); and on raspberry, from N.B. [9(20)]. *Rhabdospora Rubi* Ell., reported from Digby, N.S. [9(9)] (KP-612) is the same as this species according to Grove (27).
- **Senecionis** West. Reported on *Senecio Jacobaea* L., from Glenkeen, N.S. [9(24)].
- **Stellariae** Rob. & Desm. On *Stellaria media* (L.) Cyrill., from Kentville, N.S. (KP-899).
- **Tritici** Rob. & Desm. Reported on wheat, from N.B. [9(21)].
- Sphaerographium Fraxini** (Pk.) Sacc. On *Fraxinus americana* L., from Colechester Co. (W-447) and *F. pennsylvanica* Marsh., from Casey's Corners, N.S. (O-4633; det. J. W. Groves). This is the conidial stage of *Durandiella Fraxini* (Schw.) Seav.
- Sphaeronema acerinum** Pk. On *Acer saccharum* Marsh., Moore's Lake, Halifax Co., N.S. (W-17). This is the conidial stage of *Dermea acerina* (Pk.) Rehm (q.v.).
- **Peckii** Sacc. & Syd. On stems of *Nemopanthus mucronata* (L.) Trel., Colechester Co., N.S., June, 1931 (W-304). This collection appears to be the conidial stage of *Godroniopsis Nemopanthus*, as given by Groves (Mycologia, 29: 71), although only the microconidia were seen. They were fusoid-ellipsoid,  $9-10.5 \times 1.5-2\mu$ .
- **pruinsum** Pk. On *Amelanchier* sp., Casey's Corners, N.S. (O-4634). This is the conidial stage of *Pezicula pruinosa* Farl. (q.v.).
- Sphaeropsis Malorum** Berk. This species is reported by Somers (37, 56a), on apple windfalls, from N.S. The probabilities are that this was *Sphaeropsis Malorum* Pk., the conidial stage of *Physalospora obtusa* (Schw.), which is more common in America (see Stevens: Mycologia, 28: 330).
- **Sumachi** (Schw.) Cke. & Ell. On *Rhus typhina* L., from Dartmouth, N.S. [9(16)] (O-4325), det. I. L. Connors.
- **ulmicola** Ell. & Ev. Reported on elm, from N.B. [9(14)]; and P.E.I. [9(13)].
- Zythia aurantiaca** (Pk.) Sacc. On dead limbs of *Cornus alternifolia* L.f. Victoria Park, Truro, N.S., June, 1935 (W-1711). This is the conidial stage of *Apioporthes Corni* Wehm. It gives the bark of the infected branches a characteristic yellow color, which is thickly dotted with the orange-colored pycnidial spots.

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*Melanconis Alni* var. *marginalis*, 41

*Melanconium sphaeroideum*, 107

**Alnus crispa** var. **mollis** (Fern.) Fern.—

*Cont'd.*

*Pezicula Alni*, 22

*Phyllactinia corylea*, 30

*Solenia anomala*, 63

*Valsa truncata*, 41

**Alnus incana** (L.) Moench.

*Cryptospora femoralis*, 40

*Daedalea unicolor*, 70

*Eichleriella Leveilliana*, 57

*Erysiphe aggregata*, 29

*Hymenochaete agglutinans*, 61

*Hypocrea rufa*, 33

*Melanconium sphaeroideum*, 107

*Microsphaera Alni*, 30

*Phyllactinia corylea*, 30

*Stereum erumpens*, 63

*Taphrina Robinsoniana*, 17

**Alnus mollis**: see **A. crispa** var. **mollis****Alnus** spp.

*Anthostoma melanotes*, 39

*Calvatia elata*, 99

*Chromocrea gelatinosa*, 32

*Corticium porosum*, 60

*Cryptospora alnicola*, 40

" *aurantiaca*, 40

" *femoralis*, 40

*Cyphella fasciculata*, 61

*Daedalea confragosa*, 70

*Daldinia concentrica*, 42

*Diatrypella Tocciaeana*, 39

*Eutypella alnifraga*, 39

*Exidia glandulosa*, 57

*Fenestella minor*, 40

*Fomes scutellatus*, 71

*Gibberidea alnea*, 39

*Helotium citrinum*, 25

*Hymenochaete corrugata*, 61

*Hypocrea rufa*, 33

*Hypoxylon fuscum*, 42

*Melanconis Alni* var. *marginalis*, 41

" *thelebola*, 41

*Melanconium sphaeroideum*, 107

*Meliola Penzigii*, 29

*Merulius niveus*, 72

*Microsphaera Alni*, 30

*Mollisia cinerea*, 24

*Pellicularia vaga*, 61

*Peniophora aurantiaca*, 62

" *gracillima*, 62

" *setigera*, 63

*Pezicula Alni*, 22

*Polyporus albellus*, 72

" *radiatus*, 74

" *velutinus*, 75

" *versicolor*, 75

**Alnus** spp.—*Cont'd.*

- Poria ferrea*, 76
- Psilopezia hydrophila*, 20
- Radulum orbiculare*, 70
- Scorias spongiosa*, 29
- Steccherinum ochraceum*, 70
- Stereum hirsutum*, 63
- Taphrina Robinsoniana* (T. *Alni-incanae*), 17
- Trametes steroioides*, 76
- Trogia Alni*, 98
- “ *crispa*, 98
- Tulasnella violacea*, 58
- Tympanis alnea*, 22
- “ *hysterioides*, 23
- Valsa stenospora*, 41
- “ *truncata*, 41
- Valsaria moroides*, 41

**Alopecurus aequalis** Sobol.

- Claviceps purpurea*, 33

**Alopecurus pratensis** L.

- Puccinia rubigo-vera*, 54
- “ “ “ var. *agropyrina*, 54

**Althaea rosea** Cav.

- Ascochyta althaeina*, 108
- Cercospora althaeina*, 101
- Phyllosticta althaeina*, 110
- Puccinia Malvacearum*, 52

**Alyssum** spp.

- Albugo candida*, 15
- Peronospora parasitica*, 15

**Amanita flavoconia** Atk.

- Sporodinia grandis*, 16

**Amaranthus retroflexus** L.

- Albugo Bliti*, 15

**Ambrosia** spp.

- Plasmopara Halstedii*, 15

**Amelanchier canadensis** (L.) Medic.

- Apiosporina Collinsii*, 34
- Entomosporium maculatum*, 106
- Fabraea maculata*, 23
- Gymnosporangium clavariaeforme*, 49
- “ *clavipes*, 49

**Amelanchier intermedia** Spach.

- Apiosporina Collinsii*, 34
- Gymnosporangium clavipes*, 49

**Amelanchier laevis** Wieg.

- Gymnosporangium clavariaeforme*, 49
- “ *clavipes*, 49

**Amelanchier oblongifolia** (T. & G.) Roem.

- Apiosporina Collinsii*, 34

**Amelanchier spicata** (Lam.) Koch

- Gymnosporangium clavipes*, 49

**Amelanchier stolonifera** Wieg.

- Gymnosporangium clavariaeforme*, 49
- “ *clavipes*, 49

**Amelanchier** spp.

- Apiosporina Collinsii*, 34
- Diaporthe tuberculosa*, 40
- Gymnosporangium clavariaeforme*, 49
- “ *clavipes*, 49
- Massaria Pruni*, 39
- Pezicula pruinosa*, 22
- Sphaeronema pruinosa*, 112
- Synchytrium aureum*, 13
- “ *Vaccinii*, 13
- Valsa cincta*, 41

**Ampelopsis** sp.

- Uncinula necator*, 31

**Andromeda glaucophylla** Link

- Synchytrium Vaccinii*, 13

**Anthoxanthum odoratum** L.

- Puccinia graminis*, 52
- “ *Poa-sudeticae*, 53
- Tilletia Anthoxanthi*, 45

**Antirrhinum majus** L. (Snapdragon)

- Peronospora Antirrhini*, 14
- Puccinia Antirrhini*, 50

**Apium graveolens** L. (Celery)

- Cercospora Apii*, 101
- Erwinia carotovora*, 9
- Septoria Apii*, 111
- “ *Petroselini* var. *Apii*, 111

**Apocynum androsaemifolium** L.

- Puccinia Seymouriana*, 54

**Apple**: see *Malus pumila***Aquilegia vulgaris** L. (Columbine)

- Erysiphe Polygoni*, 29

**Aquilegia** sp.

- Ascochyta Aquilegiae*, 108

**Aralia nudicaulis** L.

- Cercospora leptosperma*, 102
- Leptothyrium vulgare*, 109
- Nyssopsora clavellosa*, 49

**Arbor-vitae**: see *Thuja occidentalis***Arctium Lappa** L.

- Puccinia Bardanae*, 51

**Arctium minus** (Hill) Bernh.

- Puccinia Bardanae*, 51

**Arenaria lateriflora** L.

- Uronyces acuminatus*, 54
- “ “ var. *Spartinae*, 55

**Arenaria peploides** L.

- Puccinia Arenariae*, 50

- Arenaria peploides** var. **robusta**  
Puccinia *Arenariae*, 50
- Arisaema Stewardsonii** Britt.  
Uromyces *Caladii*, 55
- Arisaema triphyllum** (L.) Schott.  
Uromyces *Caladii*, 55
- Aristolochia** sp.  
Cercospora *guttularia*, 102
- Aronia**: see **Pyrus**.
- Arrhenatherum elatius** (L.) Mert. & Koch.  
Puccinia *graminis*, 52
- Ash**: see **Fraxinus**
- Asparagus officinalis** L. (*Asparagus*)  
Botrytis *cinerea*, 101  
Erwinia *carotovora*, 9  
Puccinia *Asparagi*, 50
- Asplenium filix-femina** (L.) Bernh.  
See **Athyrium angustum**
- Aster acuminatus** Michx.  
Puccinia *Asteris*, 50  
" *extensicola* var. *Asteris*, 51
- Aster cordifolius** L.  
Coleosporium *Solidaginis*, 46
- Aster lateriflorus** (L.) Britt.  
Coleosporium *Solidaginis*, 46  
Puccinia *Asteris*, 50
- Aster macrophyllus** L.  
Coleosporium *Solidaginis*, 46  
Leptosphaeria *doliolum*, 37  
Puccinia *Asteris*, 50
- Aster novi-belgii** L.  
Coleosporium *Solidaginis*, 46
- Aster patens** Ait.  
Coleosporium *Solidaginis*, 46
- Aster (puniceus** L. ?)  
Uromyces *perigynius*, 55
- Aster umbellatus** Mill.  
Coleosporium *Solidaginis*, 46  
Puccinia *extensicola*, 51
- Aster** spp.  
Coleosporium *Solidaginis*, 46  
Diaporthe *Aretii*, 40  
Entyloma *compositarum*, 45  
Erysiphe *Cichoracearum*, 29  
Fusarium *conglutinans*, 102  
Leptosphaeria *doliolum*, 37  
" *planiuscula*, 37  
Puccinia *Asteris*, 50  
" *extensicola* var. *Asteris*, 51
- Athyrium angustum** (Willd.) Presl.  
Uredinopsis *Struthiopteridis*, 48
- Atriplex patula** L.  
Uromyces *Peckianus*, 55
- Atriplex patula** var. **hastata** (L.) Gray  
Uromyces *Peckianus*, 55
- Avena fatua** L.  
Puccinia *graminis*, 52
- Avena sativa** L. (*Oats*)  
Botrytis *cinerea*, 101  
Claviceps *purpurea*, 33  
Colletotrichum *graminicolum*, 105  
Epicoccum *purpurascens*, 102  
Erysiphe *graminis*, 29  
Fusarium *avenaceum*, 102  
" *Poa*, 103  
Gibberella *Zeae*, 31  
Helminthosporium *Avenae*, 103  
Leptosphaeria *avenaria*, 37  
Pseudomonas *coronafaciens*, 9  
Puccinia *coronata*, 51  
" *graminis*, 52  
Septoria *Avenae*, 111  
Ustilago *Avenae*, 44  
" *Kolleri*, 44
- Barbarea vulgaris** R. Brown  
Plasmodiophora *Brassicaceae*, 13
- Barley**: see **Hordeum vulgare**
- Bean**: see **Phaseolus vulgaris**
- Beech**: see **Fagus grandifolia**
- Beet**: see **Beta vulgaris**
- Beetles**  
Cordyceps *militaris*, 33  
" *stylophora*, 33  
" *viperina*, 33
- Begonia** sp.  
Botrytis *cinerea*, 101
- Berberis Thunbergii** DC.  
Pseudomonas *berberidis*, 9
- Berberis vulgaris** L.  
Puccinia *graminis*, 52
- Beta vulgaris** L. (*Beet*)  
Cercospora *beticola*, 102  
Erwinia *carotovora*, 9  
Phoma *Betae*, 110  
Pythium *deBaryanum*, 14  
Rhizoetonia *Solani*, 104  
Streptomyces (*Actinomyces*) *scabies*, 10
- Beta vulgaris** var. **rapa** (*Sugar beet*)  
Pythium *deBaryanum*, 14  
Streptomyces (*Actinomyces*) *scabies*, 10



**Beta vulgaris** var. **macrorhiza** (Mangel)

- Agrobacterium tumefaciens*, 9
- Cercospora beticola*, 102
- Erwinia carotovora*, 9
- Helminthosporium sativum*, 103
- Pellicularia filamentosa*, 61
- Phoma Betae*, 110
- Rhizoctonia Solani*, 104
- Streptomyces* (*Actinomyces*) *scabies*, 10

**Betula alba** L.

- Melanconium betulinum*, 107
- Radulum orbiculare*, 70

**Betula lutea** Michx. f.

- Daedalea unicolor*, 70
- Femsjonia luteo-alba*, 58
- Fomes connatus*, 71
- “ *Everhartii*, 71
- “ *igniarius* var. *nigricans*, 71
- Hypoxylon multiforme*, 42
- Lenzites betulina*, 72
- Melampsorium betulinum*, 47
- Melanconium betulinum*, 107
- Microsphaera Alni*, 30
- Polyporus galactinus*, 74
- “ *hirsutus*, 74
- “ *tephroleucus*, 75
- Poria obliqua*, 76
- “ *prunicola*, 76
- Septoria Betulae*, 111

**Betula papyrifera** Marsh.

- Fomes Everhartii*, 71
- Taphrina flava*, 17

**Betula populifolia** Marsh.

- Fomes applanatus*, 71
- “ *igniarius*, 71
- Melampsorium betulinum*, 47
- Polyporus velutinus*, 75
- Taphrina flava*, 17

**Betula** spp.

- Armillaria mellea*, 81
- Calocera cornea*, 57
- Chlorociboria aeruginosa*, 24
- Claudopus nidulans*, 82
- Corticium albo-ochraceum*, 59
- “ *lividum*, 60
- Cryptospora Betulae*, 40
- Daedalea confragosa*, 70
- “ *unicolor*, 70
- Daldinia concentrica*, 42
- Dermea molliuscula*, 22
- Diatrype stigma*, 39
- Diatrypella betulina*, 39
- “ *discoidea*, 39
- “ *favacea*, 39
- Ditiola radicata*, 58

**Betula** spp.—*Cont'd.*

- Femsjonia luteo-alba*, 58
- Flammula lenta*, 86
- Fomes applanatus*, 71
- “ *fomentarius*, 71
- “ *igniarius*, 71
- “ *igniarius* var. *laevigatus*, 71
- “ “ var. *nigricans*, 71
- “ *pinicola*, 71
- Gelatinosporium fulvum*, 109
- Gloeosporium betulosum*, 106
- Graphis scripta*, 27
- Gyromitra infula*, 20
- Hericium coralloides*, 67
- Hymenochaete badio-ferruginea*, 61
- “ *corrugata*, 61
- “ *tabacina*, 61
- Hypoxylon multiforme*, 42
- Hysteropatella minor*, 21
- Hysterium pulicare*, 27
- Irpex Tulipiferae*, 69
- Lachnea setosa*, 18
- Lenzites betulina*, 72
- Lophidium compressum*, 35
- Massaria Pruni*, 39
- Melanconis nigrospora*, 41
- “ *stilbostoma*, 41
- Melanconium betulinum*, 107
- Melanomma subsparsum*, 35
- Mollisia benesuada*, 24
- Monilia sitophila*, 104
- Mycocalicium pallescens*, 21
- Naucoria firma*, 92
- Nectria* sp. (“A”), 31
- “ *coccinea* var. *laginata*, 31
- “ *pithoides*, 32
- Odontia lactea*, 69
- Panus stipticus*, 93
- Pellicularia pruinata*, 61
- Peniophora carnosus*, 62
- “ *cinerea*, 62
- “ *cremea*, 62
- “ *setigera*, 63
- Phlebia merismoides*, 70
- “ *radiata*, 70
- Pholiota adiposa*, 93
- “ *albocrenulata*, 93
- “ *lutea*, 94
- “ *mutabilis*, 94
- “ *squarrosoides*, 94
- Phyllosticta Betulae*, 110
- Pleurotus sapidus*, 95
- “ *serotinus*, 95
- Polyporus adustus*, 72
- “ *albellus*, 72
- “ *betulinus*, 72
- “ *brumalis*, 73

**Betula** spp.—*Cont'd.*

- Polyporus caesius*, 73
- “ *cinnabarinus*, 73
- “ *elegans*, 73
- “ *epileucus*, 74
- “ *hirsutus*, 74
- “ *nidulans*, 74
- “ *pargamentus*, 74
- “ *radiatus*, 74
- “ *semisupinus*, 75
- “ *sulphureus*, 75
- “ *versicolor*, 75

- Poria eupora*, 76
- “ *obliqua*, 76
- “ *semitincta*, 76
- Porothelium fimbriatum*, 76
- Psilopezia aquatica*, 20
- Schizophyllum commune*, 97
- Solenia fasciculata*, 63
- Steccherinum ochraceum*, 70
- Stereum gausapatum*, 63
- “ *Murrayi*, 64
- “ *purpureum*, 64
- Stictis radiata*, 27
- Tapezia fusca*, 24
- Tomentella fusca*, 64
- Trechispora Brinkmanii*, 65
- Trogia crispa*, 98

**Bidens cernua** L.

- Sphaerotheca Humuli* var. *fuliginea*, 30

**Bidens frondosa** L.

- Sphaerotheca Humuli*, 30
- “ “ var. *fuliginea*, 30

**Bidens** spp.

- Entyloma compositarum*, 45
- Saccardia quercina*, 29

**Birch**: see **Betula****Blackberry**: see **Rubus** spp.**Blueberry**: see **Vaccinium** spp.**Boletus Scaber** Fr.

- Sporodinia grandis*, 16

**Boletus** spp.

- Hypomyces aurantius*, 34
- “ *chrysospermus*, 34
- Sepedonium chrysospermus*, 105

**Brassica arvensis** (L.) Kuntze

- Plasmodiophora Brassicae*, 13

**Brassica napobrassica** L. (Swede, rutabaga)

- Alternaria oleracea*, 101
- Chaetomium cochlioides*, 34
- Peronospora parasitica*, 15
- Phoma lingam*, 110
- Plasmodiophora Brassicae*, 13

**Brassica nigra** (L.) Koch (Black mustard)

- Plasmodiophora Brassicae*, 13

**Brassica oleracea** L. var. *botrytis* L.

(Cauliflower)

- Botrytis cinerea*, 101
- Erwinia carotovora*, 9
- Plasmodiophora Brassicae*, 13
- Xanthomonas campestris*, 10

**Brassica oleracea** var. *capitata* (Cabbage)

- Alternaria oleracea*, 101
- Erwinia carotovora*, 9
- Pellicularia filamentosa*, 61
- Phoma lingam*, 110
- Plasmodiophora Brassicae*, 13
- Rhizoctonia Solani*, 104
- Xanthomonas campestris*, 10

**Brassica oleracea** var. *gemmifera* (Brussels sprouts)

- Plasmodiophora Brassicae*, 13

**Brassica rapa** L. (Turnip)

- Alternaria Brassicae*, 100
- “ *oleracea*, 101
- Cercospora*, 102
- Erwinia carotovora*, 9
- Erysiphe Polygoni*, 29
- Pellicularia filamentosa*, 61
- Peronospora Brassicae*, 15
- “ *parasitica*, 15
- Phoma lingam*, 110
- Plasmodiophora Brassicae*, 13
- Rhizoctonia Solani*, 104
- Streptomyces (Actinomyces) scabies*, 10
- Xanthomonas campestris*, 10

**Bromus ciliatus** L.

- Puccinia rubigo-vera*, 54
- “ “ “ var. *agropyrina*, 54

**Bromus inermis** Leyss.

- Claviceps purpurea*, 33
- Selenophoma bromigena*, 111

**Brussels sprouts**: see **Brassica oleracea** var. *gemmifera***Butternut**: see **Juglans cinerea****Cabbage**: see **Brassica oleracea** var. *capitata***Calamagrostis canadensis** (Michx.) Beauv.

- Claviceps purpurea*, 33
- Puccinia coronata*, 51

**Callistephus chinensis** Nees (China aster)

- Coleosporium Solidaginis*, 46
- Fusarium conglutinans* var. *Callistephi*, 102

**Calla palustris** L.

- Cercospora Callae*, 102

- Camelina microcarpa** Andrz.  
Plasmodiophora Brassicae, 13
- Campanula rapunculoides** L.  
Coleosporium Campanulae, 46
- Cannabis sativa** L. (Indian Hemp)  
Septoria cannabina, 111
- Cantharellus** sp.  
Hypomyces lactifluorum, 34
- Capsella Bursa-pastoris** (L.) Medic.  
Albugo candida, 15  
Peronospora parasitica, 15
- Carex abacta** Bailey: see *C. Michauxiana*
- Carex acuta** L.  
Cintractia Caricis, 43
- Carex arctata** Boot.  
Puccinia Caricis, 51
- Carex brunnescens** (Pers.) Poir.  
Puccinia Caricis, 51
- Carex crinita** Lam.  
Puccinia Caricis, 51
- Carex debilis** Michx. var. *Rudgei* Bailey  
Puccinia Caricis, 51
- Carex deflexa** Hornem.  
Uromyces perigynius, 55
- Carex Deweyana** Schw.  
Puccinia extensicola, 51
- Carex disperma** Dewey  
Puccinia Caricis, 51
- Carex flava** L.  
Uromyces perigynius, 55
- Carex flexuosa** Muhl.  
Puccinia Caricis, 51
- Carex intumescens** Rudge  
Puccinia Bolleyana, 51  
" Caricis, 51  
Uromyces perigynius, 55
- Carex lanceata** Dewey  
Cintractia Caricis, 43
- Carex limosa** L.  
Cintractia Caricis, 43
- Carex lurida** Wahl.  
Puccinia Bolleyana, 51
- Carex Michauxiana** Boeckl. (*C. abacta* Bailey)  
Cintractia subinclusa, 43
- Carex nigromarginata** Schw.  
Uromyces perigynius, 55
- Carex nova-angliae** Schw.  
Uromyces perigynius, 55
- Carex paleacea** Wahl. (*C. maritima* Muell.)  
Puccinia Caricis, 51
- Carex pallescens** L.  
Puccinia Caricis, 51
- Carex paupercula** Michx.  
Puccinia karelica, 52
- Carex pennsylvanica** Lam.  
Uromyces perigynius, 55
- Carex plantaginea** Lam.  
Puccinia Caricis, 51
- Carex scabrata** Schw.  
Puccinia Caricis, 51
- Carex scoparia** Schkuhr.  
Puccinia extensicola var. *euthamii*, 52  
Uromyces perigynius, 55
- Carex stipata** Muhl.  
Puccinia extensicola var. *euthamii*, 52  
" " var. *Solidaginis*, 52
- Carex tribuloides** Wahl.  
Puccinia extensicola, 51  
Uromyces perigynius, 55
- Carex trisperma** Dewey  
Puccinia extensicola var. *Asteris*, 51
- Carex varia** Muhl.  
Uromyces perigynius, 55
- Carex** spp.  
Cintractia Caricis, 43  
Puccinia Caricis, 51  
Puccinia extensicola var. *Solidaginis*, 52
- Carnation**: see *Dianthus*
- Carpinus caroliniana** Walt.  
Fomes applanatus, 71
- Carrot**: see *Daucus Carota*
- Catalpa** sp.  
Phyllosticta Catalpae, 110
- Cauliflower**: see *Brassica oleracea*  
var. *botrytis*
- Celery**: see *Apium graveolens*
- Centaurea Cyanus** L.  
Puccinia Cyani, 51
- Cerastium arvense** L.  
Melampsorella Cerastii, 47
- Cerastium vulgatum** L.  
Melampsorella Cerastii, 47
- Cerastium** sp.  
Isariopsis alborosella, 104
- Chaenomeles japonica** Lindl.  
(Japanese Quince)  
Entomosporium maculatum, 106

- Chamaedaphne calyculata** (L.) Moench.  
*Chrysomyxa* Cassandrae, 45  
*Exobasidium* Vaccinii, 58  
*Synchytrium* Vaccinii, 13  
*Venturia* pulchella, 38
- Chelone glabra** L.  
*Erysiphe* Cichoracearum, 29  
 " *Galeopsidis*, 29
- Chenopodium album** L.  
*Cercospora* dubia, 102  
*Peronospora* effusa, 15  
*Uromyces* Peckianus, 55
- Cherry:** see *Prunus* spp.
- China aster:** see *Callistephus*
- Chiogenes hispidula** (L.) T. & G.  
*Chrysomyxa* Chiogenis, 45
- Chrysanthemum** spp.  
*Erysiphe* Cichoracearum, 29  
*Leptosphaeria* ogilviensis, 37  
*Oidium* Chrysanthemi, 104  
*Septoria* Chrysanthemi, 111
- Cichorium Intybus** L.  
*Puccinia* Hieracii, 52
- Cicuta maculata** L.  
*Puccinia* Cicutae, 51  
*Uromyces* Scirpi, 56
- Circaea alpina** L.  
*Puccinia* Circaeae, 51
- Circaea canadensis** Hill  
*Puccinia* Circaeae, 51
- Circaea quadrisulcata** (Maxim.) Franch.  
 & Sav. var. *canadensis* (L.) Hara  
*Puccinia* Circaeae, 51
- Circaea** sp.  
*Puccinia* Circaeae, 51
- Cirsium arvense** (L.) Scop.  
*Albugo* Tragopogonis, 15  
*Puccinia* obtogens, 53
- Cirsium vulgare** (Savi) Airy-Shaw  
 (*C. lanceolatum* (L.) Hill)  
*Puccinia* Cnici, 51  
 " *obtagens*, 53
- Cirsium** spp.  
*Ophiobolus* acuminatus, 37  
*Pistillaria* micans, 67
- Clarkia elegans** Dougl.  
*Pucciniastrum* pustulatum, 48
- Clarkia** spp.  
*Botrytis* cinerea, 101  
*Pucciniastrum* pustulatum, 48
- Clavaria cristata** (Holmsk.) Fr.  
*Helminthosphaeria* Clavariarum, 35
- Clavaria rugosa** Bull.  
*Helminthosphaeria* Clavariarum, 35  
*Scolecotrichum* Clavariarum, 105
- Claytonia caroliniana** Michx.  
*Puccinia* Mariae-Wilsoni, 53
- Claytonia virginica** L.  
*Puccinia* Mariae-Wilsoni, 53
- Claytonia** sp.  
*Puccinia* Mariae-Wilsoni, 53
- Clematis virginiana** L.  
*Puccinia* rubigo-vera, 54
- Clematis** spp.  
*Ascochyta* clematidina, 108  
*Leptosphaeria* dumetorum, 37
- Clintonia borealis** (Ait.) Raf.  
*Puccinia* mesomajalis, 53
- Clover:** see *Trifolium* spp.
- Collybia dryophila** (Fr.) Quél.  
*Tremella* mycetophila, 57
- Columbine:** see *Aquilegia*
- Comandra umbellata** (L.) Nutt.  
*Puccinia* Comandrae, 51
- Comptonia asplenifolia** (L.) Gaertn.  
*Erinella* rhabdocarpa, 25
- Conringia orientalis** (L.) Dumort.  
*Plasmodiophora* Brassicae, 13
- Convallaria majalis** L.  
*Puccinia* sessilis, 54
- Convolvulus sepium** L.  
*Puccinia* Convolvuli, 51  
*Septoria* Convolvuli, 111
- Coptis groenlandica** Oed.  
*Mycosphaerella* Coptis, 36  
*Septoria* Coptidis, 111  
*Vermicularia* coptina, 108
- Corallorhiza maculatum** Raf.  
*Ophiobolus* porphyrogonus, 37
- Corn:** see *Zea* Mays



**Cornus alternifolia** L. f.

- Apioportha Corni, 39
- Calosphaeria minima, 42
- Cryptodiaportha Corni, 39
- Eutypa milliaria, 39
- Mollisia stictella, 24
- Tremella lutescens, 57
- Zythia aurantiaca, 112

**Cornus canadensis** L.

- Glomerularia Corni, 103
- Puccinia porphyrogenita, 53
- Septoria canadensis, 111
- "    cornicola, 111

**Cornus** spp.

- Cryptosporiopsis cornina, 109
- Pezicula Corni, 22

**Corticium radiosum** Fr.

- Martensella Corticii, 16

**Corylus americana** Walt.

- Gloeosporium Coryli, 106

**Corylus cornuta** Marsh. (*C. rostrata* Ait.)

- Apioportha anomala, 39
- Catinula turgida, 108
- Cenangium Fuckelii, 21
- Cryptospora suffusa var. nuda, 40
- Diaportha decedens, 40
- Hypoxylon fuscum, 42
- Microsphaera Alni, 30
- Nectria galligena, 32
- Pezicula corylina, 22
- Phyllactinia corylea, 30
- Septoria corylina, 111
- Stereum hirsutum, 63

**Corylus** spp.

- Gnomoniella Coryli, 38
- Lenzites betulina, 72
- Polyporus radiatus, 74

**Cosmos** sp.

- Botrytis cinerea, 101

**Cranberry**: see **Vaccinium macrocarpon****Crataegus Oxycantha** L.

- Entomosporium Thuemenii, 106
- Gymnosporangium clavipes, 49

**Crataegus Oxycantha** var. *rosea*

- Gymnosporangium clavariaeforme, 49

**Crataegus** spp.

- Erwinia amylovora, 9
- Gymnosporangium clavipes, 49
- Podosphaera Oxycanthae, 30

**Cucumber**: see **Cucumis sativa****Cucumis sativa** L. (Cucumber)

- Alternaria cucumerina, 100
- Cladosporium cucumerinum, 102
- Colletotrichum lagenarium, 105
- Erwinia tracheiphila, 9
- Erysiphe Cichoracearum, 29
- Pseudomonas lacrymans, 9
- Pythium deBaryanum, 14

**Cucurbita maxima** L. (Squash)

- Botrytis cinerea, 101
- Erwinia tracheiphila, 9

**Cucurbita Pepo** L. (Pumpkin, squash, etc.)

- Erysiphe Cichoracearum, 29

**Currant**: see **Ribes** spp.**Cydonia oblonga** Mill.

- Gymnosporangium clavariaeforme, 49
- "    clavipes, 49

**Cydonia vulgaris** L. (Quince)

- Physalospora obtusa, 37
- Sphaeropsis Malorum, 112

**Dactylis glomerata** L.

- Claviceps purpurea, 33
- Puccinia graminis, 52
- Uromyces Dactylidis, 55

**Dahlia** spp.

- Agrobacterium tumefaciens, 9
- Erysiphe Cichoracearum, 29
- Phoma Dahliae, 110

**Dandelion**: see **Taraxacum** spp.**Danthonia spicata** L. Beauv.

- Balansia Hypoxylon, 32

**Daphne Mezereum** L.

- Botrytis cinerea, 101
- Trichothecium roseum, 105

**Daucus Carota** L. (Carrot)

- Alternaria Dauci, 100
- "    radicina, 101
- Botrytis cinerea, 101
- Rhizoctonia Solani, 104

**Delphinium** spp.

- Erysiphe Cichoracearum, 29
- "    Polygoni, 29
- Pseudomonas delphinii, 9

**Dentaria diphylla** Michx.

- Albugo candida, 15

**Dermea** sp.

- Nectria episphaeria, 32

**Desmodium canadense** DC.

- Microsphaera diffusa, 30

**Dewberry**: see **Rubus** spp.

- Dianthus** spp. (Carnation)  
*Alternaria Dianthi*, 100  
*Botrytis cinerea*, 101  
*Uromyces caryophyllinus*, 55  
*Vermicularia subeffigurata*, 108
- Diervilla Lonicera** Mill.  
*Godronia turbinata*, 22
- Digitaria** sp.  
*Colletotrichum graminicolum*, 105
- Dimorphotheca** sp.  
*Botrytis cinerea*, 101
- Discomycetes**  
*Passerinula candida*, 32
- Distichlis spicata** (L.) Greene  
*Uromyces Peckianus*, 55
- Dogwood**: see **Cornus** spp.
- Drepanocladus uncinatus** (Hedw.) Warnst.  
*Eoconartium muscicola*, 56
- Dryopteris disjuncta** (Rupr.) Morton  
*Herpobasidium filicinum*, 56  
*Uredinopsis Phegopteridis*, 48
- Dryopteris spinulosa** (Muell.) Kuntze  
*Milesia intermedia*, 47  
*Taphrina fusca*, 17
- Dryopteris Thelypteris** (L.) Gray  
*Uredinopsis Struthiopteridis*, 48
- Echinochloa crusgalli** (L.) Beauv.  
*Tolyposporium bullatum*, 44
- Eggplant**: see **Solanum melanogena**
- Elaphomyces** spp.  
*Cordyceps capitata*, 33  
" *ophioglossoides*, 33
- Elderberry**: see **Sambucus** spp.
- Eleocharis acicularis** (L.) R. & S.  
*Claviceps nigricans*, 33
- Elm**: see **Ulmus**
- Elymus arenarius** L.  
*Leptosphaeria culmicola*, 37
- Empetrum nigrum** L.  
*Chrysomyxa Empetri*, 45
- English ivy**: see **Hedera helix**
- Epigaea repens** L.  
*Microsphaera Alni* var. *Vaccinii*, 30
- Epilobium adenocaulon** Haussk.  
*Pucciniastrum pustulatum*, 48
- Epilobium angustifolium** L.  
*Diaporthe racemula*, 40  
*Didymella tosta*, 36  
*Pucciniastrum pustulatum*, 48
- Epilobium Hornemanni** Reichenb.  
*Pucciniastrum pustulatum*, 48
- Equisetum arvense** L.  
*Phoma Equiseti*, 110
- Eupatorium perfoliatum** L.  
*Erysiphe Cichoracearum*, 29  
*Puccinia Eleocharidis*, 51
- Eupatorium purpureum** L.  
*Erysiphe Cichoracearum*, 29  
*Puccinia Eleocharidis*, 51
- Euphorbia Cyparissias** L.  
*Melampsora Euphorbiae*, 47
- Evonymus** sp.  
*Microsphaera Alni*, 30
- Exidia** sp.  
*Hypomyces aurantius*, 33
- Fagus grandifolia** Ehrh.  
*Arcyria incarnata*, 10  
*Asterosporium Hoffmanni*, 101  
*Badhamia decipiens*, 10  
*Botryosphaeria fuliginosa*, 43  
*Calocera cornea*, 57  
*Chlorociboria aeruginosa*, 24  
*Claudopus nidulans*, 82  
*Clitocybe leptoloma*, 82  
*Coccomyces coronatus*, 27  
*Corticium vellereum*, 60  
*Coryne sarcoides*, 23  
*Crepidotus applanatus*, 85  
" *stipitatus*, 86  
" *versutus*, 86  
*Cryptodiaporthe galericulata*, 40  
*Cudonia lutea*, 26  
*Dacryomyces deliquescens*, 58  
*Daedalea confragosa*, 70  
" *unicolor*, 70  
*Diatrypella nigro-annulata*, 39  
*Dichaena faginea*, 28  
*Diderma spumarioides*, 11  
*Didymium minus*, 11  
*Eutypa spinosa*, 39  
*Exidia glandulosa*, 57  
*Favolus canadensis*, 70  
*Femsjonina luteo-alba*, 58  
*Fomes applanatus*, 71  
" *fomentarius*, 71  
" *igniarius*, 71  
" *Pini*, 71  
*Gonatrordiella Highlei*, 103  
*Helotium epiphyllum*, 25  
*Hemitrichia stipitata*, 11  
*Hericium coralloides*, 67  
" *laciniatum*, 67  
*Hydnochaete olivaceum*, 68

**Fagus grandifolia Ehrh.—Cont'd.**

- Hymenochaete badio-ferruginea, 61
- "    corrugata, 61
- "    corticolor, 61
- Hypoholoma hydrophilum, 88
- "    sublateritium, 88
- Hypocrea patella, 33
- "    rufa, 33
- Hypoxylon cohaerans, 42
- "    enteromelum, 42
- "    fragiforme, 42
- Hysterographium Mori, 27
- Hysteropatella minor, 21
- Irpex Tulipiferae, 69
- Lachnella tricolor var. microspora, 25
- Lachnum virgineum, 25
- Lentinus cochleatus, 90
- Lenzites betulina, 72
- Lycoperdon subincarnatum, 100
- Merulius porinoides, 72
- "    tremellosus, 72
- Microsphaera Alni, 30
- Mollisia cinerea, 24
- Mycena atroumbonata, 91
- "    Lesiana, 92
- Mycosphaerella punctiformis, 36
- Nectria coccinea var. faginata, 31
- "    galligena, 32
- Odontia crustosa, 69
- "    papillosa, 69
- Omphalia epichysium, 93
- Orbilbia inflatula, 23
- Panus laevis, 93
- "    rudis, 93
- "    stipticus, 93
- "    torulosus, 93
- Paxillus involutus, 93
- Pellicularia pruinata, 61
- Peniophora carnosae, 62
- "    cinerea (nuda), 62
- "    cremea, 62
- "    hydroides, 63
- "    laevis, 63
- "    sanguinea, 63
- "    setigera, 63
- "    velutina, 63
- Phlebia merismoides, 70
- "    radiata, 70
- Pholiota acericola, 93
- "    adiposa, 93
- "    squarrosoides, 94
- Physarum contextum, 12
- Pilacre faginea, 56
- Pleurotus lignatilis, 95
- "    ostreatus, 95
- "    serotinus, 95

**Fagus grandifolia Ehrh.—Cont'd.**

- Polyporus albellus, 72
- "    brumalis, 73
- "    cacsus, 73
- "    cinnabarinus, 73
- "    fagicola, 74
- "    glomeratus, 74
- "    hirsutus, 74
- "    nidulans, 74
- "    pargamenus, 74
- "    semisupinus, 75
- "    varius, 75
- "    velutinus, 75
- "    versicolor, 75
- Poria eupora, 76
- "    ferruginosa, 76
- Porothelium fimbriatum, 76
- Propolis faginea, 27
- Prosthemella formosa, 107
- Rosellinia conglobata var. microtricha, 35
- Schizophyllum commune, 97
- Solenia anomala, 63
- Sphaerobolus stellatus, 99
- Steccherinum ochraceum, 70
- Stemonitis fusca, 12
- Stereum hirsutum, 63
- "    roseo-carneum, 64
- Strickeria vilis, 35
- Thyrsidium botryosporum, 108
- Tomentella subfusca, 64
- Trematosphaeria faginea, 35
- Tremella lutescens, 57
- Trichia inconspicua, 13
- Trogia crispa, 98
- Xylaria polymorpha, 42
- Zignoella pulviscula, 35

**Filbert:** see *Corylus* spp.

**Fir:** see *Abies balsamea*

**Flax:** see *Linum usitatissimum*

**Fomes applanatus** (Pers.) Gill.

Hypocrea citrina, 33

**Fomes fomentarius** (L.) Gill.

Ceratostoma parasiticum, 36

**Fomes pinicola** (Swartz) Cke.

Hypocrea citrina, 33

**Fragaria** spp. (Strawberry)

Botrytis cinerea, 101

Diplocarpon Earliana, 23

Mycosphaerella Fragariae, 36

Ramularia Tulasnei, 104

Sphaerotheca Humuli, 30

**Fraxinus americana** L.

Puccinia peridermiospora, 53

Sphaerographium Fraxini, 112

- Fraxinus nigra** Marsh.  
 Fomes conchatus, 71  
 Puccinia peridermiospora, 53
- Fraxinus pennsylvanica** Marsh.  
 Durandiella Fraxini, 22  
 Sphaerographium Fraxini, 112
- Fraxinus** spp.  
 Durandiella Fraxini, 22  
 Fomes conchatus, 71  
 Gloeosporium irregulare, 107  
 Polyporus resinosus, 75  
 Puccinia peridermiospora, 53  
 Sphaerographium Fraxini, 112
- Fuligo septica** (L.) Gmel.  
 Byssonectria violacea, 32
- Galium asprellum** Michx.  
 Puccinia punctata, 53
- Galium boreale** L.  
 Puccinia rubefaciens, 53
- Galium palustre** L.  
 Puccinia punctata, 53
- Galium triflorum** Michx.  
 Puccinia punctata, 53  
 Pucciniastrum Galii, 48
- Galium** sp.  
 Puccinia punctata, 53
- Gaultheria procumbens** L.  
 Venturia Gaultheriae, 38
- Gaylussacia baccata** (Wang) K. Koch  
 Exobasidium Vaccinii, 58  
 Microspheca Alni var. Vaccinii, 30  
 Synchytrium Vaccinii, 13
- Geranium**: see **Pelargonium**
- Geranium pratense** L.  
 Uromyces Geranii, 55
- Gladiolus** spp.  
 Fusarium conglutinans, 102  
 " oxysporum var. Gladioli, 103  
 Penicillium Gladioli, 104  
 Pseudomonas marginata, 9  
 Sclerotinia Gladioli, 25  
 Sclerotium Gladioli, 104  
 Scolecotrichum punctulatum, 105  
 Septoria Gladioli, 112
- Glycine max** Merr. (Soy bean)  
 Peronospora manschurica, 15  
 Pseudomonas glycinea, 9
- Gnaphalium** spp.  
 Diaporthe Arctii, 40  
 Leptosphaeria rhopalisporea, 37
- Godetia** sp.  
 Pucciniastrum pustulatum, 48
- Goldenrod**: see **Solidago** spp.
- Gomphidius** sp.  
 Hypomyces lactifluorum, 34
- Gooseberry**: see **Ribes** spp.
- Grape**: see **Vitis**
- Hawthorn**: see **Crataegus**
- Hazelnut**: see **Corylus** spp.
- Hedera helix** L. (English Ivy)  
 Vermicularia trichella, 108
- Helianthus annuus** L. (Sunflower)  
 Plasmopara Halstedii, 15  
 Puccinia Helianthi, 52
- Helianthus tuberosus** L.  
 Puccinia Helianthi, 52
- Helianthus** spp.  
 Puccinia Helianthi, 52  
 Septoria Helianthi, 112
- Hemlock**: see **Tsuga canadensis**
- Hemp**: see **Cannabis sativa**
- Hieracium canadense** Michx.  
 Puccinia Hieracii, 52
- Hieracium pratense** Tausch.  
 Puccinia Fraseri, 52
- Hieracium scabrum** Michx.  
 Puccinia Fraseri, 52  
 " Hieracii, 52
- Hieracium** spp.  
 Puccinia Fraseri, 52  
 " Hieracii, 52
- Hordeum jubatum** L.  
 Puccinia graminis, 52  
 " rubigo-vera, 54
- Hordeum vulgare** L. (Barley)  
 Claviceps purpurea, 33  
 Epicoccum purpurascens, 102  
 Erysiphe graminis, 29  
 Fusarium avenaceum, 102  
 " culmorum, 102  
 " Poae, 103  
 Helminthosporium gramineum, 103  
 " sativum, 103  
 " teres, 103  
 Puccinia anomala, 50  
 " graminis, 52  
 Pyrenophora teres, 38  
 Ustilago Hordei, 44  
 " nuda, 44  
 Xanthomonas translucens, 10
- Horse chestnut**: see **Aesculus**



**Horse-radish:** see *Radicula armoracia*

**Houstonia caerulea**

*Uromyces houstoniatus*, 55

**Huckleberry:** see *Vaccinium* spp.

**Hydrangea** spp.

*Botrytis cinerea*, 101

*Nectria cinnabarina*, 31

*Phyllosticta Hydrangae*, 110

**Hygrophorus pudorinus** Fr.

*Peckiella viridis*, 34

**Hypericum boreale** (Britt.) Bickn.

*Uromyces Hyperici*, 55

**Hypericum canadense** L.

*Uromyces Hyperici*, 55

**Hypericum ellipticum** Hook.

*Uromyces Hyperici*, 55

**Hypericum virginicum** L.

*Uromyces Hyperici*, 55

**Hypericum** spp.

*Uromyces Hyperici*, 55

**Hypoxylon** sp.

*Belonidium pruinosum*, 23

**Iberis** sp.

*Plasmodiophora Brassicae*, 13

**Ilex verticillata** (L.) Gray

*Microsphaera Alni*, 30

**Ilex** sp.

*Synchytrium aureum*, 13

**Impatiens Balsamina** L.

*Cronartium flaccidum*, 46

**Impatiens biflora** Walt.

*Puccinia rubigo-vera* var. *Impatientis*, 54

**Inocybe** sp.

*Sporodinia grandis*, 13

**Iris versicolor** L.

*Phyllosticta Iridis*, 110

*Puccinia Iridis*, 52

**Iris** spp.

*Didymellina macrospora*, 36

*Erwinia carotovora*, 9

*Heterosporium Iridis*, 104

*Puccinia Iridis*, 52

**Irpex** sp.

*Hypomyces aurantius*, 33

**Juglans cinerea** L. (Butternut)

*Gnomonia leptostyla*, 38

*Marssonina Juglandis*, 107

**Juncus balticus** Willd.

*Uromyces Junci*, 55

**Juncus filiformis** L.

*Uromyces Junci-effusi*, 55

**Juncus macer** S. F. Gray

*Uromyces Silphii*, 56

**Juncus tenuis** Willd.

*Cintractia Junci*, 43

*Uromyces Silphii*, 56

**Juncus** spp.

*Endodothella Junci*, 43

*Phaeosphaerella pheidasca*, 36

**June beetle** (larvae)

*Cordyceps entomorrhiza*, 33

**Juniperus communis** L.

*Gymnosporangium clavariaeforme*, 49

" *clavipes*, 49

*Lophodermium juniperinum*, 28

*Pestalozzia funerea*, 107

**Juniperus communis** var. *canadensis*

*Gymnosporangium clavariaeforme*, 49

**Juniperus communis** var. *depressa* Pursh

*Gymnosporangium clavariaeforme*, 49

" *clavipes*, 49

**Juniperus communis** var. *hibernica* Gord.

*Gymnosporangium clavariaeforme*, 49

" *clavipes*, 49

**Kalanchoe** sp.

*Thielaviopsis basicola*, 105

**Kalmia angustifolia** L.

*Dothidella Kalmiae*, 43

*Leptosphaeria Kalmiae*, 37

*Lophodermium exaridium*, 28

*Mycosphaerella colorata*, 36

*Synchytrium Vaccinii*, 13

**Kalmia polifolia** Wang.

*Synchytrium Vaccinii*, 13

**Kok-saghyz:** see *Taraxacum kok-saghyz*

**Koster's blue spruce**

*Chrysomyxa ledicola*, 45

**Lactarius** sp.

*Nyctalis asterophora*, 93

**Lactuca canadensis** L.

*Puccinia extensicola* var. *hieraciata*, 52

**Lactuca sativa** L. (Lettuce)

*Botrytis cinerea*, 101

*Bremia Lactucae*, 14

**Lactuca spicata** (Lam.) Hitchc.

*Puccinia extensicola* var. *hieraciata*, 52

**Lactuca spicata** var. *integrifolia* (Gray)

Britt.

*Puccinia extensicola* var. *hieraciata*, 52

- Lactuca** sp.  
*Bremia Lactucae*, 14
- Larch**: see **Larix laricina**
- Larix laricina** (DuRoi) Koch (Larch)  
*Coccomyces Cembrae*, 27  
*Dasyscypha occidentalis*, 25  
*Lenzites abietina*, 72  
*Melampsora Bigelowii*, 47  
" *Medusae*, 47  
*Physalospora Laricis*, 37  
*Polyporus versicolor*, 75
- Lathyrus japonicus** Willd.  
*Pleospora herbarum*, 38
- Lathyrus odorata** L. (Sweet pea)  
*Ascochyta Pisi*, 108  
*Botrytis cinerea*, 101  
*Erwinia Lathyri*, 9  
*Erysiphe Polygoni*, 29  
*Fusarium Lathyri*, 102  
*Microsphaera Alni*, 30  
*Rhizoctonia Solani*, 104  
*Thielaviopsis basicola*, 105  
*Verticillium albo-atrum*, 105
- Lecanium Corni** (Bouche)  
*Ophiocordyceps clavulata*, 34
- Ledum groenlandicum** Oed.  
*Chrysomyxa Ledi*, 45  
" *ledicola*, 45  
*Synchytrium Vaccinii*, 13
- Leontodon autumnale** L.  
*Phomopsis albicans*, 110  
*Puccinia Hieracii*, 52
- Lepidium sativum** L.  
*Plasmodiophora Brassicae*, 13
- Lepidium virginicum** L.  
*Plasmodiophora Brassicae*, 13
- Lespedeza** sp.  
*Botrytis cinerea*, 101
- Lettuce**: see **Lactuca sativa**
- Ligustrum** sp.  
*Microsphaera Alni*, 30
- Lilac**: see **Syringa vulgaris**
- Lilium candidum** L.  
*Botrytis elliptica*, 101
- Lilium Hansonii** Leicht. ex Baker  
*Botrytis elliptica*, 101
- Lilium** sp.  
*Vermicularia Liliacearum*, 108
- Limonium carolinianum** (Walt.) Britt.  
*Uromyces Limonii*, 55
- Linnaea borealis** var. **americana** (Forbes)  
Rehd.  
*Phyllachora Wittrockii*, 43
- Linum usitatissimum** L. (Flax)  
*Fusarium Lini*, 103  
*Polyspora Lini*, 107
- Lombardy poplar**: see **Populus nigra** var. **italica**
- Lonicera caerulea** L.  
*Puccinia Festucae*, 52
- Lonicera canadensis** Marsh.  
*Glomerularia Lonicerae*, 103  
*Leptothyrium Periclymeni* var. **americana**, 109
- Lonicera tatarica** L.  
*Glomerularia Lonicerae*, 103  
*Microsphaera Alni* var. *Lonicerae*, 30
- Lonicera** spp.  
*Botrytis cinerea*, 101  
*Microsphaera Alni* var. *Lonicerae*, 30  
*Phomopsis cryptica*, 110
- Lupinus albus** L.  
*Thielaviopsis basicola*, 105
- Lupinus angustifolia**  
*Thielaviopsis basicola*, 105
- Lupinus hirsutus** L.  
*Botrytis cinerea*, 101
- Lupinus perennis** L.  
*Puccinia Andropogonis* var. *Onobrychidis*, 50
- Lupinus** spp.  
*Fusarium oxysporum*, 103
- Luzula campestris** (L.) DC. var. **multiflora** (Ehr.) Čelak  
*Puccinia obscura*, 53
- Luzula saltuensis** Fern.  
*Puccinia obscura*, 53
- Lychnis alba** Mill.  
*Uromyces verruculosus*, 56
- Lycopersicum esculentum** Mill. (Tomato)  
*Alternaria Solani*, 101  
" *tenuis*, 101  
*Cladosporium fulvum*, 102  
*Colletotrichum phomoides*, 105  
*Fusarium oxysporum*, 103  
*Phytophthora infestans*, 14  
*Septoria Lycopersici*, 112  
*Verticillium albo-atrum*, 105  
*Xanthomonas vesicatoria*, 10

**Lycopus americanus** Muhl.

- Gibberidea abundans, 39  
Puccinia angustata, 50

**Lycopus uniflorus** Michx.

- Puccinia angustata, 50

**Lycopus virginicus** L.

- Puccinia angustata, 50

**Lycopus** sp.

- Puccinia Menthae, 53

**Lysimachia ciliata** L.

- Puccinia Limosae, 52

**Lysimachia terrestris** (L.) BSP.

- Synchytrium aureum, 13

**Maianthemum canadense** Desf.

- Puccinia sessilis, 54  
Uromyces acuminatus var. magnatus, 55

**Malus pumila** L.

- Agrobacterium tumefaciens, 9  
Alternaria Mali, 101  
Botrytis cinerea, 101  
Cladosporium herbarum, 102  
Coniosporium Mali, 102  
Coniothyrium Fuckelii, 109  
Cylindrocarpon Mali, 102  
Daedalea unicolor, 70  
Erwinia amylovora, 9  
Fomes applanatus, 71  
    " connatus, 71  
    " igniarius, 71  
Fusicladium dendriticum, 103  
Gloeodes pomigena, 109  
Gloeosporium album, 106  
    " fructigenum, 107  
Glomerella cingulata, 38  
Gonatobotrys simplex, 103  
Gymnosporangium clavipes, 49  
    " Juniperi-virginianae, 49  
Lenzites betulina, 72  
Leptosphaeria Coniothyrium, 37  
Leptothyrium Pomi, 109  
Nectria cinnabarina, 31  
    " coccinea var. faginata, 31  
    " galligena, 32  
Penicillium candidum, 104  
    " expansum, 104  
Pholiota adiposa, 93  
    " spectabilis, 94  
    " squarrosa, 94  
Phoma Pomi, 110  
Phyllachora pomigena, 43  
Phyllosticta prunicola, 111  
Physalospora obtusa, 37  
Podosphaera leucotricha, 30

**Malus pumila** L.—*Cont'd.*

- Polyporus resinosus, 75  
    " varius, 75  
    " versicolor, 75  
Radulum quercinum, 70  
Rhizopus nigricans, 16  
Schizophyllum commune, 97  
Sclerotinia fructicola, 25  
Sphaeropsis Malorum, 112  
Stereum purpureum, 64  
Trichoderma Koningi, 105  
Trichothecium roseum, 105  
Valsa amphibola, 41  
Venturia inaequalis, 38

**Malva neglecta** Wallr. (*M. rotundifolia*)

- Puccinia Malvacearum, 52  
Septoria malvicola, 112

**Mangel**: see **Beta vulgaris** var. **macrorrhiza****Maple**: see **Acer** spp.**Marigold**

- Agrobacterium tumefaciens, 9

**Matthiola** sp.

- Rhizoctonia Solani, 104

**Medicago sativa** L. (Alfalfa)

- Ascochyta imperfecta, 108  
    " medicaginis, 108  
Macrosporium sarcinaeforme, 105  
Peronospora Trifoliorum, 15  
Plenodomus Meliloti, 111  
Pseudopeziza Medicaginis, 24  
Pseudoplea Trifolii, 38  
Stemphylium botryosum, 105  
    " sarcinaeforme, 105  
Uromyces striatus, 56

**Melampyrum lineare** Lam.

- Puccinia Andropogonis var. Melampyri, 50

**Melon**

- Alternaria cucumerina, 100  
Cladosporium cucumerinum, 102  
Erwinia carotovora, 9

**Mentha arvensis** L.

- Puccinia angustata, 50  
    " Menthae, 53

**Mentha arvensis** var. **canadensis** (L.)

- Briquet  
Puccinia Menthae, 53

**Mentha piperita** L.

- Puccinia Menthae, 53

**Mentha spicata** L.

- Puccinia Menthae, 53

**Mentha** sp.

- Puccinia Menthae, 53

- Millet** (Broomcorn): see *Panicum miliaceum*
- Monotropa uniflora** L.  
*Dioscorea splendens*, 109
- Morus** sp.  
*Pseudomonas* Mori, 9
- Mountain ash**: see *Sorbus* spp.
- Mulberry**: see *Morus* spp.
- Musca domestica** L. (Housefly)  
*Empusa Muscae*, 16
- Mycena haematopa** Fr.  
*Mucor hiemalis*, 16
- Myrica carolinensis** Mill.  
*Apioportha phomaspora*, 39  
*Diaportha eres*, 40
- Myrica Gale** L.  
*Cronartium Comptoniae*, 46  
*Ovularia destructiva*, 104  
*Synchytrium Vaccinii*, 13
- Myxomycetes**  
*Nectria lactea*, 32
- Myzus persicae** Sulzer  
*Empusa Aphidis*, 16
- Narcissus** sp.  
*Botrytis cinerea*, 101
- Nectria** sp.  
*Mollisia caespiticia*, 24
- Nemopanthus mucronata** (L.) Trel.  
*Dermea Peckiana*, 22  
*Micropera stellata*, 110  
*Rhytisma Ilicis-canadensis*, 27  
*Sphaeronema Peckii*, 112  
*Venturia curviseta*, 38
- Nicotiana Tabacum** L. (Tobacco)  
*Cercospora Nicotianae*, 102
- Nymphaea tuberosa** Paine (*Castalia tuberosa* (Paine) Greene)  
*Entyloma Nymphaeae*, 45
- Oak**: see *Quercus* spp.
- Oats**: see *Avena sativa*
- Oenothera biennis** L.  
*Erysiphe Polygoni*, 29  
*Peronospora Arthuri*, 15  
" *effusa*, 15  
*Septoria Oenotherae*, 112  
*Uromyces plumbarius*, 56
- Oenothera muricata** L.  
*Uromyces plumbarius*, 56
- Oenothera** spp.  
*Erysiphe Polygoni*, 29  
*Leptosphaeria Ellisiae*, 37  
*Peronospora Arthuri*, 15  
*Puccinia Oenotherae*, 53  
*Uromyces plumbarius*, 56
- Onion**: see *Allium Cepa*
- Onoclea sensibilis** L.  
*Uredinopsis mirabilis*, 48
- Onoclea Struthiopteridis**: see *Pteretis nodulosa*
- Onopordum Acanthium** L.  
*Puccinia Onopordi*, 53
- Orchard grass**: see *Dactylis glomerata*
- Osmorhiza Claytoni** L.  
*Puccinia Pimpinellae*, 53
- Osmunda cinnamomea** L.  
*Dothidella Osmundae*, 43  
*Uredinopsis Osmundae*, 48
- Osmunda Claytoniana** L.  
*Uredinopsis Osmundae*, 48
- Osmunda regalis** var. *spectabilis* (Willd.) Gray  
*Uredinopsis Osmundae*, 48
- Ostrya virginiana** (Mill.) Willd.  
*Ophiocordyceps clavulata*, 34  
*Phyllactinia corylea*, 30
- Oxalis corniculata** L. var. *stricta*  
*Microsphaera Russellii*, 30
- Paeonia** spp.  
*Botrytis Paeoniae*, 101  
*Septoria Paeoniae*, 112  
" " var. *berolinensis*, 112
- Panicum miliaceum** L. (Millet)  
*Sphacelotheca destruens*, 44
- Pansy**: see *Viola tricolor*
- Papaver** sp.  
*Entyloma fuscum*, 45
- Parsley**: see *Petroselinum sativum*
- Parsnip**: see *Pastinaca sativa*
- Pastinaca sativa** L. (Parsnip)  
*Cercospora Apii*, 101  
" *Pastinacae*, 102  
*Ramularia Pastinacae*, 104  
*Septoria Petroselini*, 112  
*Streptomyces (Actinomyces) scabies*, 10
- Pea**: see *Pisum sativum*
- Peach**: see *Prunus Persica*
- Pear**: see *Pyrus communis*



**Pelargonium** spp. (Geranium)

- Botrytis cinerea, 101
- Cercospora Brunkii, 102
- Pseudomonas erodii, 9

**Peniophora** sp.

- Karschia lignyota, 21

**Petroselinum sativum** L. (Parsley)

- Septoria Petroselini, 112
- Streptomyces (Actinomyces) scabies, 10

**Petunia** spp.

- Phytophthora infestans, 14

**Phalaris arundinacea** L.

- Puccinia sessilis, 54

**Phaseolus vulgaris** L. (Bean)

- Botrytis cinerea, 101
- Colletotrichum Lindemuthianum, 105
- Fusarium Martii var. Phaseoli, 103
- “ Solani var. Martii, 103
- Pseudomonas phaseolicola, 9
- Rhizoctonia Solani, 104
- Uromyces Phaseoli, 55
- Xanthomonas phaseoli, 10

**Phegopteris Dryopteris** (L.) Fee: see**Dryopteris disjuncta****Phleum pratense** L. (Timothy)

- Claviceps microcephala, 33
- “ purpurea, 33
- Heterosporium Phlei, 104
- Phyllachora graminis, 43
- Puccinia graminis var. Phlei-pratensis, 52
- Scolecotrichum graminis, 105

**Phlox Drummondii** Hook.

- Septoria divaricata, 112

**Phlox paniculata** L.

- Erysiphe Cichoraccarum, 29
- Septoria divaricata, 112

**Picea Engelmanni** Engelm.

- Chrysomyxa ledicola, 45

**Picea glauca** (Moench.) Voss

- Chrysomyxa Cassandrae, 45
- “ Empetri, 45
- “ ledicola, 45
- Lophodermium filiforme, 28
- “ Piceae, 28
- Pucciniastrum americanum, 48

**Picea mariana** (Mill.) BSP.

- Chrysomyxa Cassandrae, 45
- “ ledicola, 45
- “ Pyrolae, 46
- Peridermium coloradense, 56

**Picea pungens** Engelm.

- Chrysomyxa ledicola, 45

**Picea rubra** Link

- Chrysomyxa Ledi, 45
- “ ledicola, 45
- “ Pyrolae, 46
- Peridermium coloradense, 56

**Picea** spp.

- Aleurodiscus suberuentatus, 58
- Cenangium Pinastri, 21
- Chlorociboria strobilina, 24
- Chrysomyxa ledicola, 45
- “ Pyrolae, 46
- “ Rhododendri, 46
- “ Wierii, 46
- Coniophora fusispora, 59
- Corticium furfuraceum, 60
- Dacryomyces minor, 58
- Dasyscypha Agassizii, 25
- Didymium nigripes var. xanthopus, 11
- Fomes Pini, 71
- “ pinicola, 71
- “ roseus, 71
- “ subroseus, 71
- Hymenochaete tabacina, 61
- Lenzites sepiaria, 72
- Odontia crustosa, 69
- Pellicularia subcoronata, 61
- “ vaga, 61
- Peridermium coloradense, 56
- Polyporus abietinus, 72
- “ balsameus, 72
- “ borealis, 73
- “ resinosus, 75
- “ Schweinitzii, 75
- “ Tsugae, 75
- Poria subincarnata, 76
- Propolis Leonis, 27
- Schizophyllum commune, 97
- Sebacina calcea, 57
- Stereum sanguinolentum, 64
- Trametes americana, 76
- “ variiformis, 76
- Xylaria polymorpha, 42

**Pinus Banksiana** Lamb.

- Cronartium Comptoniae, 46
- Hypodermella ampla, 28

**Pinus contorta** Loudon

- Cronartium coleosporioides, 46
- “ Comptoniae, 46

**Pinus mugo** Turra

- Cronartium Comptoniae, 46

**Pinus resinosa** Ait.

- Lophodermium Pinastri, 28

**Pinus Strobus L.**

- Bifusella linearis, 28
- Coccophacidium Pini, 27
- Cronartium ribicola, 46
- Hypoderma Desmazierii, 28
- Lophodermium brachysporum, 28
- “ nitens, 28
- “ Pinastri, 28

**Pinus spp.**

- Ditiola radicata, 58
- Fomes pinicola, 71
- Lenzites sepiaria, 72
- Nectria sanguinea, 32
- Pleurotus porrigens, 95
- Polyporus abietinus, 72
- “ anceps, 72
- “ Schweinitzii, 75
- Radulum orbiculare, 70
- Stemonitis fusca, 12

**Pisum sativum L. (Garden pea)**

- Ascochyta Pisi, 108
- Cladosporium pisicolum, 102
- Erysiphe Polygoni, 29
- Mycosphaerella pinodes, 36
- Peronospora Pisi, 15
- Septoria Pisi, 112
- Uromyces Fabae, 55

**Plantago decipiens Barn.**

- Erysiphe Cichoracearum, 29

**Plantago major L.**

- Erysiphe Cichoracearum, 29
- Peronospora alta, 15
- “ effusa, 15

**Plum: see Prunus spp.****Poa pratensis L.**

- Claviceps purpurea, 33
- Entyloma irregulare, 45
- Erysiphe graminis, 29
- “ Polygoni, 29

**Poa trivialis L.**

- Uromyces Dactylidis, 55

**Poa sp.**

- Puccinia graminis, 52

**Polygonatum biflorum (Walt.) Ell.**

- Puccinia sessilis, 54

**Polygonum aviculare L.**

- Erysiphe Polygoni, 29
- Uromyces Polygoni, 56

**Polygonum Convolvulus L.**

- Puccinia Polygoni-amphibii var. Convolvuli, 53
- Ustilago anomala, 44

**Polygonum Fowleri Rob.**

- Uromyces Polygoni, 56

**Polygonum Hartwrightii Gray**

- Puccinia Polygoni-amphibii var. Persicariae, 53

**Polygonum Hydropiper L.**

- Sphacelotheca Hydropiperis, 44

**Polygonum hydropiperoides Michx.**

- Sphacelotheca Hydropiperis, 44
- Ustilago utriculosa, 44

**Polygonum lapathifolium L.**

- Ustilago utriculosa, 44

**Polygonum pennsylvanicum L.**

- Melanopsichium austro-americanum, 43
- Ustilago utriculosa, 44

**Polygonum Persicaria L.**

- Erysiphe Polygoni, 29
- Septoria Polygonorum, 112
- Ustilago utriculosa, 44

**Polygonum sagittatum L.**

- Sphacelotheca Hydropiperis, 44
- Ustilago utriculosa, 44

**Polygonum tomentosum Schrenk**

- Ustilago utriculosa, 44

**Polygonum spp.**

- Sphacelotheca borealis, 44
- “ Hydropiperis, 44
- Ustilago utriculosa, 44

**Polypodium virginianum L.**

- Milesia polypodophila, 47

**Polyporus betulinus (Bull.) Fr.**

- Orbilbia leucostigma var. xanthostigma, 23
- Peniophora crenea, 62

**Polyporus versicolor L. ex Fr.**

- Hypomyces aurantius, 33
- “ polyporinus, 34
- Tomentella testacea, 64

**Polyporus spp.**

- Nectria Peziza, 32

**Polystichum acrostichoides (Michx.) Schott**

- Taphrina Polystichi, 17

**Polytrichum sp.**

- Didymium melanospermum, 11

**Populus candicans Ait.**

- Fusicladium saliciperidum, 103
- Marssonina Populi, 107

**Populus grandidentata Michx.**

- Hemitrichia stipata, 11
- Massaria salilliformis, 39
- Melampsora Abietis-canadensis, 47
- “ Medusae, 47

- Trichia varia, 13

- Valsa nivea, 41

**Populus nigra** L. var. *italica* Dor.

- Agrobacterium tumefaciens, 9
- Dothichiza populea, 109
- Hysterium pulicare, 27
- Lentinus vulpinus, 90
- Taphrina aurea, 16

**Populus Tacamahacca** Mill.

- Melampsora Tremulae, 47
- Valsa nivea, 41

**Populus tremuloides** Michx.

- Cenangium populneum, 21
- Fomes applanatus, 71
- “ igniarius, 71
- Hemitrichia vesparium, 11
- Hypoxyton pruinaum, 42
- Melampsora Abietis-canadensis, 47
- “ Medusae, 47
- Ocellaria ocellata, 22
- Phaeosphaerella macularis, 36
- Propolis faginea, 27
- Sclerotium bifrons, 104

**Populus** spp.

- Arcyria incarnata, 10
- Cenangium populneum, 21
- Chlorociboria aeruginosa, 24
- Coccomyces coronatus, 27
- Fomes igniarius, 71
- Hemitrichia stipitata, 11
- Hymenochaete badio-ferruginea, 61
- Hypoxyton pruinaum, 42
- Hysterographium Mori, 27
- Irpex Tulipiferae, 69
- Lachnella corticalis, 25
- Lenzites betulina, 72
- Melanconis apocrypta, 41
- Nectria galligena, 32
- Peniophora mutata, 63
- “ pubera, 63
- Phlebia strigoso-zonata, 70
- Pleurophomella spermatiospora, 111
- Pleurotus ostreatus, 95
- “ salignus, 95
- “ ulmarius, 95
- Polyporus adustus, 72
- “ dryophilus, 73
- “ spumeus, 75
- “ velutinus, 75
- “ zonatus, 75
- Poria ambigua, 75
- “ corticola, 75
- “ xantha, 76
- Porothelium fimbriatum, 76
- Psilocybe conissans, 96
- Stereum rufum, 64
- Trametes hispida, 76
- Tympanis spermatiospora, 23

**Populus** spp.—*Cont'd.*

- Valsa salicina, 41
- “ sordida, 41

**Poria** spp.

- Hypomyces rosellus, 34
- Tomentella cervina, 64
- “ umbrina, 64

**Portulaca oleracea** L.

- Albugo Portulacae, 15

**Potato:** see **Solanum tuberosum****Potentilla canadensis** L. (*P. simplex* Michx.)

- Frommea obtusa, 49

**Potentilla canadensis** var. **simplex**

(Michx.) T. & G.

- Frommea obtusa, 49

**Potentilla fruticosa** L.

- Phragmidium Andersoni, 50

**Potentilla palustris** L.

- Sphaerotheca Humuli, 30

**Potentilla procumbens** Sibth.

- Phragmidium Potentillae, 50

**Potentilla tridentata** Soland.

- Pucciniastrum Potentillae, 48

**Potentilla** spp.

- Peronospora Potentillae, 15
- Phragmidium Fragariastrum, 50
- “ Potentillae, 50

**Prenanthes alba** L.

- Puccinia orbicula, 53

**Prenanthes altissima** L.

- Puccinia orbicula, 53
- Sphaerotheca Humuli var. fuliginea, 30

**Prenanthes trifoliata** (Sacc.) Fern.

- Puccinia orbicula, 53

**Prunella vulgaris** L.

- Gibberidea abundans, 39
- Sphaerotheca Humuli var. fuliginea, 30

**Prunus americana** Marsh.

- Taphrina communis, 17

**Prunus avium** L.

- Cylindrosporium hiemale, 106
- Higginsia hiemale, 23

**Prunus Besseyi** Bailey

- Sclerotinia fructicola, 25
- Taphrina mirabilis, 17

**Prunus pennsylvanica** L. f.

- Dermea Cerasi, 21
- Dibotryon morbosum, 43
- Micropera drupacearum, 110
- Taphrina Insititiae, 17
- Valsa leucostoma, 41

- Prunus Persica** (L.) Stokes (Peach)  
 Cercospora Persicae, 102  
 Cladosporium carpophilum, 102  
 Sclerotinia fruticola, 25  
 Taphrina deformans, 17
- Prunus serotina** Ehrh.  
 Exidia recisa, 57
- Prunus virginiana** L.  
 Cytospora leucostoma, 109  
 Dibotryon morbosum, 43  
 Peniophora cinerea, 62  
 Taphrina cecidomophila, 17  
 " confusa, 17  
 Tubercularia vulgaris, 105
- Prunus** spp. (Cherry)  
 Botrytis cinerea, 101  
 Cylindrosporium hiemale, 106  
 " Padi, 106  
 Daedalea unicolor, 70  
 Dibotryon morbosum, 43  
 Higginsia hiemale, 23  
 Irpex Tulipiferae, 69  
 Massaria Pruni, 39  
 Sclerotinia fruticola, 25  
 Stereum purpureum, 64  
 Taphrina Cerasi, 17  
 " Insititiae, 17  
 " minor, 17
- Prunus** spp. (Plum)  
 Cladosporium carpophilum, 102  
 Cylindrosporium Prunophorae, 106  
 Dibotryon morbosum, 43  
 Gloeodes pomigena, 109  
 Higginsia Prunophorae, 24  
 Sclerotinia fruticola, 25  
 Stereum purpureum, 64  
 Taphrina communis, 17  
 " Pruni, 17
- Prunus** spp.  
 Dermea Cerasi, 21  
 Diatrypella discoidea, 39  
 Godronia urceolus var. conferta, 22  
 Micropera drupacearum, 110  
 " spuria, 110  
 Peniophora gracillima, 62  
 Polyporus cinnabarinus, 73  
 " sulphureus, 75  
 Poria prunicola, 76  
 Tympanis Prunastri, 23  
 Valsa leucostoma, 41
- Pteretis nodulosa** (Michx.) Nieuwl.  
 Dothidella Osmundae, 43  
 Uredinopsis Struthiopteridis, 48
- Pteridium aquilinum** (L.) Kuhn var.  
 latiusculum (Desv.) Underw.  
 Cryptomyces Pteridis, 27  
 Dothidella Osmundae, 43
- Puccinellia maritima** (Huds.) Parl.  
 Puccinia rubigo-vera, 54
- Pumpkin**: see *Cucurbita Pepo*
- Pyrenomycetes**: See *Sphaeriaceae*  
 stromata
- Pyrola americana** Sweet  
 Chrysomyxa Pyrolae, 46  
 Pucciniastrum Pyrolae, 48
- Pyrola elliptica** Nutt.  
 Chrysomyxa Pyrolae, 46  
 Pucciniastrum Pyrolae, 48
- Pyrola secunda** L.  
 Chrysomyxa Pyrolae, 46
- Pyrola uliginosa** Torr.  
 Chrysomyxa Pyrolae, 46
- Pyrola** sp.  
 Chrysomyxa Pyrolae, 46
- Pyrus (Aronia) arbutifolia** L.  
 Gymnosporangium clavipes, 49  
 Synchytrium Vaccinii, 13
- Pyrus angustifolia** Ait.  
 Gymnosporangium clavipes, 49
- Pyrus communis** L. (Pear)  
 Erwinia amylovora, 9  
 Fusieladium dendriticum, 103  
 Gymnosporangium clavariaeforme, 49  
 " clavipes, 49  
 Mycosphaerella sentina, 36  
 Phyllosticta pyrina, 111  
 " Pyrorum, 111  
 Phytophthora cactorum, 14  
 Venturia pyrina, 38
- Pyrus (Aronia) melanocarpa** (Michx.) Ell.  
 Gymnosporangium clavipes, 49  
 Isariopsis sp., 104  
 Podosphaera Oxycanthae, 30
- Quackgrass**: see *Agropyron repens*
- Quercus borealis** Michx. f. var. *maxima*  
 (Marsh) Ashe  
 Fomes applanatus, 71  
 Hydnochaete olivaceum, 68  
 Pseudovalsa longipes, 41
- Quercus** spp.  
 Hydnochaete olivaceum, 68  
 Lentinus cochleatus, 90  
 Lenzites betulina, 72  
 Microsphaera Alni var. extensa, 30  
 Pholiota squarrosa, 94  
 Polyporus frondosus, 74  
 " sulphureus, 75  
 Stereum frustulosum, 63  
 " hirsutum, 63  
 Taphrina caerulescens, 17
- Quince**: see *Cydonia vulgaris*



**Radicula Armoracia** (L.) B. L. Robinson  
(Horse-radish)

*Cercospora Armoraciae*, 102  
*Ramularia Armoraciae*, 104

**Radish:** see **Raphanus sativus**

**Ranunculus acris** L.

*Erysiphe Polygoni*, 29  
*Peronospora Ficariae*, 15  
*Puccinia rubigo-vera*, 54  
" " var. *agropyrina*, 54

**Ranunculus Cymbalaria** Pursh

*Puccinia rubigo-vera*, 54  
" " var. *agropyrina*, 54

**Ranunculus repens** L.

*Erysiphe Polygoni*, 29  
*Uromyces Dactylidis*, 55

**Raphanus Raphanistrum** L.

*Albugo candida*, 15  
*Erysiphe Polygoni*, 29  
*Peronospora Brassicae*, 15  
" *parasitica*, 15

**Raphanus sativus** L. (Radish)

*Plasmodiophora Brassicae*, 13  
*Streptomyces (Actinomyces) scabies*, 10

**Raspberry:** see **Rubus** spp.

**Rhamnus alnifolia** L'Hér.

*Puccinia coronata*, 51

**Rhamnus cathartica** L.

*Puccinia coronata*, 51

**Rhamnus Frangula** L.

*Puccinia coronata*, 51

**Rheum Rhaponticum** L. (Rhubarb)

*Agrobacterium tumefaciens*, 9  
*Ascochyta Rhei*, 108  
*Colletotrichum erumpens*, 105  
*Phyllosticta Rhei*, 111  
" *straminella*, 111  
*Ramularia Rhei*, 104

**Rhodora canadensis** L.

*Exobasidium Vaccinii*, 58  
*Lophodermium melaleucum*, 28  
*Pezicula Grovesii*, 22  
*Pucciniastrum Myrtilli*, 48  
*Synchytrium Vaccinii*, 13  
*Vararia investiens*, 65

**Rhubarb:** see **Rheum Rhaponticum**

**Rhus Cotinus** L.

*Botrytis cinerea*, 101  
*Pseudomonas syringae*, 10

**Rhus Toxicodendron** L.

*Pileolaria Toxicodendri*, 50

**Rhus typhina** L.

*Physalospora obtusa*, 37  
*Sphaeropsis Sumachi*, 112

**Ribes glandulosum** Graves

(*R. prostratum* L'Hér.)

*Cronartium ribicola*, 46  
*Puccinia Caricis*, 51

**Ribes Grossularia** L.

*Cronartium ribicola*, 46

**Ribes hirtellum** Michx.

*Puccinia Caricis*, 51

**Ribes lacustre** Poir.

*Puccinia Caricis*, 51

**Ribes nigrum** L.

*Cronartium ribicola*, 46  
*Nectria cinnabarina*, 31  
*Sphaerotheca mors-uvae*, 30

**Ribes oxycanthoides** L.

*Cronartium ribicola*, 46  
*Puccinia Caricis*, 51

**Ribes vulgare** Lam.

*Cronartium ribicola*, 46  
*Gloeosporium Ribis*, 107

**Ribes** spp. (Currant)

*Cercospora angulata*, 101  
*Drepanopeziza Ribis*, 23  
*Fomes Ribis*, 71  
*Gloeosporium Ribis*, 107  
*Mycosphaerella Grossulariae*, 36  
*Nectria cinnabarina*, 31  
*Puccinia Caricis*, 51  
*Septoria Ribis*, 112  
*Sphaerotheca mors-uvae*, 30

**Ribes** spp. (Gooseberry)

*Drepanopeziza Ribis*, 23  
*Mycosphaerella Grossulariae*, 36  
*Nectria cinnabarina*, 31  
*Puccinia Caricis*, 51  
*Septoria Ribis*, 112  
*Sphaerotheca mors-uvae*, 30

**Rosa blanda** Ait.

*Phragmidium americanum*, 49  
" *speciosum*, 50

**Rosa carolina** L.

*Phragmidium americanum*, 49  
" *speciosum*, 50

**Rosa lucida** Ehrh.

*Sphaceloma Rosae*, 107

**Rosa virginiana** Mill.

*Phragmidium americanum*, 49  
" *speciosum*, 50

**Rosa** spp.

*Agrobacterium tumefaciens*, 9  
*Cercospora rosicola*, 102  
*Diplocarpon Rosae*, 23  
*Leptosphaeria Coniothyrium*, 37  
*Phragmidium americanum*, 49  
" *disciformum*, 50

**Rosa** spp.—*Cont'd.*

- Phragmidium speciosum, 50
- “ subcorticinum, 50
- Sphaeceloma Rosae, 107
- Sphaerotheca Humuli, 30
- “ pannosa, 30
- Valsa cincta, 41

**Rubus allegheniensis** Port.

- Gymnoconia Peckiana, 49

**Rubus canadensis** L.

- Gymnoconia Peckiana, 49

**Rubus glandicaulis** Blanch.

- Gymnoconia Peckiana, 49

**Rubus hispidus** L.

- Gymnoconia Peckiana, 49
- Kuehneola Uredinis, 49
- Synchytrium aureum, 13

**Rubus idaeus** var. *aculeatissimus* (Mey)

Reg. & Tiling (Red raspberry)

- Gymnoconia Peckiana, 49
- Helminthosporium orthospermum, 103
- Phragmidium Rubi-idaei, 50
- Pucciniastrum americanum, 48
- Sphaerotheca Humuli, 30

**Rubus idaeus** var. *strigosus* (Michx.)

Maxim.

- Asterina rubicola, 29
- Coniothyrium Fuckelii, 109

**Rubus Randii** (Bailey) Rydbg.

- Gymnoconia Peckiana, 49

**Rubus triflorus** Rich.

- Gymnoconia Peckiana, 49
- Kuehneola Uredinis, 49
- Pucciniastrum arcticum, 48

**Rubus** spp. (Blackberry)

- Agrobacterium tumefaciens, 9
- Gymnoconia Peckiana, 49
- Mycosphaerella Rubi, 36

**Rubus** spp. (Dewberry)

- Mycosphaerella Rubi, 36

**Rubus** spp. (Raspberry)

- Agrobacterium tumefaciens, 9
- Ascopora Ruborum, 36
- Botrytis cinerea, 101
- Coryneum ruborum, (see Ascopora Ruborum, 36)
- Didymella applanata, 36
- Elsinoe veneta, 28
- Gloeosporium venetum, 107
- Gymnoconia Peckiana, 49
- Helminthosporium orthospermum, 103
- Kuehneola Uredinis, 49
- Leptosphaeria Coniothyrium, 37
- Leptothyrium Pomi, 109
- Mycosphaerella Rubi, 36
- Phyllosticta rubicola, 111

**Rubus** spp. (Raspberry)—*Cont'd.*

- Pucciniastrum americanum, 48
- “ arcticum, 48
- Rhizopus nigricans, 16
- Septoria Rubi, 112
- Sphaerotheca Humuli, 30
- Verticillium albo-atrum, 105
- “ ovatum, 105

**Rubus** spp.

- Apioportha vepri, 39
- Gnomonia rostellata, 38
- Gymnoconia Peckiana, 49
- Kuehneola Uredinis, 49
- Leptosphaeria Coniothyrium, 37
- Phragmidium Rubi-idaei, 50
- Pleospora nitida, 38
- Pyrenopeziza Rubi, 24
- Septoria Rubi, 112
- Sphaerotheca Humuli, 30

**Rudbeckia laciniata** L.

- Erysiphe Cichoracearum, 29

**Rumex Acetosella** L.

- Puccinia Acetosae, 60

**Rumex Britannica** L.

- Puccinia ornata, 53

**Russula nigricans** Fr.

- Nyctalis parasitica, 93

**Russula** spp.

- Nyctalis asterophora, 93
- “ parasitica, 93
- Peckiella viridis, 34

**Rutabaga**: see **Brassica Napobrassica****Rye**: see **Secale cereale****Salicornia europaea** L.

- Uromyces Peckianus, 55

**Salix alba** var. *vitellina* (L.) Koch.

- Diplodina salicina, 109
- Fusicladium saliciperdu, 103

**Salix babylonica** L.

- Cytospora chrysosperma, 109
- Stereum purpureum, 64

**Salix discolor** Muhl.

- Melampsora Abieti-Capraearum, 47
- Uncinula Salicis, 31

**Salix rostrata** Rich.

- Lycoperdon pusillum, 100
- Melampsora Abieti-Capraearum, 47
- “ Bigelowii, 47

**Salix** spp.

- Anthostoma melanotes, 39
- Corticium bombycinum, 59
- “ deflectans, 59
- Cryptodiaportha salicina, 40
- Cytospora chrysosperma, 109
- Daedalea confragosa, 70

**Salix** spp.—*Cont'd.*

- Diaporthe tessella*, 40  
*Discella carbonacea*, 109  
*Fomes conchatus*, 71  
     " *igniarius*, 71  
*Fusicladium saliciperdatum*, 103  
*Gloeosporium Salicis*, 107  
*Hymenochaete tabacina*, 61  
*Hypoxylon Morsei*, 42  
*Lenzites betulina*, 72  
*Lycoperdon pusillum*, 100  
*Marssonina Populi*, 107  
*Melampsora Abieti-Capraearum*, 47  
     " *Bigelowii*, 47  
     " *Ribesii-purpureae*, 47  
*Nectria Coryli*, 32  
*Ocellaria ocellata*, 22  
*Pholiota erinacea*, 94  
     " *spectabilis*, 94  
     " *squarrosoides*, 94  
*Physalospora Miyabeana*, 37  
*Polyporus adustus*, 72  
     " *albellus*, 72  
     " *hirsutus*, 74  
     " *incarnatus*, 74  
     " *leptocephalus*, 74  
     " *picipes*, 74  
     " *salignus*, 75  
*Poria eupora*, 76  
     " *ferruginosa*, 76  
     " *punctata*, 75  
*Rhytisma salicinum*, 27  
*Septonema atrum*, 107  
*Stereum purpureum*, 64  
*Tomentella botryoides*, 64  
*Trametes suaveolens*, 76  
*Tremella atrovirens*, 57  
*Uncinula Salicis*, 31  
*Valsa sordida*, 41

**Sambucus canadensis** L.

- Microsphaera Grossulariae*, 30  
*Puccinia Bolleyana*, 51

**Sambucus pubens** Michx.

- Leptosphaeria dumetorum*, 37  
*Odontia crustosa*, 69

**Sambucus** spp.

- Peniophora Sambuci*, 63

**Sanguisorba canadensis** L.

- Sphaerotheca Humuli*, 30

**Sanicula** sp.

- Puccinia marylandica*, 53

**Sarracenia purpurea** L.

- Mycosphaerella Sarraceniae*, 36

**Scirpus cyperinus** (L.) Kunth.

- Puccinia angustata*, 50

**Scirpus cyperinus** var. *pelius* Fern.

- Puccinia angustata*, 50

**Scirpus paludosus** Nels.

- Uromyces Scirpi*, 56

**Scirpus pedicellatus** Fern.

- Puccinia angustata*, 50

**Scirpus rubrotinctus** Fern.

- Puccinia angustata*, 50  
     " *McClatchieana*, 53

**Scirpus validus** Vahl.

- Uromyces americanus*, 55

**Scirpus** sp.

- Puccinia angustata*, 50

**Scutellaria lateriflora** L.

- Erysiphe Cichoracearum*, 29  
     " *Polygoni*, 29

**Secale cereale** L. (Rye)

- Claviceps purpurea*, 33  
*Erysiphe graminis*, 29  
*Puccinia graminis*, 52  
     " *rubigo-vera* var. *Secalis*, 54  
*Urocystis occulta*, 45

**Senecio Jacobaea** L.

- Septoria Senecionis*, 112

**Setaria glauca** (L.) Beauv.

- Ustilago neglecta*, 44

**Snapdragon**: see **Antirrhinum** sp.**Solanum Melanogena** L. (Eggplant)

- Alternaria Solani*, 101  
*Phytophthora infestans*, 14

**Solanum tuberosum** L. (Potato)

- Alternaria Solani*, 101  
*Botryosporium longibrachiatum*, 101  
*Botrytis cinerea*, 101  
*Colletotrichum atramentarium*, 105  
*Corynebacterium sepedonicum*, 9  
*Erwinia phytophthora*, 9  
*Fusarium oxysporum*, 103  
*Oospora pustulans*, 104  
*Pellicularia filamentosa*, 61  
     " *vaga*, 61  
*Phoma tuberosa*, 110  
*Phytophthora infestans*, 14  
*Pythium deBaryanum*, 14  
*Rhizoctonia Solani*, 104  
*Spondylocadium atrovirens*, 105  
*Spongopora subterranea*, 13  
*Streptomyces (Actinomyces) scabies*, 10  
*Synchytrium endobioticum*, 13  
*Verticillium albo-atrum*, 105

**Solidago altissima** L.

- Puccinia extensicola* var. *Solidaginis*, 52

- Solidago bicolor** L.  
Coleosporium *Solidaginis*, 46  
Uromyces *perigynius*, 55
- Solidago canadensis** L.  
Coleosporium *Solidaginis*, 46  
Puccinia *extensicola* var. *Solidaginis*, 52
- Solidago flexicaulis** L.  
Erysiphe *Cichoracearum*, 29
- Solidago graminifolia** (L.) Salisb.  
Coleosporium *Solidaginis*, 46  
Phyllachora *Solidaginum*, 43  
Puccinia *extensicola* var. *euthamii*, 52  
Uromyces *perigynius*, 55
- Solidago juncea** Ait.  
Coleosporium *Solidaginis*, 46
- Solidago puberula** Nutt.  
Puccinia *extensicola* var. *Solidaginis*, 52  
Puccinia *Virgaureae*, 54
- Solidago rugosa** Mill.  
Coleosporium *Solidaginis*, 46  
Puccinia *extensicola* var. *Solidaginis*, 52  
Uromyces *perigynius*, 55
- Solidago serotina** Ait.  
Coleosporium *Solidaginis*, 46
- Solidago** spp.  
Coleosporium *Solidaginis*, 46  
Diaporthe *Arctii*, 40  
" *linearis*, 40  
" *quadruplex*, 40  
Erysiphe *Cichoracearum*, 29  
Leptosphaeria *doliolum*, 37  
" *ogilviensis*, 37  
" *planiuscula*, 37  
" *vagabunda*, 37  
Mycosphaerella *Virgaureae*, 36  
Puccinia *extensicola* var. *Solidaginis*, 52  
" *Grindeliae*, 52  
Pyrenopeziza *Artemisiae*, 24  
" " var. *Solidaginis*, 24  
Uromyces *perigynius*, 55
- Sonchus oleraceus** L.  
Bremia *Lactucae*, 14
- Sorbus americana** Marsh.  
Cytospora *chrysosperma*, 109  
" *leucostoma*, 109  
Dermea *Ariae*, 21  
Diaporthe *impulsa*, 40  
Gymnosporangium *aurantiacum*, 49  
Lophodermium *tumidum*, 28  
Melanomma *subsparsum*, 35  
Micropera *Sorbi*, 110  
Nectria *galligena*, 32  
Valsa *amphibola*, 41  
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- Sorbus Aucuparia** L.  
Gymnosporangium *clavipes*, 49  
Nectria *cinnabarina*, 31
- Sorbus** spp.  
Erwinia *amylovora*, 9  
Gymnosporangium *clavipes*, 49
- Sorghum** spp. (Sudan grass)  
Bacillus *Sorghi*, 9  
Pseudomonas *syringae*, 10
- Soybean**: see **Glycine max**
- Sparganium (eurycarpum)** Engelm. ?  
Uromyces *Sparganii*, 56
- Spartina alterniflora** Lois. var. *glabra* (Muhl.) Fern.  
Uromyces *acuminatus*, 54
- Spartina patens** (Ait.) Muhl.  
Uromyces *acuminatus*, 54
- Spartina pectinata** Link (*S. Michauxiana* Hitchc.)  
Puccinia *Distichlidis*, 51  
" *Seymouriana*, 54  
Uromyces *acuminatus*, 54
- Spartina** spp.  
Leptosphaeria *personata*, 37  
Uromyces *acuminatus*, 54
- Spergula arvensis** L.  
Peronospora *Alsinearum*, 14  
" *obovata*, 15  
Puccinia *Arenariae*, 50
- Spergularia canadensis** (Pers.) Don.  
Uromyces *acuminatus*, 54  
" " var. *Spartinae*, 55
- Sphaeriaceous stromata**  
Nectria *episphaeria*, 32  
Pseudotrichia *viridicoma*, 35  
Prosthemiella *formosa*, 107  
Tremella *atrovirens*, 57
- Sphagnum** sp.  
Endogone *pisiformis*, 16
- Spinach**: see **Spinacia oleracea**
- Spinacia oleracea** L. (Spinach)  
Colletotrichum *Spinaciae*, 105  
Peronospora *effusa*, 15  
" *Spinaciae*, 15
- Spiraea alba** DuRoi  
Podosphaera *Oxycanthae*, 30
- Spiraea latifolia** (Ait.) Borkh.  
Cylindrosporium *ariaefolium*, 106  
" *Fairmanianum*, 106  
" *salicifoliae*, 106  
Podosphaera *Oxycanthae*, 30
- Spiraea salicifolia** L.  
Cylindrosporium *Filipendulae*, 106



**Spiraea tomentosa** L.

- Podosphaera Oxycanthae*, 30  
*Scleroderris Spiraeae*, 22

**Spiraea** spp.

- Diaporthe Viburni* var. *spiracicola*, 40  
*Lachnum virgineum*, 25  
*Mollisia stictella*, 24  
*Nectria cinnabarina*, 31  
*Ophiobolus porphyrogonus*, 37  
*Scleroderris Spiraeae*, 22  
*Strickeria obducens*, 35  
*Synchytrium aureum*, 13

**Spruce:** see **Picea** spp.**Squash:** see **Cucurbita Pepo****Squash, Hubbard:** see **Cucurbita maxima****Stellaria graminea** L.

- Melampsorella Cerastii*, 47

**Stellaria media** (L.) Cyrill.

- Melampsorella Cerastii*, 47  
*Puccinia Arenariae*, 50  
*Septoria Stellariae*, 112

**Suaeda maritima** (L.) Dumort.

- Uromyces Peckianus*, 55

**Sudan grass:** see **Sorghum** sp.**Symphoricarpos** sp.

- Phyllosticta Symphoricarpi*, 111

**Syringa vulgaris** L. (Lilac)

- Ascochyta Syringae*, 108  
*Botrytis cinerea*, 101  
*Microsphaera Alni*, 30  
*Pseudomonas Syringae*, 10

**Tanacetum vulgare** L.

- Camarosporium Tanacetii*, 108  
*Leptosphaeria dolioloides*, 37

**Taraxacum erythrospermum** Andr.

- Puccinia Hieracii*, 52

**Taraxacum kok-saghyz**

- Puccinia Hieracii*, 52

**Taraxacum officinale** Weber (*T. vulgare* (Lam.) Schr.)

- Puccinia Hieracii*, 52  
 " *variabilis*, 54  
*Ramularia Taraxaci*, 104  
*Sphaerotheca Humuli*, 30  
 " " var. *fuliginea*, 30

**Taxus canadensis** Marsh.

- Hymenochaete tabacina*, 61

**Thalictrum polygamum** Muhl.

- Dimerina* sp., 29  
*Erysiphe Polygoni*, 29  
*Puccinia rubigo-vera*, 54  
*Tranzschelia Thalictri*, 54

**Thalictrum polygamum** var. **hebecarpum** Fern.

- Tranzschelia Thalictri*, 54

**Thalictrum** spp.

- Didymosphaeria Thalictri*, 36  
*Erysiphe Polygoni*, 29

**Thlaspi arvense** L.

- Plasmodiophora Brassicae*, 13

**Thuja occidentalis** L.

- Poria subiculososa*, 76

**Tilia glabra** Vent.

- Cercospora microsora*, 102  
*Gloeosporium Tiliae*, 107

**Tilia** sp.

- Gloeosporium Tiliae*, 107

**Timothy:** see **Phleum pratense****Trientalis borealis** Raf.

- Puccinia karelica*, 52

**Trifolium hybridum** L. (Alsike clover)

- Cymadothea Trifolii*, 43  
*Polythrincium Trifolii*, 104  
*Uromyces Trifolii* var. *hybridi*, 56

**Trifolium incarnatum** L. (Crimson clover)

- Uromyces Trifolii* var. *fallens*, 56

**Trifolium pratense** L. (Red clover)

- Cymadothea Trifolii*, 43  
*Erysiphe Polygoni*, 29  
*Kabatiella caulivora*, 107  
*Mycosphaerella carinthiaca*, 36  
*Polythrincium Trifolii*, 104  
*Pseudopeziza Trifolii*, 24  
*Stemphylium sarcinaeforme*, 105  
*Uromyces Trifolii* var. *fallens*, 56

**Trifolium repens** L. (White clover)

- Gibberella Zeae*, 31  
*Uromyces Trifolii* var. *Trifolii-repentis*, 56

**Trifolium** spp.

- Cymadothea Trifolii*, 43  
*Erysiphe Polygoni*, 29  
*Peronospora Trifoliorum*, 15  
*Polythrincium Trifolii*, 104  
*Uromyces striatus*, 56  
 " *Trifolii*, 56

**Triticum aestivum** L. (Wheat)

- Cladosporium herbarum*, 102  
*Claviceps purpurea*, 33  
*Epicoccum purpurascens*, 102  
*Erysiphe graminis*, 29  
*Fusarium avenaceum*, 102  
 " *culmorum*, 102  
 " *graminearum*, 102  
 " *Poa*, 103

**Triticum aestivum** L. (Wheat)—*Cont'd.*

- Gibberella Zeae, 31
- Helminthosporium sativum, 103
- Pseudomonas atrofaciens, 9
- Puccinia graminis, 52
  - " rubigo-vera var. Tritici, 54
- Pullularia pullulans, 104
- Septoria nodorum, 112
  - " Tritici, 112
- Tilletia laevis, 45
  - " Tritici, 45
- Ustilago Tritici, 44
- Xanthomonas translucens var. undulosa, 10

**Tsuga canadensis** (L.) Carr.

- Armillaria mellea, 81
- Ceratiomyxa fruticulosa, 10
- Coniophora puteana, 59
- Dacryomyces palmatus, 58
- Dermea balsamea, 21
- Fomes subroseus, 71
- Gelatinosporium abietinum, 109
- Margarita metallica, 12
- Melampsora Abietis-canadensis, 47
  - " Farlowii, 47
- Mycena epipterygia, 91
  - " " var. lignicola, 91
- Peniophora Sambuci, 63
- Polyporus abietinus, 72
  - " benzoinus, 72
  - " borealis, 73
  - " elegans, 73
  - " Tsugae, 75
  - " versicolor, 75
- Pucciniastrum Myrtilli, 48
- Trametes heteromorpha, 76
- Tubifera ferruginosa, 13

**Tulipa Gesneriana** L.

- Botrytis Tulipae, 101
- Rhizoctonia Tuliparum, 104

**Tussilago Farfara** L.

- Puccinia Poae-sudeticae, 53
  - " Poarum, 53

**Ulmus americana** L. (Elm)

- Dothiorella Ulmi, 109
- Gloeosporium ulmeum, 107
- Gnomonia ulmea, 38
- Nectria cinnabarina, 31

**Ulmus montana** With.

- Tubercularia vulgaris, 105

**Ulmus pumila** L.

- Nectria cinnabarina, 31

**Ulmus** spp.

- Collybia velutipes, 83
- Corticium vellereum, 60
- Daldinia concentrica, 42
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**Ulmus** spp.—*Cont'd.*

- Fomes applanatus, 71
  - " ignarius, 71
- Hymenochaete tabacina, 61
- Nectria cinnabarina, 31
- Panus torulosus, 93
- Polyporus conchifer, 73
  - " hirsutus, 74
  - " squamosus, 75
- Solenia anomala, 63
- Sphaeropsis ulmicola, 112
- Trametes mollis, 76
- Xylaria polymorpha, 42

**Vaccinium canadense** Kalm.

- Microsphaera Alni var. Vaccinii, 30
- Pucciniastrum Goepfertianum, 48

**Vaccinium corymbosum** L.

- Exobasidium Vaccinii, 58

**Vaccinium macrocarpon** Ait. (Cranberry)

- Acanthorhynchus Vaccinii, 34
- Cladosporium Oxycoeci, 102
- Gibbera compacta, 38
- Guignardia Vaccinii, 36
- Naevia Oxycoeci, 24
- Sclerotinia Oxycoeci, 25
- Synchytrium Vaccinii, 13

**Vaccinium pennsylvanicum** Lam.

- Exobasidium Vaccinii, 58
- Lophodermium cladophilum, 28
- Microsphaera Alni var. Vaccinii, 30
- Pucciniastrum Goepfertianum, 48
  - " Myrtilli, 48

**Vaccinium Vitis-Idaea** L. var. *minor* Lodd.

- Pucciniastrum Myrtilli, 48

**Vaccinium** spp. (Cranberry)

- Exobasidium Vaccinii, 58
- Sclerotinia Oxycoeci, 25
- Synchytrium Vaccinii, 13

**Vaccinium** spp. (Blueberry)

- Botrytis cinerea, 101
- Exobasidium Vaccinii, 58
- Fusicoccum putrefaciens, 109
- Gloeosporium minus, 107
- Microsphaera Alni var. Vaccinii, 30
- Pucciniastrum Goepfertianum, 48

**Veronica serpyllifolia** L.

- Peronospora sordida, 15

**Veronica virginica** L.

- Peronospora grisea, 15

**Viburnum cassinoides** L.

- Coleosporium Viburni, 46
- Microsphaera Alni, 30

**Viburnum Lentago L.**

Pezicula minuta, 22

Tympanis fasciculata, 22

**Viburnum Opulus L.**

Botrytis cinerea, 101

**Viburnum trilobum Marsh.**

Puccinia Linkii, 52

**Vicia Cracca L.**

Ascochyta Pisi, 108

Erysiphe Polygoni, 29

Uromyces Fabae, 55

**Viola cucullata Ait.**

Puccinia Violae, 54

**Viola fimbriatula J. E. Sm.**

Puccinia Violae, 54

**Viola pallens (Banks) Brain.**

Puccinia Violae, 54

**Viola septentrionalis Greene**

Puccinia Violae, 54

**Viola tricolor L. (Pansy)**

Alternaria Violae, 101

Cercospora Violae, 102

Colletotrichum Violae-tricoloris, 105

Phyllosticta Violae, 111

**Viola spp.**

Cercospora Violae, 102

Puccinia Violae, 54

**Vitis spp. (Grape)**

Plasmopara viticola, 15

Uncinula necator, 31

**Woodwardia virginica (L.) J. Sm.**

Uredinopsis mirabilis, 48

**Yucca filamentosa L.**

Coniothyrium concentricum, 109

**Zea Mays L. (Corn)**

Diplodia Zeae, 109

Epicoccum neglectum, 102

Fusarium moniliforme, 103

Puccinia Sorghi, 54

Ustilago Maydis, 44

**Zinnia sp.**

Botrytis cinerea, 101

**Zizania aquatica L.**

Claviceps purpurea, 33

Entyloma lineatum, 45

" peninsulac, 45

**Zizania palustris L.**

Claviceps purpurea, 33

**Zostera marina L.**

Halophiobolus halimus, 37

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\* The 22nd to 24th reports (1942 to 1944) were compiled by I. L. Connors and D. B. O. Saville. Earlier reports in the series were compiled by various authors, as follows:

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# INDEX TO GENERA, FAMILIES, ORDERS, ETC., OF THE FUNGI REPORTED FOR THE MARITIME PROVINCES

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