

# Macrofungi of British Columbia: Requirements for Inventory

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Ministry of Forests Research Program

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S. Redhead



Ministry of Forests Research Program

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## PREFACE

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In recent years, global changes in the environment (e.g., acid rain, depletion of the ozone layer, global warming) and increasing rates of resource extraction (e.g., forest harvesting, conversion of wildlands to agriculture and residential development) have raised serious ethical and utilitarian concerns over the disappearance of **entire** ecosystems, species, and the genetic diversity of animal and plant populations. Numerous articles, focusing on the maintenance of biodiversity at the ecosystem, species, and genetic levels, are prevalent in both the scientific and popular literature (e.g., Harris 1984; Westman 1990; Hansen et al. 1991; Chaplin et al. 1992; Kimmens 1992; Pielou 1992; Pimental et al. 1992; Wilson 1992; Fenger et al. 1993). Yet, despite the documentation of the flora and fauna for many parts of the world, particularly temperate regions, large gaps exist in our knowledge. Of particular concern is the lack of basic information, such as regional species checklists, for many groups of organisms, including bryophytes (mosses, liverworts, and hornworts), lichens, and fungi. Unfortunately, these organisms are more at risk than their larger counterparts, the vascular plants, because they are not maintained in botanical gardens and, once their habitat disappears, these organisms become extinct.

Fortunately, many areas of British Columbia have not been altered to the same extent as other regions in North America, such as California, where almost half of the crustose lichens collected in the early part of the century have not been found since that time because so much of the land has been irrevocably changed by residential and agricultural development and air pollution (Hale and Cole 1988). Alternatively, there has been so little adequate documentation of the bryophytes, lichens, and macrofungi of British Columbia that we have little notion of the extent to which these groups have been affected by human activities.

This is one of three reports that outline what is known about bryophytes (Ryan 1996), lichens (Goward 1995), and macrofungi (this report) in British Columbia. They provide a preliminary list of species that are rare or endangered, and provide a set of recommendations regarding future inventory requirements for each of these groups.

Our knowledge is the most incomplete for macrofungi: less than 1% of the macrofungi flora of British Columbia have been examined in systematic studies; hence, it is not possible to provide more than a rudimentary list of rare species for British Columbia. Obviously, there is a need for basic field work, including general floristic studies identifying and describing undocumented species in all regions of the province.

## FOREWORD

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British Columbia, Canada's most westerly province, has a bounty of biological diversity. Its mountains, lakes and rivers, rainforests, wetlands and arid grasslands, and long, rugged coast provide habitats for more species of living organisms than are found anywhere else in Canada. However, this very diversity means that there is much to be discovered about these organisms—their distribution, abundance, habitat requirements, and interrelationships with their environments. Increasing our knowledge of this biodiversity will help us with the complex task of sustainably managing our land and waters.

In 1992 the Provincial Government initiated a co-operative biodiversity research program with funding from the Corporate Resource Inventory Initiative; the British Columbia Ministries of Forests (Research Branch); Environment, Lands and Parks (Wildlife and Habitat Protection branches); and Tourism and Culture, (Royal British Columbia Museum); and the Forest Resource Development Agreement (FRDA II). One goal of this research program is to extend information to scientists, resource managers, and the public through biodiversity publications. These publications are intended to increase awareness and understanding of biodiversity, promote the concepts and importance of conserving biodiversity, and communicate provincial government initiatives related to biodiversity. We hope that they will be used as tools for the conservation of British Columbia's rich, living legacy.

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## 1 INTRODUCTION

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Macrofungi are those fungi that form large fructifications visible without the aid of a microscope. This artificial but convenient grouping is here defined to include fungal families or genera where the majority of included species produce fruit bodies greater than 1 cm in diameter. Unlike microfungi, which are made conspicuous by the diseases, decay, and moulding they cause, macrofungi are the ones most likely to be directly observed unaided and by the untrained eye. They are also the most likely either to be indicator or threatened beneficial species. The number of species of macrofungi of British Columbia may well exceed the number of species of vascular plants, but, with a few spectacular exceptions, they are largely inconspicuous or are lumped together in the public's mind as mushrooms, toadstools, conks, puffballs, etc., if differentiated even this far. The loss of any one, again with a few exceptions (e.g., chanterelles or pine mushrooms), would not be viewed with alarm by the populace. In fact, a few are either aggressive plant pathogens or agents of destruction of wood structures, and their eradication or control, like that of weeds, may well be a legitimate goal.

However, macrofungi are extremely important beneficial organisms in British Columbia for several reasons. Excepting tree species in the Cupressaceae (*Chamaecyparis*, *Calocedrus*, *Thuja*) and Aceraceae (*Acer*) families, all major timber trees and many ornamentals are symbiotically dependent on ectomycorrhizal fungi, most of which are macrofungi. Elimination of these fungi or a substantial drop in their numbers will lead to loss or deterioration of the trees, have a serious effect on the timber industry, and lead to loss of innumerable wilderness habitats.

Macrofungi, such as morels (*Morchella*), false morels (*Gyromitra esculenta*), pine mushrooms (*Tricholoma magnivelare*), chanterelles (*Cantharellus* spp.), and king boletes (*Boletus edulis*) are now commercially harvested directly from natural habitats, supporting a multimillion-dollar industry.

Aside from the financial benefits of human consumption, mushrooms form a part of the diet for native animals, such as squirrels, voles, and deer. Truffle-like fungi, although very poorly documented from British Columbia, are obligately dependent on animal ingestion and dispersal; even as some of these animals are largely dependent on the fungi as food. Others, through causing wood decay, create essential habitats for a variety of animals either by causing cavitation of trees or logs, or preparing the wood for colonization by insects and, indirectly, by larger animals.

Macrofungi, although by definition visible to the naked eye, are, like all fungi, microorganisms. They interact and compete with all manner of other microorganisms and predators or browsers. Genetically, they generate masses of pharmaceutically active chemicals, such as antibiotics, anti-carcinogens, hormones, pheromones, toxins, carcinogens, enzymes, and pigments. Each species presents a unique combination of these features and therefore represents potential benefits.

Fungi (mostly macrofungi) decompose plant matter, particularly woody



tissues. They are necessary for the recycling of both natural and industrial forest waste and dead wood. As a by-product of this ability to degrade complex polymers (lignin and cellulose), some fungi are capable of being used to decontaminate soil or groundwater of some types of pollutants.

Aesthetically, some macrofungi are among the most picturesque, colourful, and delicate formations in nature. A profusion of large mushrooms, coral fungi, and bracket fungi along a woodland trail can turn an area into a wilderness wonderland, worth preserving for the sake of its beauty.

## **2 STATUS OF KNOWLEDGE IN BRITISH COLUMBIA**

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Unfortunately, the present state of knowledge of the macrofungal flora, or macromycota, does not easily lend itself to the detailed analysis needed or envisaged for biodiversity preservation legislation. Current data are insufficient for a comparison among most ecoregions or with other regions in Canada or North America. This is not to say that there is a paucity of information; rather, that it is too fragmented and incomplete. For more than 90% of the province, there has been documentation of less than 1% of the macrofungal flora in any systematic study. There are no published monographs, keys, or lists for the bulk of British Columbian macrofungi. Most in the province await documentation, a costly and time-consuming task even without comparing regions. For this report, an effort has been made to bring together published information on several of the major taxa comprising the British Columbia macromycota.

Polypores comprise basidiomycetes, which form a multiporoid fruitbody that is not putrescent (i.e., not a bolete). Although there are additional sources for some species, the recent monograph of the polypores by Gilbertson and Ryvarden (1986–1987) offers a standard for the group. They report 162 species from British Columbia (see Appendix 1), but with few exceptions do not give precise distributional information. Their maps merely indicate the presence within broad political boundaries. More detailed information is available in the form of decay studies, which took place in the 1940s and 1950s, published mainly in the Canadian Research Journal series (Botany) (see Table 1). Polypores constitute the major causal agents of decay and, as such, represent the most documented macromycota under consideration.

Other major taxonomic groups that decay wood are the nonpolypore aphylophorales. This is a heterogeneous assemblage of species, the data on which are scattered in hundreds of publications. A compilation of pertinent data on distribution and hosts of all recognized North American taxa has been prepared by Ginns and Lefebvre (1993) for Agriculture Canada. With their permission, all 364 British Columbia species were tabulated from their draft (see Appendix 2). They surveyed 662 references continent-wide to come up with this information. Again, detailed information on occurrence within the province is largely lacking.

There is no accurate listing of mushrooms or agaricales and boletes for Canada. The most comprehensive treatment in Canada is the one for

TABLE 1 Evaluation of mycological studies by zones

Biogeographic zones	Major or critical macrofungal studies	Topics of note	Comments on degree of study
General	Redhead 1989 Thomas 1958 Ogawa 1979, 1981 Bandoni and Szczawinski 1964, 1976 Schalkwijk-Barendsen 1991a,b	Biogeographic patterns Echinodontium Tricholoma Mushrooms Mushrooms	n/a
Alpine Tundra	none		<1%
Spruce-Willow-Birch	none		<1%
Boreal White and Black Spruce	none		<1%
Sub-boreal Pine-Spruce	none		<1%
Sub-boreal Spruce	Thomas and Podmore 1953 Bier et al. 1948	Decay of black cottonwood Decay of fir	ca. <5%
Mountain Hemlock	none		<1%
Engelmann Spruce-Subalpine Fir	none		<1%
Montane Spruce	none		<1%
Bunchgrass	Schalkwijk-Barendsen 1991a,b	<i>Battarrea stevenii</i> , <i>Podaxis pistillaris</i>	<1%
Ponderosa Pine	none		<1%
Interior Douglas-fir	none		<1%
Coastal Douglas-fir	Hardy 1947	Mushrooms	ca. 5%
Interior Cedar-Hemlock	Foster et al. 1954  Foster et al. 1958  Buckland 1946 Redhead 1984 Berthier and Redhead 1982	Decay of western hemlock (upper Columbia region) Decay of western hemlock and amabilis fir (Kitimat region) Decay of cedar <i>Mycena tubarioides</i> <i>Typhula mycophaga</i>	ca. 5%
Coastal Western Hemlock (Queen Charlotte Islands)	Foster and Foster 1951 Bier et al. 1946 Buckland 1946 Redhead and Reid 1983	Decay of western hemlock Decay of Sitka spruce Decay of cedar <i>Stereopsis humphreyi</i>	<5%
Coastal Western Hemlock (Vancouver Island)	Buckland et al. 1949  Buckland 1946 Hardy 1947 Redhead and Norvell 1993 Redhead 1988 Gilbertson and Ryvardeen 1986–1987	Decay of western hemlock and fir Decay of cedar Mushrooms <i>Phaeocollybia carmanahensis</i> <i>Xeromphalina campanelloides</i> <i>Polyporoletus sublividus</i>	ca. 5%
Coastal Western Hemlock (Mainland)	Buckland 1946 Davidson 1930 Unpublished information in newsletters of Vancouver Mycological Society	Decay of cedar Agaricales Mainly agarics and other macrofungi in south-western B.C. mainland	ca. 10%

Quebec by Pomerleau (1980). In Pomerleau's publication, 70 species of *Cortinarius* are documented. *Cortinarius* is the largest genus of agarics, with well over 1000 species anticipated in North America. Pomerleau's treatment is very incomplete, however. In the 1970s, Dr. J. Ammirati (University of Washington), the North American expert on *Cortinarius*, was a member of a field expedition to boreal Quebec; he collected more than 100 species in a 3-week period in one forest zone. A similar number could be expected in the northeastern boreal corner of British Columbia alone. Yet for the entire province of British Columbia, only 21 species have been documented.

Agriculture Canada has been developing a comprehensive database on all published reports of agarics, boletes, and chanterelles in Canada. From this database, 488 species were listed for British Columbia (see Appendix 3) from 222 references (see References). As noted for *Cortinarius* above, this is a very incomplete inventory. A reasonable estimate of the number of species in this group would be between 1500 and 2000.

Additionally, there are less numerous groups of macrofungi, such as gasteromycetes (puffballs, birdsnest fungi, false truffles, stinkhorns), hydroid fungi (e.g., *Hydnum*, *Sarcodon*, *Hydnellum*), and terrestrial coral fungi. Fleshy and stromatic ascomycetes comprise another group of macrofungi. References to these groups have been compiled by Lorelei L. Norvell (University of Washington and Oregon Mycological Society) in a master index to the macrofungi of the Pacific Northwest (including British Columbia). More than 180 ascomycetes (see Appendix 5) are cited, along with more than 100 miscellaneous basidiomycetes (see Appendix 4) in the groups listed above.

Two other sources for documentation of British Columbia macrofungi are Canada's two host indices (Connors 1967; Ginns 1986) and listings of holdings in herbaria (e.g., Lowe 1969). Most of these data refer to parasitic microfungi. Nonetheless, some "microfungi," such as the rusts and gall producers, form rather large, conspicuous fructifications. Publications such as Funk's "Foliar fungi of western trees" (1985) and Ziller's "The tree rusts of western Canada" (1974) contain descriptions of such fungi from British Columbia.

The figures discussed above and their sources represent the bulk of the published records of macrofungi for British Columbia. In total, more than 1250 individual species are documented from the province. This figure covers only a fraction of the species actually present, as even some common species have not been documented in the literature.

### **3 STATUS OF INDIVIDUAL SPECIES IN BRITISH COLUMBIA**

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Given the incompleteness of the study of British Columbia macrofungi (with the possible exception of those in old-growth coastal forests) it is not possible to designate any particular region as critical using species inventories as indicators. Macrofungi are known to occupy distinct ranges (Redhead 1989) associated with a variety of vegetation types, so the assumption can be made that total loss, modification, or destruction of a vegetation zone would eliminate fungal species. Hence, by preserving selected habitats, entire fungal communities will be preserved.

Documentation of the status of individual species is usually not possible on a large scale. Exceptions have been made for economically important species that are particularly distinctive; for example, “Indian Paint Fungus” (*Echinodontium tinctorium*) (Thomas 1958). For most macro-fungi, reliance must be made on field observations by knowledgeable biologists. It is significant that only a single fungus, namely the “Fuzzy Sandozi” (*Oxyporus nobilissimus*) (Christy 1991), occurs on any endangered species list (Oregon Natural Heritage Program List) in North America. This is a very large, conspicuous polypore known to be associated with old-growth noble fir (*Abies procera*) in Washington and Oregon. It has not been found in British Columbia. Both the USDA Forest Products Laboratory, Wisconsin, and the Department of Botany, University of Washington, are involved in documenting this species in the Pacific Northwest (Coombs 1991). There are no other North American fungi on endangered lists.

However, in Europe, a series of “Red Lists” has been developed (Arnolds 1991, 1992) that lists rare or endangered species. Europe has a much more completely known mycota and a longer history to draw upon. From these data, trends in fungal population fluctuations can be plotted. Arnolds (1989) enumerated 944 species for the “Red List” for the Netherlands, of which 182 were threatened with extirpation and 91 had already been eliminated.

For British Columbia — and for that matter, virtually all of Canada — reliance must be made on field observations by trained observers. Hence, among the larger polypores in British Columbia, *Polyporoletus sublividus* may be designated rare, and perhaps endangered. It appears to have been collected only twice in British Columbia, both on Vancouver Island; once in the vicinity of Lake Cowichan in 1929, and once near Courtenay in 1963 (DAOM records). Unfortunately, one cannot point to an existing Canadian population with any certainty (30 years have lapsed since it was last sighted); once located, the species should be well plotted by the next researcher. The species was recently rediscovered in the Cascade Range in Washington State (specimens at University of Washington herbarium [WTU] and the National Mycological Herbarium, Ottawa [DAOM]). *Albatrellus caeruleoporus*, although not reported by Gilbertson and Ryvarden (1986–1987) from western North America, is a rare fungus in the U.S. Pacific Northwest and has been found in British Columbia (Spahats Creek Provincial Park) by T. Goward (Ginns, unpubl. information). It is a distinctive species, having an overall blue colouration.

Among the non-poroid aphyllorphorales, *Stereopsis humphreyi* is conspicuous, unusual, and rare, so that it too might be considered endangered. Only two localities are known with certainty: one on the Olympic Peninsula of Washington and one on the Queen Charlotte Islands, in Naikoon Provincial Park near Tow Hill Ecological Reserve (Redhead and Reid 1983). *Typhula mycophaga*, a clavarioid parasite of puffballs, is known only from the type locality in the Beaver River Valley of Glacier National Park (Berthier and Redhead 1982). It may be rare, because nothing like it has been seen on other expeditions in western North America. Another easily characterized species, *Mycena tubarioides*, an agaric found in the same valley

and the nearby extensive Moberly Marsh in the Columbia River valley (Rocky Mountain Trench), is known only from these sites and from Whidbey Island, Washington (specimen in the University of Washington [WTU]) in North America. Its restricted habitat on bases of decaying cattails (*Typha* sp.) no doubt obscures it from ready detection (Redhead 1984).

*Xeromphalina campanelloides* occurs in two locations on Vancouver Island: at Lake Cowichan in Gordon Bay Provincial Park, and in Goldstream Provincial Park. It has also been collected on the Olympic Peninsula and in restricted sites in eastern North America in disjunct populations (Redhead 1988). Unfortunately *X. campanelloides* resembles *X. campanella*, an exceedingly common species; hence it is only recognized in the field with difficulty.

Among the agaric species more conspicuous to the trained eye are those in the genus *Phaeocollybia*. This genus reaches its northernmost limit in western North America on Vancouver Island in the Carmanah Valley. One new species, *P. carmanahensis*, was discovered in old growth in the upper Carmanah Valley (Redhead and Norvell 1993). Six species in total are known from the valley, the only sites in western Canada for the genus (specimens in DAOM). The other five species occur in greater abundance in the Pacific Northwest of the United States. It should be noted, however, that adjacent valleys (with the exception of a 1-day trip to the Walbran) have not been searched.

Rare or rarely seen species in genera that form inconspicuous or non-descript fructifications abound in the province even within populated areas. Some examples are: *Tetragoniomyces uliginosus*, known worldwide from three sites, one in Finland, one in Germany, and one on the University of British Columbia Endowment Lands (Oberwinkler and Bandoni 1981); *Dacrymyces aquaticus*, known only from the University of British Columbia endowment lands (Bandoni and Hughes 1984); *Hypochnopsis mustaliensis*, in British Columbia known only from one collection from the Lake Cowichan area (Ginns 1989); and *Syzygospora subsolida*, known to science from only one collection in the Beaver River Valley, Glacier National Park (Ginns 1986). Many other aphylophorales fall into this category.

#### **4 LIST OF RARE OR NOTABLE SPECIES OF MACROFUNGI OF BRITISH COLUMBIA**

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The following is a list of rare or notable macrofungi that have been found in British Columbia. Preliminary status designations follow the names and authorities of many species. These designations are the same as those used by the Conservation Data Centre, B.C. Ministry of Environment, Lands and Parks (see Appendix 6).

*Albatrellus caeruleoporus* (Peck) Pouz. (s1)

*Arrhenia retiruga* (Bull.:Fr.) Redhead

*Boletus barrowsii* Thiers (s1)

*Callistosporium luteo-olivaceum* (Berk. & Curt.) Singer (s3)

*Clavulina ornatipes* (Peck) Corner

*Clitlopius hobsonii* (Berk.) Orton  
*Collybia bakerensis* A.H. Smith (s2)  
*Coprinus kubickae* Pil. & Svr.  
*Coprinus phaeosporus* Karst. (s1)  
*Dacrymyces aquaticus* Bandoni & Hughes  
*Gammundia leucophylla* (Gillet) Raithl. (s2)  
*Gymnopilus punctifolius* (Peck) Singer  
*Hemimycena albicolor* (A.H. Smith) c.p.  
*Hemimycena cyphelloides* (Orton) Maas G.  
*Hemimycena hirsuta* (Tode) Singer  
*Hemimycena ignobilis* (Joss.) c.p. (s2)  
*Hemimycena nebulophila* (Redhead) c.p. (G1)  
*Hemimycena substellata* (Kuhner) c.p. (s1)  
*Hydnellum geogenium* (Fr.) Karst. (s2)  
*Hypholoma tuberosum* Redhead & Kroeger (E3)  
*Hypochnopsis mustaliensis* (Karst.) Karst. (s2)  
*Lepiota flammeatincta* Kauffman  
*Marasmius caricis* Karst.  
*Marasmius epidryas* Kuhner (s2)  
*Marasmius tremulae* Vel. (s1)  
*Mycena bulbosa* (Cejip) Kuhner (s1)  
*Mycena lilacifolia* (Peck) A.H. Smith  
*Mycena longiseta* von Hohnel  
*Mycena paucilamellata* A.H. Smith  
*Mycena tubarioides* (R. Maire) Kuhner (s1)  
*Mycenella nodulosa* (A.H. Smith) Vellinga  
*Mythicomycetes corneipes* (Fr.) Redhead & Smith  
*Omphalina marchantiae* (Singer & Clem.) Norvell et al. (s2)  
*Ossicaulis lignatilis* (Pers.) Redhead & Ginns (s1)  
*Pachylepyrium carbonicola* (A.H. Smith) Singer  
*Phaeocollybia attenuata* (A.H. Smith) Singer (s1)  
*Phaeocollybia carmanahensis* Redhead & Norvell (G1)  
*Phaeocollybia fallax* A.H. Smith (s1)  
*Phaeocollybia kauffmanii* (A.H. Smith) Singer (s1)  
*Phaeocollybia piceae* A.H. Smith (s1)  
*Phaeocollybia pseudofestiva* A.H. Smith (s1)  
*Phaeogalera stagnina* (Fr.) Kuhner  
*Pholiota brunnescens* Smith & Hesler  
*Pholiota carbonaria* A.H. Smith  
*Pholiota fulvozonata* Smith & Hesler  
*Pholiota molesta* Hesler  
*Polyporoletus sublividus* Snell (G1)  
*Psathyrella ammophila* (Dur. & Lev.) Orton (s2)  
*Pseudobaeospora pillodii* (Quel.) Wasser (s1)  
*Psilocybe rhombispora* (Britz.) Sacc.  
*Psilocybe sabulosa* Peck  
*Rhodocybe trachyspora* var. *vinacea* (R. & B.) B. & L.  
*Rhodocybe hirneola* (Fr.) Orton  
*Rimbachia arachnoidea* (Peck) Redhead

*Rimbachia bryophila* (Pers.) Redhead  
*Rimbachia neckerae* (Fr.) Redhead  
*Stereopsis humphreyi* (Burt) Redhead & Reid (G1)  
*Suillus pseudobrevipes* Smith & Thiers  
*Syzygospora subsolida* Ginns (s1)  
*Tetragoniomyces uliginosus* (Karst.) Oberw. & Bandoni (G1)  
*Tetrapyrgos subdendrophora* (Redhead) Horak (G1)  
*Tricholoma cingulatum* (Fr.) Jacobasch (s2)  
*Typhula mycophaga* Berthier & Redhead (G1)  
*Xeromphalina campanelloides* Redhead (G1)  
*Xeromphalina cirris* Redhead

## 5 LIST OF POSSIBLY RARE MACROFUNGI FROM BRITISH COLUMBIA BY ECOREGIONS<sup>1</sup>

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Based on limited information, potentially rare species are listed for each ecoregion in British Columbia. All unmarked species should be listed as “U,” because insufficient data are available for several reasons: cryptic nature of species, difficulty in identification, or lack of field collectors. All listed species are known from five or fewer sites in British Columbia, and those are marked “G1” from five or fewer sites globally. Some are known only from the type site in B.C. Vouchers for all species, except for *Dacrymyces aquaticus* and *Tetragoniomyces uliginosus* at the University of British Columbia, are deposited in the national mycological herbarium in Ottawa (DAOM).

**Ecoprovince:  
Coast and Mountains**

**1. Ecoregion: Cascade Range**

*Gammundia leucophylla* (Gillet) Raithl. (s2)  
*Omphalina marchantiae* (Singer & Clem.) Norvell et al. (s2)  
*Xeromphalina cirris* Redhead  
 Area minimally sampled.

**2. Ecoregion: Coastal Gap**

Mycologically unexplored or data minimal.

**3. Ecoregion: Northern Coastal Mountains**

*Marasmius epidryas* Kuhner (s2)  
*M. tremulae* Vel. (s1)  
*Tricholoma cingulatum* (Fr.) Jacobasch (s2)  
 Area minimally sampled.

**4. Ecoregion: Pacific Ranges**

*Hemimycena ignobilis* (Joss.) c.p. (s2)  
*Omphalina marchantiae* (Singer & Clem.) Norvell et al. (s2)  
 Area minimally sampled.

<sup>1</sup> Ecoregion designation based on Demarchi, D. 1993. Ecoregions of British Columbia.

**5. Ecoregion: Nass Basin**

Mycologically unexplored or data minimal.

**6. Ecoregion: Nass Ranges**

Mycologically unexplored or data minimal.

**7. Ecoregion: Queen Charlotte Lowland**

*Coprinus phaeosporus* Karst. (s1)

*Hydnellum geogenium* (Fr.) Karst. (s2)

*Mycena paucilamellata* A.H. Smith

*Phaeogalera stagnina* (Fr.) Kuhner

*Psathyrella ammophila* (Dur. & Lev.) Orton (s2)

*Rhodocybe trachyspora* var. *vinacea* (Redhead & Baroni) Baroni & Largent

*Stereopsis humphreyi* (Burt) Redhead & Reid (G1)

Area intensively sampled once only during a dry fall season.

**8. Ecoregion: Queen Charlotte Ranges**

Mycologically unexplored or data minimal.

**9. Ecoregion: Western Vancouver Island**

*Clavulina ornatipes* (Peck) Corner

*Gymnopilus punctifolius* (Peck) Singer

*Hemimycena hirsuta* (Tode) Singer

*Lepiota flammeatincta* Kauffman

*Mycena longiseta* von Hohnel

*Phaeocollybia attenuata* (A.H. Smith) Singer (s1)

*P. carmanahensis* Redhead & Norvell (G1)

*P. fallax* A.H. Smith (s1)

*P. kauffmanii* (A.H. Smith) Singer (s1)

*P. piceae* A.H. Smith (s1)

*P. pseudofestiva* A.H. Smith (s1)

Sampled in several brief 1-day visits.

**Ecoprovince:  
Georgia Depression**

**1. Ecoregion: Eastern Vancouver Island**

*Arrhenia retiruga* (Bull.:Fr.) Redhead

*Boletus barrowsii* Thiers (s1)

*Callistosporium luteo-olivaceum* (Berk. & Curt.) Singer (s3)

*Hypochnopsis mustaliensis* (Karst.) Karst. (s2)

*Micromphale* sp. nov.

*Mycena bulbosa* (Cejip) Kuhner (s1)

*Polyporoletus sublividus* Snell (G1)

*Rhodocybe hirneola* (Fr.) Orton

*Xeromphalina campanelloides* Redhead (G1)

*Xeromphalina cirris* Redhead

Relatively intensively explored but in a mostly unorganized fashion.

However, most species still undocumented.



**2. Ecoregion: Lower Mainland**

*Dacrymyces aquaticus* Bandoni & Hughes  
*Hypholoma tuberosum* Redhead & Kroeger (E3)  
*Mycena paucilamellata* A.H. Smith  
*Rimbachia arachnoidea* (Peck) Redhead  
*R. bryophila* (Pers.) Redhead  
*Tetragoniomyces uliginosus* (Karst.) Oberw. & Bandoni (G1)  
*Tetrapyrgos subdendrophora* (Redhead) Horak (G1)  
Area of most intensive exploration but in a mostly unorganized fashion. Most of species still undocumented.

**3. Ecoregion: Strait of Georgia**

*Psilocybe rhombispora* (Britz.) Sacc.  
Area minimally sampled.

**Ecoprovince:  
Central Interior**

**1. Ecoregion: Chilcotin Ranges**

Mycologically unexplored or data minimal.

**2. Ecoregion: Fraser Plateau**

Mycologically unexplored or data minimal.

**Ecoprovince:  
Sub-Boreal Interior**

**1. Ecoregion: Fraser Basin**

*Ossicaulis lignatilis* (Pers.) Redhead & Ginns (S1)  
Area minimally sampled.

**Ecoprovince:  
Southern Interior  
Mountains**

**1. Ecoregion: Columbia Mountains and Highlands**

*Albatrellus caeruleoporus* (Peck) Pouz. (S1)  
*Clitopilus hobsonii* (Berk.) Orton  
*Collybia bakerensis* A.H. Smith (S2)  
*Hemimycena cyphelloides* (Orton) Maas G.  
*H. ignobilis* (Joss.) c.p.  
*H. nebulophila* (Redhead) c.p. (G1)  
*H. substellata* (Kuhner) c.p. (S1)  
*Marasmius epidryas* Kuhner  
*M. tremulae* Vel. (S1)  
*Mycena lilacifolia* (Peck) A.H. Smith  
*M. longiseta* von Hohnel  
*M. tubarioides* (R. Maire) Kuhner (S1)  
*Mycenella nodulosa* (A.H. Smith) Vellinga  
*Mythicomyces corneipes* (Fr.) Redhead & Smith  
*Pachylepyrium carbonicola* (A.H. Smith) Singer  
*Pholiota brunnescens* Smith & Hesler  
*P. carbonaria* A.H. Smith  
*P. fulvozonata* Smith & Hesler  
*P. molesta* Hesler  
*Pseudobaeospora pillodii* (Quel.) Wasser (S1)  
*Rimbachia neckerae* (Fr.) Redhead  
*Syzygospora subsolida* Ginns (S1)  
*Typhula mycophaga* Berthier & Redhead (G1)  
Area intensively sampled by Redhead in one late fall season only (Sept. 1980).

2. **Ecoregion: Southern Canadian Rocky Mountains**  
Mycologically unexplored or data minimal.

3. **Ecoregion: Southern Rocky Mountain Trench**  
*Hemimycena albicolor* (A.H. Smith) c.p.  
*H. cyphelloides* (Orton) Maas G.  
*Marasmius caricis* Karst.  
*Mycena tubarioides* (R. Maire) Kuhner (s1)  
Area minimally sampled.

**Ecoprovince:  
Southern Interior**

1. **Ecoregion: Okanagan Highland**  
*Coprinus kubickae* Pil. & Svr.  
Area generally unexplored.

2. **Ecoregion: Okanagan Range**  
Mycologically unexplored or data minimal.

3. **Ecoregion: Thompson-Okanagan Plateau**  
*Psilocybe sabulosa* Peck  
*Suillus pseudobrevipes* Smith & Thiers  
Area generally unexplored.

**Ecoprovince:  
Boreal Plains**

1. **Ecoregion: Alberta Plateau**  
Mycologically unexplored or data minimal.

**Ecoprovince:  
Taiga Plains**

1. **Ecoregion: Fort Nelson Lowland**  
Mycologically unexplored or data minimal.

**Ecoprovince:  
Northern Boreal  
Mountains**

1. **Ecoregion: Liard Basin**  
Mycologically unexplored or data minimal.

2. **Ecoregion: Northern Canadian Rocky Mountains**  
Mycologically unexplored or data minimal.

3. **Ecoregion: Northern Mountains and Plateaus**  
Mycologically unexplored or data minimal.

4. **Ecoregion: Tatshenshini Basin**  
Mycologically unexplored or data minimal.

5. **Ecoregion: Yukon–Stikine Highlands**  
Mycologically unexplored or data minimal.

## **6 RANKING OF ECOREGIONS**

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Based upon the data available for macrofungi from British Columbia, it is not reasonable to rank the various ecoregions solely on the number of reports. Some species that have only been reported once or twice are

undoubtedly common, as are species not yet recorded in the literature. However, within a Canadian perspective, there are certain regions in British Columbia unique to Canada and they will harbour species unlikely to be found elsewhere in the country. In particular, the wet coastal forests composed of tree species restricted to British Columbia in Canada, and alpine and subalpine regions not available elsewhere, will host species not found in other parts of Canada.

**Ecoregion:**  
**Western Vancouver**  
**Island**

This region has scarcely been sampled but has yielded several species not found elsewhere in Canada. In particular, the genus *Phaeocollybia* is represented by six species: *P. attenuata*, *P. carmanahensis*, *P. fallax*, *P. kauffmannii*, *P. pseudofestiva*, and *P. piceae* from Vancouver Island. All were discovered in 1991 or 1992; the most recently discovered species, *P. carmanahensis*, is not documented anywhere else. This genus is being considered as an indicator either of old-growth wet western coniferous forests or (at least indicative) of the presence of old-growth elements in the states of Washington and Oregon for the purposes of helping to define Northern Spotted Owl habitats. All six species were found in the Carmanah Valley but may also be present elsewhere in British Columbia. Five of the six occur in greater abundance along the coast of the United States down to northern California.

Exploration of western valleys is expected to reveal many more coast-hugging species. An interesting feature just discovered in 1993 was the existence of mushrooms (agaricales), including mycorrhizal ones, on mossy branches in forest canopies.

**Ecoregion:**  
**Columbia Mountains**  
**and Highlands**

This region proved to be fairly rich in rare or unusual fungi not yet reported from elsewhere in Canada or North America. The only known locations for *Typhula mycophaga*, *Hemimycena nebulophila*, and *Szygospora subsolida* are in this region, all within Glacier National Park. All three are small species that could have been overlooked in other locations, however. Nonetheless, no other locations are known.

Other relatively rare species are *Albatrellus caeruleoporus*, *Hemimycena substellata*, *Marasmius tremulae*, *Mycena tubarioides*, *Mycenella nodulosa* (specimens in DAOM), *Pseudobaeospora pillodii*, and *Rimbachia neckerae*.

**Ecoregion:**  
**Queen Charlotte**  
**Lowland**

This ecoregion and the Queen Charlotte Ranges Ecoregion are expected to harbour many unusual species, only a few of which have been documented. One of the most unusual is *Stereopsis humphreyi*, known with certainty from only two other adjacent sites in coastal Washington. This species was collected from one population in Naikoon Provincial Park. *Coprinus phaeosporus*, although collected only once in North America from the Queen Charlotte Islands, was found in a pasture and is an exceedingly obscure fungus. Its importance as a site indicator is therefore less obvious. Both *Mycena paucilamellata* (specimens in DAOM) and *Rhodocybe trachyspora* var. *vinacea* are restricted to coastal North America, while *Phaeogalera stagnina* (specimens in DAOM) and *Psathyrella ammophila* have restricted habitat requirements (bogs for the former, dunes for the latter), but are more widespread in North America, although rarely reported.

- Ecoregion:  
Northern Coastal  
Mountains** This region was visited during 2 days and revealed three species rarely recorded from North America, two being probably more widespread in northern regions (i.e., *Marasmius epidryas* and *Tricholoma cingulatum* [specimens in DAOM]) while the third, *M. tremulae*, evidently represents a post-glacial migrant into North America. Further mycological investigation of the area should prove to be very productive.
- Ecoregion:  
Southern Rocky  
Mountain Trench** Out of the four species flagged as rarely recorded, three are from the extensive Moberly Marsh adjacent to the Trans-Canada Highway: *Hemimycena cyphelloides*, *Marasmius caricis*, and *Mycena tubarioides*. The last is known only from this area and adjoining valleys in Glacier National Park.
- Ecoregion:  
Thompson-  
Okanagan Plateau** Relatively little is known about this drier region but, apparently, it supports species such as the two flagged ones not found elsewhere in Canada. *Psilocybe sabulosa* (specimens in DAOM) is very rarely collected, probably because it fruits in dry habitats not frequented by collectors of fleshy fungi. The second, *Suillus pseudobrevipes* (specimens in DAOM), is mycorrhizal and occurs further south in greater abundance.
- Ecoregion:  
Cascade Range** This region has not been examined in detail. A new species of *Pseudoomphalina* (specimens in DAOM) was discovered during a spring visit to Manning Provincial Park near Lightning Lake, but has not yet been described. The other unusual species listed, *Gammundia leucophylla*, *Omphalina marchantiae* (both unpublished records), and *Xeromphalina cirris*, are uncommon to rare but not restricted to the province.
- Ecoregion:  
Eastern Vancouver  
Island** Species of particular interest are: *Boletus barrowsii* (possibly introduced around Victoria); a possibly new species of *Micromphale* (specimens in DAOM) found once in Goldstream Provincial Park; *Polyporoletus sublividus* (discussed in text); and *Xeromphalina campanelloides* (a rare disjunct to eastern North American populations).
- Ecoregion:  
Lower Mainland** The area around Vancouver has yielded exceedingly rare species, which, in some cases, appear to have been introduced from unknown locations in the world. One species, *Hypholoma tuberosum*, found to be locally abundant on compost piles, has been discovered to be native to Australia. Another species, *Tetrapyrgos subdendrophora*, colonizes grasses in disturbed sites. A new species in the latter genus has been discovered also on grasses, near the University of British Columbia experimental forest in Haney.

## 7 SURVEYS AND SURVEY TECHNIQUES USED TO DATE

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There has been no systematic study of the macrofungi of British Columbia. As mentioned above, systematic surveys were carried out in selected forest districts by the federal government in the 1940s–1960s for tree-decaying fungi. These include many macrofungi. These surveys were often carried out by district rangers who sent materials to the Pacific Forestry

Centre in Victoria. Cultures and fruitbodies were sent to Agriculture Canada in Ottawa for verification. In the late 1920s, a student at the University of British Columbia, J. Davidson, undertook a study of the agarics of the "Vancouver district." Only a part of her thesis was published (Davidson 1930). Given the state of knowledge in agaric taxonomy in that era, the information given is scant and largely suspect.

The provincial handbook series (Hardy 1947; Bandoni and Szczawinski 1964, 1976) covers less than 1% of the species in British Columbia but represents more complete coverage than most other provinces offer.

Several field trips have been conducted specifically to accumulate data on macrofungi in the province by this author. Southern Vancouver Island was sampled in the fall of 1979 and in 1992. Glacier National Park and Mt. Revelstoke National Park were sampled late in 1980. The Queen Charlotte Islands (Graham Island lower elevations) were sampled in the dry autumn of 1982, and brief excursions were made to Stewart, Prince Rupert, Kelowna, Manning Park, Meager Mountain, and southern Vancouver Island in the fall of 1989, and Mt. Seymour and Manning Provincial Parks in the spring seasons of 1990 and 1993. In all cases, random sampling has been done to accommodate the largest number of species that could be sampled in a set period of time. Species new to science were discovered in all areas intensively sampled (e.g., Graham Island, Glacier National Park, and southern Vancouver Island), and (as in one case where new records of a specific genus, *Phaeocollybia*, were made) specifically sought (Redhead and Norvell 1992).

Three amateur collectors have made substantial and valuable contributions to the province's inventories. Mrs. M.C. Melburn (Victoria) collected on southern Vancouver Island in the 1950s and 1960s, depositing collections in herbaria with Agriculture Canada in Ottawa (DAOM) and the Pacific Forestry Centre in Victoria (DAVFP). Trevor Goward, has sampled Wells Gray Provincial Park and maintains collections in his herbarium and in Ottawa. Finally, Paul Kroeger, president of the Vancouver Mycological Society, has searched for and discovered rare or undescribed species in Vancouver and Meager Mountain (Redhead and Kroeger 1984, 1987; Kroeger 1989b).

A more systematic study has been initiated by Gamiet and Berch (1992) using defined plots in old-growth forest in the University of British Columbia research forest near Haney. This study, still in the preliminary phases of development, has generated published records of 24 more agarics for the province.

## **8 FUTURE STUDIES**

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It is obvious that an immense amount of work is required to properly inventory the macrofungal population in British Columbia. For most of the ecoregions of the province, less than 1% of the macromycota has been systematically surveyed. Even if funds were available, there would be a shortage of trained researchers in Canada. Therefore, several different types of approaches could be employed.

One tactic is to develop a grid of comparable permanent plots for long-term study in selected habitats. One site has already been established by Gamiet and Berch (1992). A series of such sites would allow for comparison between different vegetation zones. In particular, such plots should be initiated in undisturbed areas, including old growth of each forest type, as well as bunchgrass and alpine and tundra regions. However, data from such plots need to be compared to those from second growth or disturbed areas also. Such studies need to be funded on a long-term basis. They could be combined with studies on the effects of harvesting commercial species, because the biodiversity within a picking area may well be affected by the impact on the commercial species. Studies similar to those recommended here have been initiated in Washington, Oregon, and California by Dr. J. Ammirati (University of Washington), by L.L. Norvell, along with the Oregon Mycological Society (Portland), and by Dr. David Largent (Humboldt State University). It should be noted, however, that there are definite limitations on the sampling methods using plots, and that rare fungi are likely to be overlooked. De Vries (1990) demonstrated that the number of species of wood-inhabiting macrofungi increased continually with increasing plot sizes in temperate forests, a result of high fungal biodiversity.

A second approach is to promote general “floristic” studies within the province. The large number of species that require rudimentary documentation and the existence of many undescribed species, as demonstrated by the random sampling to date, are major hurdles to a more detailed inventory. Promotion of such floristic studies can be accomplished in several ways, which must take into account the shortage of trained individuals. A general position could be created at the provincial level for fungi (e.g., a museum biologist); a joint university–provincial position could be created; linkages could be made with established national research centres to ensure expertise is directed towards British Columbia; funds could be established to support student research at a university; funds or support in kind could be used to tap expertise among advanced amateurs (e.g., Vancouver Mycological Society); and funds could be established for British Columbia field work by North American experts on different groups of fungi.

A third option would be to concentrate on suspected rare fungi and to try to document their occurrence in greater detail, such as is being done for the “Fuzzy Sandozi” (Coombs 1991). This may prove to be futile unless the fungus is large, easily characterized, and produces long-lived fructifications (increasing the likelihood of discovery). *Oxyporus nobilissimus* fulfils these requirements.

The compilation of the reported macrofungi from British Columbia that is part of this report establishes a basis for further studies. Many more species need to be annotated. To be effective, reference material should be maintained in the province. Currently, there are major mycological collections (see Appendix 7) at the University of British Columbia (Vancouver) and at the Pacific Forestry Centre (Victoria). Measures should be taken to ensure both remain in British Columbia and that each is actively curated and funded.

## 9 POTENTIAL THREATS TO FUNGI

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The greatest threat to the native mycota, macrofungi in particular, is habitat destruction. Destruction of any one type of habitat, usually climax vegetation, will inevitably lead to the creation of secondary habitats. As such, some fungal species will actually increase in numbers, especially opportunistic species, decayers of slash, parasites of weedy species, many saprophytic moulds, and pioneering mycorrhizal species. Competition by these other fungi may secondarily be the cause for decline of species that directly survived the habitat destruction. Interestingly enough, some habitats maintained by humankind in some countries now harbour rare species, and these habitats (such as mowed meadows in Poland) must be continually mowed to “preserve” the habitat (Guminska 1992). Such habitats were probably rejuvenated by natural disturbances (e.g., fire, grazing by wild animals) historically, but now require human intervention.

Aside from obvious habitat “destruction,” the activities of humans have negative impacts on mycota in several additional ways. Air pollution, which has frequently been linked to damage to trees, has been shown to affect mycorrhizal fungi and, as a consequence, the fungal biodiversity in Europe. Usually this is the result of acidification of sensitive soils. Some genera and families of ectomycorrhizal macromycetes are more sensitive to pollution than others and disappear first (Arnolds 1988, 1989, 1991, 1992). In severely affected areas the mycorrhizae are so “sick” that it is the health of the symbiotic fungi that is leading to unhealthy trees. Ground or groundwater pollution may also come in the form of enrichment, particularly by nitrogenous sources (e.g., farm runoff, fertilization of forests using sewage). Symbiotic relationships are often finely balanced and if a group of plants can grow prolifically in the absence of their mycorrhizal partners, they may well shuck them off. Ultimately, the source of enrichment may eliminate some mycorrhizal species that are unable to regenerate when the ecosystem reverts back to its unenriched status (Arnolds 1988). Runoff water contaminated by fungicides may have similar effects in eliminating mycorrhizal species.

Theoretically, overharvesting of the commercial species could lead to decimation of the population. However, “overharvesting” is a comparative term and nobody knows how much harvesting a mycelium, a forest, or a region can sustain. Planned, long-term studies have not been in place for long enough periods to show significant trends. Studies on the effects of harvesting edible mushrooms are being conducted in Oregon (*Cantharellus cibarius* [Norvell 1992]) and in California (*Boletus edulis*, *Cantharellus cibarius*, *Tricholoma magnivelare* [D.L. Largent, 1993, pers. comm.]). Commercial harvesting of fungi in British Columbia was the topic of discussion in March 1992 in Victoria (de Geus et al. 1992).

<i>Abortiporus biennis</i>	<i>Daedaleopsis confragosa</i>
<i>Albatrellus caeruleoporus</i> <sup>2</sup>	<i>Datronia mollis</i>
<i>Albatrellus confluens</i>	<i>Datronia scutellata</i>
<i>Albatrellus flettii</i>	<i>Datronia stereoides</i>
<i>Albatrellus ovinus</i>	<i>Dichomitus squalens</i>
<i>Amylocystis lapponica</i>	<i>Diplomitoporus crustulinus</i>
<i>Anomoporia albolutescens</i>	<i>Diplomitoporus lenis</i>
<i>Anomoporia bombycina</i>	<i>Diplomitoporus lindbladii</i>
<i>Anomoporia myceliosa</i>	<i>Echinodontium tinctorium</i>
<i>Antrodia albida</i>	<i>Fomes fomentarius</i>
<i>Antrodia albobrunnea</i>	<i>Fomitopsis cajanderi</i>
<i>Antrodia carbonica</i>	<i>Fomitopsis officinalis</i>
<i>Antrodia heteromorpha</i>	<i>Fomitopsis pinicola</i>
<i>Antrodia serialis</i>	<i>Fomitopsis rosea</i>
<i>Antrodia sinuosa</i>	<i>Ganoderma applanatum</i>
<i>Antrodia sitchensis</i>	<i>Ganoderma oregonense</i>
<i>Antrodia vaillantii</i>	<i>Gloeophyllum carbonarium</i>
<i>Antrodia variiformis</i>	<i>Gloeophyllum odoratum</i>
<i>Antrodia xantha</i>	<i>Gloeophyllum protractum</i>
<i>Antrodiella romellii</i>	<i>Gloeophyllum sepiarium</i>
<i>Antrodiella semisupina</i>	<i>Gloeoporus dichrous</i>
<i>Aporpium caryae</i>	<i>Gloeoporus taxicola</i>
<i>Bjerkandera adusta</i>	<i>Hapalopilus nidulans</i>
<i>Bjerkandera fumosa</i>	<i>Hapalopilus salmonicolor</i>
<i>Boletopsis subsquamosa</i>	<i>Hapaloporus odorus</i>
<i>Bondarzewia montana</i>	<i>Heterobasidion annosum</i>
<i>Byssoporia terrestre</i>	<i>Inonotus circinatus</i>
<i>Ceriporia excelsa</i>	<i>Inonotus cuticularis</i>
<i>Ceriporia purpurea</i>	<i>Inonotus dryadeus</i>
<i>Ceriporia reticulata</i>	<i>Inonotus glomeratus</i>
<i>Ceriporia tarda</i>	<i>Inonotus obliquus</i>
<i>Ceriporia viridans</i>	<i>Inonotus radiatus</i>
<i>Ceriporiopsis aneirinus</i>	<i>Inonotus rheades</i>
<i>Ceriporiopsis mucidus</i>	<i>Inonotus subiculosus</i>
<i>Ceriporiopsis pannocinctus</i>	<i>Inonotus tomentosus</i>
<i>Ceriporiopsis rivulosus</i>	<i>Irpex lacteus</i>
<i>Cerrera unicolor</i>	<i>Ischnoderma resinosum</i>
<i>Climacocystis borealis</i>	<i>Jahnoporus hirtus</i>
<i>Coltricia cinnamomea</i>	<i>Junghuhnia collabens</i>
<i>Coltricia perennis</i>	<i>Junghuhnia luteoalba</i>
<i>Coriolopsis gallica</i>	<i>Junghuhnia nitida</i>
<i>Cryptoporus volvatus</i>	<i>Junghuhnia separabilima</i>

<sup>2</sup> Rare: addition to Gilbertson and Ryvarden (1986–1987).



<i>Junghuhnia zonata</i>	<i>Phellinus tremulae</i>
<i>Laetiporus sulphureus</i>	<i>Phellinus viticola</i>
<i>Lenzites betulina</i>	<i>Phellinus weirii</i>
<i>Leptoporus mollis</i>	<i>Physisporinus sanguinolentus</i>
<i>Meruliporia incrassata</i>	<i>Physisporinus vitreus</i>
<i>Oligoporia anguloporus</i>	<i>Piptoporus betulinus</i>
<i>Oligoporia balsameus</i>	<i>Polyporoletus sublividus</i> <sup>3</sup>
<i>Oligoporia caesius</i>	<i>Polyporus alveolaris</i>
<i>Oligoporia fragilis</i>	<i>Polyporus arcularis</i>
<i>Oligoporia guttulatus</i>	<i>Polyporus badius</i>
<i>Oligoporia leucospongia</i>	<i>Polyporus brumalis</i>
<i>Oligoporia mappus</i>	<i>Polyporus elegans</i>
<i>Oligoporia obducta</i>	<i>Polyporus melanopus</i>
<i>Oligoporia perdelicatus</i>	<i>Polyporus squamosus</i>
<i>Oligoporia placentus</i>	<i>Polyporus varius</i>
<i>Oligoporia sericeomollis</i>	<i>Pycnoporellus alboluteus</i>
<i>Oligoporia stipticus</i>	<i>Pycnoporellus fulgens</i>
<i>Oligoporia tephroleucus</i>	<i>Pycnoporus cinnabarinus</i>
<i>Oligoporia undosus</i>	<i>Rigidoporus crocatus</i>
<i>Oxyporus corticola</i>	<i>Skeletocutis alutacea</i>
<i>Oxyporus cuneatus</i>	<i>Skeletocutis amorpha</i>
<i>Oxyporus latemarginatus</i>	<i>Skeletocutis nivea</i>
<i>Oxyporus populinus</i>	<i>Skeletocutis stellae</i>
<i>Oxyporus similis</i>	<i>Spongipellis delectans</i>
<i>Perenniporia medulla-panis</i>	<i>Spongipellis spumeus</i>
<i>Perenniporia subacida</i>	<i>Trametes cervina</i>
<i>Perenniporia tenuis</i> var. <i>pulchella</i>	<i>Trametes hirsuta</i>
<i>Phaeollus schweinitzii</i>	<i>Trametes ochracea</i>
<i>Phellinus chrysoloma</i>	<i>Trametes pubescens</i>
<i>Phellinus conchatus</i>	<i>Trametes versicolor</i>
<i>Phellinus ferreus</i>	<i>Trechispora mollusca</i>
<i>Phellinus ferrugineofuscus</i>	<i>Trichaptum abietinum</i>
<i>Phellinus ferruginosus</i>	<i>Trichaptum biforme</i>
<i>Phellinus hartigii</i>	<i>Trichaptum laricinum</i>
<i>Phellinus igniarius</i>	<i>Trichaptum subchartaceum</i>
<i>Phellinus laevigatus</i>	<i>Tyromyces chioneus</i>
<i>Phellinus nigrolimitatus</i>	<i>Tyromyces galactinus</i>
<i>Phellinus pini</i>	<i>Wolfiporia cocos</i>
<i>Phellinus punctatus</i>	<i>Wrightoporia lenta</i>
<i>Phellinus repandus</i>	

3 Rare: not seen for 30 years.

**APPENDIX 2** Aphyllophorales from British Columbia, excepting polypores and chanterelles, and terrestrial clavarioid fungi

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*Acanthophysium abietis* (Jackson & Lemke) Ginns & Lefebvre 1993  
*Acanthophysium cerussatum* (Bres.) Boidin 1986  
*Acanthophysium farlowii* (Burt) Ginns & Lefebvre 1993  
*Acanthophysium lividocoeruleum* (Karsten) Boidin 1986  
*Acanthophysium macrocystidiatum* (Lemke) Boidin 1986  
*Acanthophysium weirii* (Burt) Nakasone 1990  
*Aleurocystidiellum subcruentatum* (Berk. & Curtis) Lemke 1964  
*Aleurodiscus amorphus* (Pers.:Fr.) Schröter 1888  
*Aleurodiscus aurantius* (Pers.:Fr.) Schröter 1888  
*Aleurodiscus grantii* Lloyd 1920  
*Aleurodiscus occidentalis* Ginns 1990  
*Aleurodiscus penicillatus* Burt 1918  
*Aleurodiscus spiniger* D.P. Rogers & Lemke 1964  
*Amphinema byssoides* (Pers.:Fr.) Eriksson 1958  
*Amyloathelia amylaceus* (Bourd. & Galzin) Hjort. & Ryv. 1979  
*Amylobasidium tsugae* Ginns 1988  
*Amylocorticium cebennense* (Bourd.) Pouzar 1959  
*Amylocorticium subincarnatum* (Peck) Pouzar 1959  
*Amylocorticium subsulphureum* (Karsten) Pouzar 1959  
*Amylostereum chailletii* (Pers.:Fr.) Boidin 1958  
*Asterodon ferruginosus* Pat. 1894  
*Asterostroma andinum* Pat. 1893  
*Athelia cystidiolophora* Parm. 1967  
*Athelia decipiens* (Höhnelt & Litsch.) Eriksson 1958  
*Athelia epiphylla* Pers.:Fr. 1822  
*Athelia laxa* (Burt) Jülich 1972  
*Athelia munda* (Jackson & Dearden) M. Christiansen 1960  
*Athelia salicum* Pers. 1822  
*Athelia scutellare* (Berk. & Curtis) Gilbn. 1974  
*Athelopsis subinconspicua* (Litsch.) Jülich 1975  
*Auricularia auricula-judae* (Bull.:Fr.) Wettst. 1885  
*Auriscalpium vulgare* S.F. Gray 1821  
*Basidiodendron caesiocinerea* (Höhnelt & Litsch.) Luck-Allen 1963  
*Basidiodendron cinerea* (Bres.) Luck-Allen 1963  
*Basidiodendron eyrei* (Wakef.) Luck-Allen 1963  
*Basidiodendron fulvum* (Masse) Ginns 1982  
*Basidioradulum radula* (Fr.:Fr.) Nobles 1967  
*Boidinia furfuraceum* (Bres.) Stalpers & Hjort. 1982  
*Boidinia propinqua* (Jackson & Dearden) Hjort. & Ryv. 1988  
*Boreostereum radiatum* (Peck) Parm. 1968  
*Botryobasidium ansosum* (Jackson & D.P. Rogers) Parm. 1968  
*Botryobasidium danicum* Eriksson & Hjort. 1969  
*Botryobasidium pruinatum* (Bres.) Eriksson 1958  
*Botryobasidium subcoronatum* (Höhnelt & Litsch.) Donk 1931  
*Botryobasidium vagum* (Berk. & Curtis) D.P. Rogers 1935

*Botryohypochnus isabellinus* (Fr.) Eriksson 1958  
*Butlerelfia eustacei* Weresub & Illman 1980  
*Calathella eruciformis* var. *eruciformis* (Batsch:Fr.) D. Reid 1964  
*Calocera cornea* (Batsch:Fr.) Fr. 1827  
*Calocera viscosa* (Pers.:Fr.) Fr. 1827  
*Calyptella capula* (Holmsk.:Fr.) Quél. 1888  
*Ceraceomyces borealis* (Romell) Eriksson & Ryv. 1973  
*Ceraceomyces serpens* (Tode:Fr.) Ginns 1976  
*Ceraceomyces sublaevis* (Bres.) Jülich 1972  
*Ceraceomyces sulphurinus* (Karsten) Eriksson & Ryv. 1978  
*Ceraceomyces tessulatus* (Cooke) Jülich 1972  
*Cerinomyces crustulinus* (Bourd. & Galzin) G.W. Martin 1949  
*Chaetodermella luna* (D.P. Rogers & Jackson) Rauschert 1988  
*Chondrostereum purpureum* (Pers.:Fr.) Pouzar 1959  
*Clavicornia piperata* (Kauffm.) Leathers & A.H. Sm. 1967  
*Clavicornia taxophila* (Thom) Doty 1947  
*Clavulicium macounii* (Burt) Eriksson & Boidin 1968  
*Coniophora arida* var. *arida* (Fr.) Karsten 1868  
*Coniophora fusispora* (Cooke & Ellis) Sacc. 1888  
*Coniophora olivacea* (Fr.:Fr.) Karsten 1882  
*Coniophora puteana* (Schum.:Fr.) Karsten 1868  
*Corticium boreoroseum* Boidin & Lanquetin 1983  
*Corticium minnsiae* (Jackson) Boidin & Lanquetin 1983  
*Corticium roseum* Pers.:Fr. 1794  
*Cristinia helvetica* (Pers.) Parm. 1968  
*Cristinia mucida* (Bourd. & Galzin) Eriksson & Ryv. 1975  
*Crustoderma dryinum* (Berk. & Curtis) Parm. 1968  
*Crustoderma longicystidia* (Litsch.) Nakasone 1984  
*Crustoderma resinsum* (Jackson & Dearden) Gilbn. 1981  
*Crustoderma testatum* (Jackson & Dearden) Nakasone 1985  
*Crustomyces expallens* (Bres.) Hjort. 1987  
*Crustomyces pini-canadensis* ssp. *pini-canadensis* (Schw.) Jülich 1978  
*Crustomyces pini-canadensis* ssp. *subabruptus* (Bourd. & Galzin) Ginns & Lefebvre 1993  
*Cylindrobasidium corrugum* (Burt) Ginns 1982  
*Cylindrobasidium laeve* (Pers.:Fr.) Chamuris 1984  
*Cyphellopsis anomala* (Pers.:Fr.) Donk 1931  
*Cyphellopsis confusa* (Bres.) D. Reid 1964  
*Cyphellopsis subglobispora* D. Reid 1961  
*Cyphellostereum laeve* (Fr.) D. Reid 1965  
*Cystostereum murrainii* (Berk. & Curtis) Pouzar 1959  
*Cytidia salicina* (Fr.) Burt 1924  
*Dacrymyces aquaticus* Bandoni & G.C. Hughes 1984  
*Dacrymyces capitatus* Schw. 1832  
*Dacrymyces chrysocomus* (Bull.:Fr.) Tul. 1853  
*Dacrymyces chrysospermus* Berk. & Curtis 1873  
*Dacrymyces dictyosporus* G.W. Martin 1958  
*Dacrymyces minutus* (Olive) McNabb 1973  
*Dacrymyces ovisporus* Bref. 1888

*Dacryobolus karstenii* (Bres.) Parm. 1968  
*Dacryobolus sudans* (Alb. & Schw.:Fr.) Fr. 1849  
*Dacryonaema rufum* (Fr.:Fr.) Nannf. 1947  
*Dendrothele candida* var. *candida* (Schw.:Fr.) Lemke 1965  
*Dendrothele incrustans* (Lemke) Lemke 1965  
*Dichostereum boreale* (Pouzar) Ginns & Lefebvre\*  
*Dichostereum effuscatum* (Cooke & Ellis) Boidin & Lanquetin 1977  
*Dichostereum pallescens* (Schw.) Boidin & Lanquetin 1977  
*Ditiola radicata* var. *radicata* (Alb. & Schw.):Fr. 1822  
*Echinodontium tinctorium* (Ellis & Ev.) Ellis & Ev. 1900  
*Eichleriella deglubens* (Berk. & Br.) D. Reid 1970  
*Entomocorticium dendroctoni* H.S. Whitney 1987  
*Exidia candida* Lloyd 1916  
*Exidia crenata* (Schw.) Fr. 1823  
*Exidia glandulosa* (Bull.) Fr. 1822  
*Exidia glandulosa* forma *populi* Neuhoff 1936  
*Exidia saccharina* (Alb. & Schw.):Fr. 1822  
*Exidiopsis diversa* Wells 1987  
*Exidiopsis fuliginea* Rick 1906  
*Exidiopsis macrospora* (Ellis & Ev.) Wells 1961  
*Exidiopsis paniculata* Wells & Bandoni 1987  
*Exidiopsis plumbescens* (Burt) Wells 1957  
*Femsjonia peziziformis* (Lév.) Karsten 1876  
*Fibricium lapponicum* Eriksson 1958  
*Fibricium rude* (Karsten) Jülich 1974  
*Fibulomyces mutabilis* (Bres.) Jülich 1972  
*Fibulomyces septentrionalis* (Eriksson) Jülich 1972  
*Flagelloscypha minutissima* (Burt) Donk 1951  
*Flavophlebia sulfureo-isabellina* (Litsch.) Larsson & Hjort. 1977  
*Galzinia incrustans* (Höhnelt & Litsch.) Parm. 1965  
*Gloeocystidiellum clavuligerum* (Höhnelt & Litsch.) Nakasone 1982  
*Gloeocystidiellum karstenii* (Bourd. & Galzin) Donk 1956  
*Gloeocystidiellum lactescens* (Berk.) Boidin 1951  
*Gloeocystidiellum leucoxanthum* (Bres.) Boidin 1951  
*Gloeocystidiellum ochraceum* (Fr.) Donk 1956  
*Gloeocystidiellum porosum* (Berk. & Curtis) Donk 1931  
*Gloeodontia columbiensis* Burdsall & Lombard 1976  
*Gloiodon occidentale* Ginns 1988  
*Guepiniopsis buccina* (Pers.:Fr.) Kennedy 1959  
*Helicobasidium brebissonii* (Desm.) Donk 1958  
*Helicogloea lagerheimii* Pat. 1892  
*Henningsomyces candidus* (Pers.:Fr.) Kuntze 1898  
*Henningsomyces pubera* (W.B. Cooke) D. Reid 1964  
*Heridium abietis* (Hubert) Harrison 1964  
*Heridium americanum* Ginns 1984  
*Heridium coralloides* (Scop.:Fr.) S.F. Gray 1821  
*Heterotextus alpinus* (Tracy & Earle) G.W. Martin 1932  
*Heterotextus luteus* (Bres.) McNabb 1965  
*Hymenochaete badio-ferruginea* (Mont.) Lév. 1846

*Hymenochaete cinnamomea* (Pers.:Fr.) Bres. 1897  
*Hymenochaete fuliginosa* (Pers.) Lév. sensu Burt 1918  
*Hymenochaete rubiginosa* (Dickson:Fr.) Lév. 1846  
*Hymenochaete spreta* Peck 1879  
*Hymenochaete tabacina* (Sowerby:Fr.) Lév. 1846  
*Hymenochaete tenuis* Peck 1887  
*Hyphoderma amoenum* (Burt) Donk 1957  
*Hyphoderma deviatum* (Lundell) Eriksson & Ryv. 1976  
*Hyphoderma guttuliferum* (Karsten) Donk 1962  
*Hyphoderma inusitata* (Jackson & Dearden) Ginns 1984  
*Hyphoderma medioburiense* (Burt) Donk 1957  
*Hyphoderma mutatum* (Peck) Donk 1957  
*Hyphoderma pallidum* (Bres.) Donk 1957  
*Hyphoderma praetermissum* (Karsten) Eriksson & Strid 1975  
*Hyphoderma puberum* (Fr.) Wallr. 1833  
*Hyphoderma roseocremeum* (Bres.) Donk 1957  
*Hyphoderma sambuci* (Pers.) Jülich 1974  
*Hyphoderma setigerum* (Fr.) Donk 1957  
*Hyphodermella corrugata* (Fr.) Eriksson & Ryv. 1976  
*Hyphodontia abieticola* (Bourd. & Galzin) Eriksson 1958  
*Hyphodontia alutacea* (Fr.) Eriksson 1958  
*Hyphodontia arguta* (Fr.) Eriksson 1958  
*Hyphodontia barba-jovis* (Bull.) Eriksson 1958  
*Hyphodontia breviseta* (Karsten) Eriksson 1958  
*Hyphodontia crustosa* (Pers.:Fr.) Eriksson 1958  
*Hyphodontia floccosa* (Bourd. & Galzin) Eriksson 1958  
*Hyphodontia granulosa* (Pers.:Fr.) Ginns & Lefebvre 1993  
*Hyphodontia hastata* (Litsch.) Eriksson 1958  
*Hyphodontia pallidula* (Bres.) Eriksson 1958  
*Hyphodontia quercina* (Pers.:Fr.) Eriksson 1958  
*Hyphodontia spathulata* (Schrader:Fr.) Parm. 1968  
*Hyphodontia subalutacea* (Karsten) Eriksson 1958  
*Hypochnicium analogum* (Bourd. & Galzin) Eriksson 1958  
*Hypochnicium vellereum* (Ellis & Cragin) Parm. 1968  
*Hypochnopsis mustialaensis* (Karsten) Karsten 1889  
*Intextomyces contiguus* (Karsten) Eriksson & Ryv. 1976  
*Irpex lacteus* (Fr.:Fr.) Fr. 1825  
*Jaapia argillacea* Bres. 1911  
*Kavinia alboviridis* (Morgan) Gilbn. & Budington 1970  
*Kavinia himantia* (Schw.) Eriksson 1958  
*Lachnella alboviolascens* (Alb. & Schw.:Fr.) Fr. 1849  
*Lachnella villosa* (Pers.:Fr.) Gill. 1880  
*Laurilia sulcata* (Burt) Pouzar 1959  
*Laxitextum bicolor* (Pers.:Fr.) Lentz 1955  
*Leptosporomyces fuscostratus* (Burt) Hjort. 1987  
*Leptosporomyces galzinii* (Bourd.) Jülich 1972  
*Leucogyrophana mollusca* (Fr.) Pouzar 1958  
*Leucogyrophana pinastri* (Fr.:Fr.) Ginns & Weresub 1976  
*Leucogyrophana pulverulenta* (Sowerby:Fr.) Ginns 1978

*Leucogyrophana romellii* Ginns 1978  
*Limonomyces culmigenus* (J. Webster & D. Reid) Stalpers & Loerakker 1982  
*Lindtneria leucobryophila* (Henn.) Jülich 1977  
*Melzericium udicolum* (Bourd.) Hauerslev 1975  
*Merismodes fasciculatus* var. *fasciculatus* (Schw.) Earle 1909  
*Merismodes ochraceus* (Hoffm.:Fr.) D. Reid 1964  
*Meruliopsis albostramineus* (Torr.) Jülich & Stalpers 1980  
*Meruliopsis ambiguus* (Berk.) Ginns 1976  
*Meruliopsis corium* (Pers.:Fr.) Ginns 1976  
*Meruliopsis taxicola* (Pers.:Fr.) Bondartsev 1959  
*Metulodontia nivea* (Karsten) Parm. 1968  
*Mucronella aggregata* Fr. 1863  
*Mucronella bresadolae* (Quél.) Corner 1970  
*Mucronella calva* (Alb. & Schw.:Fr.)Fr. 1874  
*Mycoacia aurea* (Fr.) Eriksson & Ryv. 1976  
*Mycoacia uda* (Fr.) Donk 1931  
*Myxarium atratum* (Peck) Ginns & Lefebvre 1993  
*Odonticum romellii* (Lundell) Parm. 1968  
*Pellidiscus pallidus* (Berk. & Br.) Donk 1959  
*Peniophora aurantiaca* (Bres.) Höhnelt & Litsch. 1906  
*Peniophora cinerea* (Pers.:Fr.) Cooke 1879  
*Peniophora decorticans* Burt 1926  
*Peniophora incarnata* (Pers.:Fr.) Karsten 1889  
*Peniophora piceae* (Pers.) Eriksson 1950  
*Peniophora pithya* (Pers.) Eriksson 1950  
*Peniophora polygonia* (Pers.:Fr.) Bourd. & Galzin 1928  
*Peniophora pseudopini* Weresub & S. Gibson 1960  
*Peniophora rufa* (Fr.) Boidin 1959  
*Peniophora septentrionalis* Laurila 1939  
*Peniophora unica* Jackson & Dearden 1949  
*Phanerochaete affinis* (Burt) Parm. 1968  
*Phanerochaete carnosae* (Burt) Parm. 1967  
*Phanerochaete chrysosporium* Burdsall 1974  
*Phanerochaete sanguinea* (Fr.) Pouzar 1973  
*Phanerochaete sordida* (Karsten) Eriksson & Ryv. 1978  
*Phanerochaete tuberculata* (Karsten) Parm. 1968  
*Phanerochaete velutina* (DC.:Fr.) Karsten 1898  
*Phlebia albida* Post 1863  
*Phlebia centrifuga* Karsten 1881  
*Phlebia coccineofulva* Schw. 1832  
*Phlebia cretacea* (Bourd. & Galzin) Eriksson & Hjort. 1981  
*Phlebia deflectens* (Karsten) Ryv. 1971  
*Phlebia livida* (Pers.:Fr.) Bres. 1897  
*Phlebia radiata* Fr  
*Phlebia rufa* (Pers.:Fr.) M. Christiansen 1960  
*Phlebia segregata* (Bourd. & Galzin) Parm. 1967  
*Phlebia separata* (Jackson & Dearden) Parm. 1967  
*Phlebia serialis* (Fr.) Donk 1957  
*Phlebia subserialis* (Bourd. & Galzin) Donk 1957

*Phlebia tremellosus* (Schrader:Fr.) Nakasone & Burdsall 1984  
*Phlebiella filicina* (Bourd.) Larsson & Hjort. 1987  
*Phlebiella inopinata* (Jackson) Larsson & Hjort. 1987  
*Phlebiella pseudotsugae* (Burt) Larsson & Hjort. 1987  
*Phlebiella ralla* (Jackson) Larsson & Hjort. 1987  
*Phlebiella sulphurea* (Pers.:Fr.) Ginns & Lefebvre 1993  
*Phlebiella tulasnelloideum* (Höhnelt & Litsch.) Ginns & Lefebvre 1993  
*Phlebiopsis gigantea* (Fr.) Jülich 1978  
*Phlebiopsis ravenelii* (Cooke) Hjort. 1987  
*Piloderma byssinum* var. *byssinum* (Karsten) Jülich 1969  
*Piloderma fallax* (Libert) Stalpers 1984  
*Piloderma olivaceum* (Parm.) Hjort. 1984  
*Pirex concentricus* (Cooke & Ellis) Hjort. & Ryv. 1985  
*Platyglea fimetaria* (Schum.) Höhnelt 1917  
*Platyglea peniophorae* var. *peniophorae* Bourd. & Galzin 1909  
*Platyglea pustulata* G.W. Martin & Cain 1940  
*Platyglea sebacea* (Berk. & Br.) McNabb 1965  
*Platyglea vestita* Bourd. & Galzin 1923  
*Plicatura crispa* (Pers.:Fr.) Rea 1922  
*Plicatura nivea* (Fr.) Karsten 1889  
*Protodontia oligacantha* G.W. Martin 1953  
*Pseudohydnum gelatinosum* (Scop.:Fr.) Karsten 1868  
*Pseudomerulius aureus* (Fr.) Jülich 1979  
*Pseudotomentella atrofusca* Larsen 1972  
*Pseudotomentella humicola* Larsen 1968  
*Pseudotomentella mucidula* (Karsten) Svrcek 1958  
*Pseudotomentella nigra* (Höhnelt & Litsch.) Svrcek 1960  
*Pseudotomentella tristis* (Karsten) Larsen 1972  
*Pseudotomentella vepallidospora* Larsen 1967  
*Punctularia strigoso-zonata* (Schw.) Talbot 1958  
*Radulodon americanus* Ryv. 1972  
*Radulomyces cremoricolour* (Berk. & Curtis) Ginns & Lefebvre 1993  
*Radulomyces notabilis* (Jackson) Parm. 1968  
*Ramaricium albo-ochraceum* (Bres.) Jülich 1977  
*Ramaricium flavomarginatum* (Burt) Ginns 1979  
*Repetobasidium canadense* Eriksson & Hjort. 1981  
*Repetobasidium conicum* (Oberw.) Eriksson & Hjort. 1981  
*Repetobasidium macrosporum* (Oberw.) Eriksson & Hjort. 1981  
*Repetobasidium mirificum* Eriksson 1958  
*Resinicium bicolor* (Alb. & Schw.:Fr.) Parm. 1968  
*Resinicium furfuraceum* (Bres.) Parm. 1968  
*Resinicium praeteritum* (Jackson & Dearden) Ginns & Lefebvre 1993  
*Schizophyllum commune* Fr.:Fr. 1815  
*Scopuloides rimosa* (Cooke) Jülich 1982  
*Scytinostroma arachnoideum* (Peck) Gilbn. 1962  
*Scytinostroma galactinum* (Fr.) Donk 1956  
*Scytinostroma jacksonii* Boidin 1981  
*Scytinostroma ochroleucum* (Bres. & Torrend) Donk 1956  
*Scytinostroma portentosum* (Berk. & Curtis) Donk 1956

*Scytinostromella heterogenea* (Bourd. & Galzin) Parm. 1968  
*Scytinostromella humifaciens* (Burt) Freeman & Petersen 1979  
*Serpula himantioides* (Fr.:Fr.) Karsten 1889  
*Serpula incrassata* (Berk. & Curtis) Donk 1948  
*Serpula lacrimans* var. *lacrimans* (Jacq.:Fr.) Schröter 1888  
*Sistotrema adnatum* Hallenb. 1984  
*Sistotrema athelioides* Hallenb. 1984  
*Sistotrema binucleosporum* Hallenb. 1984  
*Sistotrema brinkmannii* (Bres.) Eriksson 1948  
*Sistotrema farinaceum* Hallenb. 1984  
*Sistotrema oblongisporum* M. Christiansen & Hauerslev 1960  
*Sistotrema porulosum* Hallenb. 1984  
*Sistotrema raduloides* (Karsten) Donk 1956  
*Sistotrema resinicystidium* Hallenb. 1980  
*Sistotremastrum niveocremeum* (Höhnelt & Litsch.) Eriksson 1958  
*Sparassis crispa* Wulfen:Fr. 1781  
*Steccherinum ciliolatum* (Berk. & Curtis) Gilbn. & Budington 1970  
*Steccherinum fimbriatum* (Pers.:Fr.) Eriksson 1958  
*Steccherinum ochraceum* (Pers.:Fr.) S.F. Gray 1821  
*Stereopsis humphreyi* (Burt) Redhead & D. Reid 1983  
*Stereum atrorubrum* Ellis & Ev. 1890  
*Stereum complicatum* (Fr.) Fr. 1838  
*Stereum gausapatum* (Fr.) Fr. 1874  
*Stereum hirsutum* (Willd.:Fr.) S.F. Gray 1821  
*Stereum ochraceoflavum* (Schw.) Peck 1869  
*Stereum ostrea* (Blume & Nees:Fr.) Fr. 1838  
*Stereum rugosum* Pers.:Fr. 1794  
*Stereum sanguinolentum* (Alb. & Schw.:Fr.) Fr. 1838  
*Stigmatolemma poriaeforme* (Pers.:Fr.) Singer 1962  
*Stromatocyphella conglobata* (Burt) W.B. Cooke 1961  
*Subulicystidium longisporum* (Pat.) Parm. 1968  
*Thanatephorus cucumeris* (A.B. Frank) Donk 1956  
*Thujacorticium mirabile* Ginns 1988  
*Tomentella avellanea* (Burt) Bourd. & Galzin 1924  
*Tomentella bryophila* (Pers.) Larsen 1974  
*Tomentella caerulea* (Bres.) Höhnelt & Litsch. 1907  
*Tomentella calcicola* (Bourd. & Galzin) Larsen 1967  
*Tomentella chlorina* (Masse) G.H. Cunn. 1953  
*Tomentella cinerascens* (Karsten) Höhnelt & Litsch. 1906  
*Tomentella ellisii* (Sacc.) Jülich & Stalpers 1980  
*Tomentella ferruginea* (Pers.) Pat. 1887  
*Tomentella kootenaiensis* Larsen 1975  
*Tomentella neobourdotii* Larsen 1968  
*Tomentella nitellina* Bourd. & Galzin 1924  
*Tomentella ramosissima* (Berk. & Curtis) Wakef. 1960  
*Tomentella sublilacina* (Ellis & Holway) Wakef. 1960  
*Tomentella terrestris* (Berk. & Br.) Larsen 1974  
*Tomentellina fibrosa* (Berk. & Curtis) Larsen 1974  
*Trechispora microspora* (Karsten) Liberta 1966



*Trechispora mollusca* (Pers.:Fr.) Liberta 1973  
*Tremella aurantia* Schw.:Fr. 1822  
*Tremella encephala* Pers.:Fr. 1801  
*Tremella foliacea* Pers.:Fr. 1799  
*Tremella globospora* D. Reid 1970  
*Tremella mesenterica* Retz.:Fr. 1769  
*Tremella polyporina* D. Reid 1970  
*Tremiscus helvelloides* (DC.:Fr.) Donk 1958  
*Tubulicium vermiferum* (Bourd.) Jülich 1979  
*Tubulicrinis accedens* (Bourd. & Galzin) Donk 1956  
*Tubulicrinis angustus* (D.P. Rogers & Weresub) Donk 1956  
*Tubulicrinis borealis* Eriksson 1958  
*Tubulicrinis calothrix* (Pat.) Donk 1956  
*Tubulicrinis chaetophorus* (Höhnelt) Donk 1956  
*Tubulicrinis globisporus* Larsson & Hjort. 1978  
*Tubulicrinis gracillimus* (D.P. Rogers & Jackson) G.H. Cunn. 1963  
*Tubulicrinis juniperinus* (Bourd. & Galzin) Donk 1956  
*Tubulicrinis subulatus* (Bourd. & Galzin) Donk 1956  
*Tulasnella violea* (Quél.) Bourd. & Galzin 1909  
*Uthatabasidium fusisporum* (Schröter) Donk 1958  
*Uthatabasidium ochraceum* (Masse) Donk 1958  
*Vararia racemosa* (Burt) D.P. Rogers & Jackson 1943  
*Veluticeps abietina* (Pers.:Fr.) Hjort. & Tellería 1990  
*Veluticeps fimbriata* (Ellis & Ev.) Nakasone 1990  
*Vesiculomyces citrinum* (Pers.) Hagström 1977  
*Xenasma rimicola* (Karsten) Donk 1957

**APPENDIX 3** Revised and annotated list of agarics, boletes, and cantharelloid genera reported from British Columbia up to 1993.

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**Agaricus** No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Agaricus abruptibulbus***

as *Psalliota abruptibulba*

Davidson 1930

***Agaricus arvensis***

Hardy 1946

Lowe 1969

Bandoni & Szczawinski 1976

Ammirati et al. 1985

***Agaricus augustus***

Smith 1949

Bandoni & Szczawinski 1964

Lowe 1969

Bandoni & Szczawinski 1976

Lincoff 1981

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Agaricus bisporus***

Lowe 1969

Kerrigan & Ross 1989

Kerrigan 1990

also as *Agaricus brunnescens*

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Agaricus campestris***

Hardy 1947

Bandoni & Szczawinski 1964

Bandoni & Szczawinski 1976

also as *Psalliota campestris*

Hardy 1954

***Agaricus haemorrhoidarius***

Hotson & Stuntz 1938

Lowe 1969

also as *Psalliota haemorrhodaria*

Davidson 1930

***Agaricus hondensis***

Smith 1949

Smith 1975  
Bandoni & Szczawinski 1976  
Smith et al. 1979  
Lincoff 1981  
Ammirati et al. 1985  
Cochran 1988  
Schalkwijk-Barendsen 1991a  
also as *Agaricus hillii*  
Murrill 1912c  
Hotson & Stuntz 1938  
Lowe 1969

***Agaricus praeclaresquamosus***

This species, *per se*, has not been reported from British Columbia but most western North American reports of *A. meleagris* and *A. placomyces* refer to this species. The following references to these species probably refer to *A. praeclaresquamosus*

as *Agaricus meleagris*  
Ammirati et al. 1985  
as *Agaricus placomyces*  
Hardy 1946  
Bandoni & Szczawinski 1964  
Melburn 1967  
Lowe 1969  
Bandoni & Szczawinski 1976  
as *Psalliota placomyces*  
Davidson 1930  
Hardy 1954

***Agaricus silvaticus***

Melburn 1967  
Lowe 1969  
Bandoni & Szczawinski 1976  
also as *Psalliota silvatica*  
Lowe 1954

***Agaricus silvicola***

Melburn 1961a  
Bandoni & Szczawinski 1964  
Melburn 1967  
Lowe 1969  
Bandoni & Szczawinski 1976  
Ammirati et al. 1985  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b  
also as *Psalliota silvicola*  
Hardy 1952a  
Hardy 1954

***Agaricus smithii***

This species, *per se*, has not been reported from British Columbia, but western authors had previously been using the name *Agaricus perrarus* for the species. The following reports possibly refer to *A. smithii*

as *Agaricus perrarus*

Lowe 1969

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Agaricus subrufescens***

Lowe 1969

also as *Psalliota subrufescens*

Davidson 1930

***Agaricus xanthodermus***

Lowe 1969

***Agrocybe***

No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Agrocybe acericola***

as *Pholiota acericola*

Lowe 1969

***Agrocybe arvalis***

Redhead & Kroeger 1987

***Agrocybe molesta***

as *Agrocybe dura*

Bandoni & Szczawinski 1976

***Agrocybe praecox***

Bandoni & Szczawinski 1976

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Agrocybe semiorbicularis***

as *Naucoria semiorbicularis*

Davidson 1930

Lowe 1969

***Amanita***

No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Amanita calyptrata***

McKnight & McKnight 1987

also as *Amanita calypetroderma*

Bandoni & Szczawinski 1964  
Lowe 1969  
Bandoni & Szczawinski 1976

***Amanita gemmata***

Bandoni & Szczawinski 1976  
Jenkins 1977  
Bandoni & McLennan 1978  
Ammirati et al. 1985  
also as *Amanita junquillea*  
Bandoni & Szczawinski 1976

***Amanita muscaria***

Davidson 1930  
Hardy 1947  
Hardy 1948a  
Hardy 1952b  
Lowe 1954  
Bandoni & Szczawinski 1964  
Melburn 1967  
Lowe 1969  
Bandoni & Szczawinski 1976  
Ammirati et al. 1985  
Redhead 1987b  
Goward & Hickson 1989  
also as *Amanita muscaria* var. *muscaria*  
Jenkins 1977

***Amanita pantherina***

Groves 1962  
Bandoni & Szczawinski 1964  
Lowe 1969  
Bandoni & Szczawinski 1976  
Bandoni 1977  
Hunt & Funk 1977  
Bandoni & McLennan 1978  
Ammirati et al. 1985  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b  
also as *Amanita pantherina* var. *pantherina*  
Jenkins 1977

***Amanita porphyria***

Bandoni & Szczawinski 1964  
Bandoni & Szczawinski 1976  
Goward & Hickson 1989  
Gamiet & Berch 1992

***Amanita silvicola***

Bandoni & Szczawinski 1964  
Bas 1969  
Bandoni & Szczawinski 1976

***Amanita smithiana***

Lampe 1989  
Tulloss & Lindgren 1992

***Amanita solitaria***

Lowe 1969

***Amanita strobiliformis***

Lowe 1969

***Amanita verna***

Bandoni & Szczawinski 1976  
Bandoni & McLennan 1978  
Turner & Szczawinski 1991

***Amanita vaginata***

as *Amanitopsis vaginata*

Hardy 1947  
Melburn 1968  
Lowe 1969

***Anellaria***

This is a segregate of *Panaeolus*. *A. semiovata* has been confirmed from British Columbia but *A. sepulchralis* requires rediscovery.

***Anellaria sepulchralis***

as *Panaeolus solidipes*

Davidson 1930

***Anellaria semiovata***

as *Anellaria separata*

Cheesman 1910

***Armillaria***

The genus *Armillaria* has been interpreted in many ways, but is here restricted to species allied to *A. mellea*, formerly called *Armillariella* species, and does not cover species such as the pine mushroom, *Tricholoma magnivelare* (also known as *Armillaria ponderosa*). The name *Armillaria mellea* was until this decade applied in a generic fashion and most early reports cannot be attributed to any of the recently split species in the complex. These have been either named or assigned intersterility numbers (Roman numerals or other designations); for example, *A. mellea* (ix). *Armillaria mellea sensu stricto* has not been recorded from British Columbia.

***Armillaria bulbosa***

Morrison et al. 1985a  
Morrison et al. 1985b

***Armillaria mellea* sensu lato** (see *A. mellea* segregates below)

Davidson 1930  
Jones 1937  
Bier et al. 1946  
Buckland 1946  
Hardy 1946  
Bier et al. 1948  
Nobles 1948  
Bier 1949  
Buckland et al. 1949  
Hardy 1949b  
Foster & Foster 1951  
Hardy 1952a  
Hardy 1952b  
Thomas & Podmore 1953  
Foster et al. 1954  
Hardy 1954  
Thomas & Thomas 1954  
Melburn 1956  
Foster et al. 1958  
Bandoni & Szczawinski 1964  
Lowe 1969  
Pilley & Trieselmann 1969  
Smith, R.B. et al. 1970  
Lawrence & Hiratsuka 1972d  
Bandoni & Szczawinski 1976  
Turner 1978  
Martin & Gilbertson 1980  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b  
Gamiet & Berch 1992  
also as *Armillariella mellea*  
Bandoni & McLennan 1978  
Ammirati et al. 1985  
Goward & Hickson 1989

***Armillaria mellea* (F)**

Morrison et al. 1985b

***Armillaria mellea* (I)**

Anderson & Ullrich 1979

***Armillaria mellea* (IV)**

Anderson & Ullrich 1979

*Armillaria mellea* (v)  
Morrison et al. 1985b  
Anderson et al. 1987

*Armillaria mellea* (ix)  
Anderson & Ullrich 1979  
Morrison et al. 1985b  
Anderson 1986  
Anderson et al. 1987

*Armillaria mellea* (x)  
Morrison et al. 1985b  
Anderson et al. 1987

*Armillaria ostoyae*  
Hood & Morrison 1984  
Morrison et al. 1985  
Morrison et al. 1985b  
Berube & Dessureault 1988  
Morrison et al. 1988  
Morrison et al. 1989  
Wood & Van Sickle 1989  
Morrison 1991  
originally as *Armillaria mellea fide*  
Morrison 1974  
Morrison 1982  
Morrison 1991

*Armillaria sinapina*  
Berube & Dessureault 1988

**Arrhenia** A Canadian monograph exists, but additional species are to be expected in British Columbia.

*Arrhenia acerosa*  
Redhead 1984a

*Arrhenia retiruga*  
Redhead 1984a

**Baeospora** This is a small genus with one other species, *B. myriadophylla*, known from British Columbia.

*Baeospora myosura*  
Redhead 1989  
Rogers 1990



**Boletellus** No complete treatment of either Canadian or British Columbian species is available. Additional species may exist in British Columbia.

***Boletellus chrysenteroides***

Schisler & Volkoff 1977

**Boletinus** A single species is known from Canada.

***Boletinus cavipes***

Bandoni & Szczawinski 1964

also as *Suillus cavipes*

Schisler & Volkoff 1977

**Boletus** No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Boletus barrowsii***

Kroeger 1991b

***Boletus chrysenteron***

Hardy 1949b

Hardy 1952a

Lowe 1954

Schisler & Volkoff 1977

***Boletus edulis***

Bandoni & Szczawinski 1964

Lowe 1969

Bandoni & Szczawinski 1976

Schisler & Volkoff 1977

Kroeger 1989b

***Boletus mirabilis***

Bandoni & Szczawinski 1964

Bandoni & Szczawinski 1976

Schisler & Volkoff 1977

Redhead 1989

Rogers 1990

also as *Boletellus mirabilis*

Lowe 1969

***Boletus piperatus***

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Boletus pulcherrimus***

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Boletus subtomentosus***  
as *Xerocomus subtomentosus*  
Lowe 1969

***Boletus zelleri***  
Bandoni & Szczawinski 1964  
Melburn 1965a  
Melburn 1965b  
Melburn 1966  
Melburn 1968  
Bandoni & Szczawinski 1976  
Bandoni 1977  
Schisler & Volkoff 1977  
Bandoni & McLennan 1978  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b  
also as *Boletellus zelleri*  
Snell et al. 1959  
Lowe 1969

***Callistosporium*** A small genus with only one or two species in Canada.

***Callistosporium luteo-olivaceum***  
Redhead 1982e

***Camarophyllus*** A North American monograph by Hesler and Smith (1963) is available. However, no complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported.

***Camarophyllus borealis***  
as *Hygrophorus borealis*  
Melburn 1970

***Camarophyllus pratensis***  
as *Hygrophorus pratensis*  
Hardy 1954

***Cantharellula*** A single species occurs in Canada.

***Cantharellula umbonata***  
Redhead & Malloch 1986b  
Redhead 1989b

***Cantharellus*** A relatively small genus but no critical treatment of Canadian species exists. Debate exists over species concepts.

***Cantharellus cibarius***  
Cheesman 1910  
Hardy 1947

Bandoni & Szczawinski 1964  
Lowe 1969  
Bandoni & Szczawinski 1976  
Turner 1978  
Bandoni & McLennan 1978  
Leichter & Bandoni 1980  
Goward & Hickson 1989  
Kroeger 1989b  
Kroeger 1991b  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

***Cantharellus cinereus***

Melburn 1968

***Cantharellus cinnabarinus***

Lowe 1969

***Cantharellus formosus***

Corner 1966

Thiers 1985

***Cantharellus infundibuliformis***

Lowe 1969

***Cantharellus subalbidus***

Bandoni & Szczawinski 1964

Lowe 1969

Bandoni & Szczawinski 1976

***Cantharellus tubaeformis***

Lowe 1969

***Cheimonophyllum*** A single species occurs in Canada.

***Cheimonophyllum candidissimum***

as *Pleurotus candidissimus*

Davidson 1930

Lowe 1969

***Chroogomphus*** This is a segregate of *Gomphidius*. A North American monograph by Miller (1964) treats most Canadian species but contains few references to Canadian material.

***Chroogomphus leptocystis***

Miller 1964

also as *Gomphidius leptocystis*

Singer 1949

Lowe 1969

***Chroogomphus rutilus***

Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b  
also as *Gomphidius rutilus*  
Bandoni & Szczawinski 1976

***Chroogomphus tomentosus***

Redhead 1989  
also as *Gomphidius tomentosus*  
Bandoni & Szczawinski 1964  
Bandoni & Szczawinski 1976  
Gamiet & Berch 1992

***Chroogomphus vinicolor***

Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b  
also as *Gomphidius vinicolor*  
Singer 1949  
Lowe 1969

***Chrysomphalina***

A segregate of *Omphalina* only recently recognized. Two out of three North American species are known in British Columbia, and a third is to be expected. Species have been treated in the North American *Omphalina* monograph by Bigelow (1970).

***Chrysomphalina aurantiaca***

Redhead 1986b  
Redhead 1989  
also as *Omphalina luteicolor*  
Bigelow 1970

***Chrysomphalina chrysophylla***

Redhead 1986b  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

***Clitocybe***

No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Clitocybe avellaneialba***

Bandoni & Szczawinski 1976

***Clitocybe candida***

Davidson 1930  
Lowe 1969

***Clitocybe dealbata***

Bandoni & Szczawinski 1976

Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

***Clitocybe dilatata***

Bigelow 1965  
Bigelow 1982  
Ammirati et al. 1985  
also as *Clitocybe cerussata* var. *difformis*  
Bigelow 1959  
Lowe 1969

***Clitocybe gibba***

Bigelow 1968  
Lowe 1969  
also as *Clitocybe gibba* var. *gibba*  
Lowe 1969  
Bigelow 1985  
also as *Clitocybe infundibuliformis*  
Hardy 1946  
Hardy 1947  
Hardy 1954  
Lowe 1954

***Clitocybe gilvaoides***

Lowe 1969

***Clitocybe incomis***

Redhead 1984c

***Clitocybe nebularis***

Davidson 1930  
Hardy 1946  
Hardy 1954  
Bigelow 1965  
Lowe 1969  
Bigelow 1982  
McKnight & McKnight 1987

***Clitocybe odora***

Melburn 1960  
Bandoni & Szczawinski 1964  
Lowe 1969  
Bandoni & Szczawinski 1976  
Schalkwijk-Barendsen 1991a

***Clitocybe sinopica***

Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b  
as *Clitocybe sinopica* var. *sinopica*  
Bigelow 1985

*Clitocybe trullaeformis*

Bigelow 1982

*Clitocybe truncicola*

Lowe 1969

**Clitocybula** A North American monograph exists (Bigelow & Smith 1973), but no western Canadian records were included. Additional species are to be expected.

*Clitocybula atrialba*

as *Clitocybe atrialba*

Lowe 1969

Bandoni & Szczawinski 1976

**Clitopilus** No North American monograph exists and no complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported.

*Clitopilus hobsonii*

Kroeger 1989b

**Collybia** No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.

*Collybia acervata*

Melburn 1956

Bandoni & Szczawinski 1964

Lowe 1969

Bandoni & Szczawinski 1976

Martin & Gilbertson 1980

*Collybia bakerensis*

Desjardin & Halling 1987

Redhead 1989

*Collybia confluens*

Lowe 1969

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

Gamiet & Berch 1992

*Collybia contraria*

Halling 1983

*Collybia dryophila*

Davidson 1930

Hardy 1954

Lowe 1954

Lowe 1969  
Perrin & Koske 1973  
Bandoni & Szczawinski 1976  
Ammirati et al. 1985  
Ginns 1986

***Collybia oregonensis***

Gamiet & Berch 1992

**Conocybe** No North American monograph exists and no complete treatment of either Canadian or British Columbian species is available. Many other species exist in British Columbia and remain to be reported.

***Conocybe cyanopus***

Stamets 1978

***Conocybe filaris***

Ammirati et al. 1985

***Conocybe tenera***

Lowe 1969

also as *Galera tenera*

Davidson 1930

Melburn 1956

**Coprinus** No North American monograph exists and no complete treatment of either Canadian or British Columbian species is available. Many other species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Coprinus atramentarius***

Cheesman 1910

Hardy 1946

Melburn 1958

Melburn 1959

Bandoni & Szczawinski 1964

McClaren 1967

Bandoni & Szczawinski 1976

Bandoni 1977

Bandoni & McLennan 1978

Ammirati et al. 1985

***Coprinus congregatus***

as *Coprinus alkalinus*

Anastasiou 1967

Lowe 1969

***Coprinus cinereus* var. *cinereus***

Van De Bogart 1979

***Coprinus comatus***

Davidson 1930  
Hardy 1947  
Hardy 1949a  
Hardy 1952b  
Melburn 1959  
Bandoni & Szczawinski 1964  
Lowe 1969  
Bandoni & Szczawinski 1976  
Bandoni & McLennan 1978  
Turner 1978  
Morrison & Morrison 1980  
Goward & Hickson 1989

***Coprinus ephemerus***

Cheesman 1910

***Coprinus kubickae***

Redhead & Traquair 1981  
also as *Coprinus amphibius*  
Anastasiou 1967  
Lowe 1969

***Coprinus lagopus***

Hanna 1925

***Coprinus micaceus***

Davidson 1930  
Hardy 1947  
Hardy 1954  
Lowe 1954  
Melburn 1958  
Lowe 1969  
Perrin & Koske 1973  
Turner 1978  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

***Coprinus phaeosporus***

Redhead 1984b

***Coprinus psychromorbidus***

Redhead & Traquair 1981  
Traquair 1982  
Traquair 1987  
Gaudet et al. 1990

***Cortinarius***

This is the largest genus of agarics in the world and it is a particularly important mycorrhizal in Canada. However, no recent North American



monograph exists and no complete treatment of either Canadian or British Columbian species is available. Most of the British Columbian species remain to be reported. Records of most of the few species reported require confirmation. The genus *Dermocybe* is included here for convenience.

***Cortinarius alboviolaceus***

Davidson 1930

Lowe 1969

***Cortinarius brunneofulvus***

Lowe 1969

***Cortinarius calochrous***

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Cortinarius cinnabarinus***

Bandoni & Szczawinski 1964

***Cortinarius cinnamomeus***

Bandoni & Szczawinski 1964

Melburn 1967

Lowe 1969

Perrin & Koske 1973

Bandoni & Szczawinski 1976

***Cortinarius iliopodius***

Lowe 1969

***Cortinarius iodeoides***

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Cortinarius mucifluus***

Melburn 1956

***Cortinarius mucosus***

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Cortinarius mutabilis***

Lowe 1969

***Cortinarius oregonensis***

Lowe 1969

***Cortinarius phoeniceus* ssp. *occidentalis***

Bandoni & Szczawinski 1976

***Cortinarius plumiger***

Lowe 1969

***Cortinarius rigidus***

Davidson 1930

Lowe 1969

***Cortinarius sanguineus***

Bandoni & Szczawinski 1976

Schalkwijk-Barendsen 1991a

***Cortinarius semisanguineus***

Bandoni & Szczawinski 1964

Melburn 1967

Melburn 1970

Bandoni & Szczawinski 1976

Bandoni 1977

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Cortinarius squarrosus***

Davidson 1930

Lowe 1969

***Cortinarius subbalteatus***

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Cortinarius trivialis***

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Cortinarius vanduzerensis***

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Cortinarius violaceus***

Bandoni & Szczawinski 1964

Perrin & Koske 1973

Bandoni & Szczawinski 1976

Schalkwijk-Barendsen 1991a

***Craterellus***

This is a segregate of *Cantharellus*. Debate exists over species concepts. Possibly more than one species exists in British Columbia.

***Craterellus cornucopioides***

Melburn 1968

**Crepidotus** A North American monograph exists, but it contains few references to Canada. No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Crepidotus applanatus***

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Crepidotus herbarum***

Buckland 1946

Melburn 1957

Lowe 1969

Redhead 1984c

***Crepidotus mollis***

Davidson 1930

Lowe 1969

also as *Crepidotus fulvotomentosus*

Lowe 1969

also as *Crepidotus haerens*

Lowe 1969

***Crepidotus occidentalis***

Gamiet & Berch 1992

***Crepidotus submollis***

Lowe 1969

***Crepidotus versutus***

Davidson 1930

Lowe 1969

**Crinipellis** A Canadian monograph exists (Redhead 1986a). Only a single species is known with certainty in western Canada.

***Crinipellis piceae***

Redhead 1986a

Redhead 1989

**Cyphellostereum** A small genus with a single Canadian species.

***Cyphellostereum laeve***

Redhead 1973

Redhead 1984a

Redhead 1989

**Cystoderma** A North American monograph exists (Smith & Singer 1945), with additional species reported. No complete treatment of either Canadian or

British Columbian species is available. Additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Cystoderma amianthinum***

Hardy 1946  
Hardy 1954  
Lowe 1969  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

***Cystoderma fallax***

Lowe 1969

***Cystoderma granulorum***

Bandoni & Szczawinski 1976

***Entoloma***

*Entoloma* is a large and complex genus for which there is no North American monograph. No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Entoloma rhodopolium***

Perrin & Koske 1973

***Entoloma sericeum***

Davidson 1930  
Lowe 1969  
Bandoni & Szczawinski 1976

***Entoloma speculum***

Davidson 1930  
Lowe 1969

***Entoloma strictus***

Hardy 1954  
Lowe 1954

***Flammulina***

This is a small genus until recently believed to have a single species in North America. However, additional species exist in Canada and British Columbia.

***Flammulina velutipes***

Bandoni 1977  
Kroeger 1989  
also as *Collybia velutipes*  
Hardy 1947  
Bandoni & Szczawinski 1964

Lowe 1969  
Bandoni & Szczawinski 1976

**Floccularia** Species in this genus are sometimes treated under the generic name *Armillaria*. One or more additional western species may occur in British Columbia.

***Floccularia albolanaripes***

Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b  
also as *Armillaria albolanaripes*  
Kroeger 1989b

**Fuscoboletinus** This is a segregate of *Suillus*. A North American monograph exists (Pomerleau & Smith 1963), but contains limited reference to western Canadian materials.

***Fuscoboletinus grevillei***

also as *Suillus grevillei*  
Lowe 1969  
Schisler & Volkoff 1977  
also as *Boletus grevillei*  
Bandoni & Szczawinski 1976

***Fuscoboletinus ochraceoroseus***

Schisler & Volkoff 1977  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

***Fuscoboletinus sinuspaulianus***

Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

**Galerina** This is a large genus monographed worldwide by Smith & Singer (1964). However, a detailed treatment of Canadian materials is lacking and most species remain to be documented from British Columbia.

***Galerina autumnalis***

Bandoni & Szczawinski 1976  
Bandoni & McLennan 1978  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

***Galerina marginata***

Lowe 1969  
Kroeger 1989b

***Galerina vittaeformis* var. *vittaeformis* f. *tetraspora***

Parmelee 1969

**Gomphidius** A North American monograph exists (Miller 1972), but virtually no western Canadian material was cited. The genus is well represented in British Columbia, although documentation is lacking and species circumscriptions require clarification.

***Gomphidius glutinosus***

Hardy 1947  
Hardy 1952a  
Hardy 1954  
Lowe 1954  
Melburn 1956  
Melburn 1959  
Melburn 1960  
Bandoni & Szczawinski 1964  
Melburn 1965a  
Melburn 1967  
Lowe 1969  
Bandoni & Szczawinski 1976  
Bandoni 1977  
Rogers 1990  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

***Gomphidius maculatus***

Davidson 1930  
Lowe 1969

***Gomphidius subroseus***

Singer 1949  
Melburn 1965a  
Melburn 1967  
Lowe 1969  
Bandoni & Szczawinski 1976  
Goward & Hickson 1989  
also as *Gomphidius septentrionalis*  
Lowe 1969

**Gomphus** A North American monograph exists (Petersen 1971) and the species are fairly well known.

***Gomphus bonarii* f. *bonarii***

Petersen 1971

***Gomphus clavatus***

Petersen 1971  
also as *Cantharellus clavatus*  
Bandoni & Szczawinski 1964  
Lowe 1969  
Bandoni & Szczawinski 1976

***Gomphus floccosus***

Petersen 1971

Rogers 1990

also as *Cantharellus floccosus*

Melburn 1959

Bandoni & Szczawinski 1964

Lowe 1969

Bandoni & Szczawinski 1976

***Gomphus floccosus* f. *floccosus***

Petersen 1971

***Gomphus floccosus* ssp. *rainieriensis***

Petersen 1971

***Gomphus kauffmanii***

Petersen 1971

also as *Cantharellus kauffmanii*

Lowe 1969

***Gymnopilus***

This is a fairly important wood decay genus with relatively few species, but they have been poorly differentiated and need to be reworked. No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Gymnopilus bellulus***

Garnet & Berch 1992

***Gymnopilus echinulispora***

as *Flammula echinulisporus*

Davidson 1930

Lowe 1969

***Gymnopilus geminellus***

as *Naucoria geminella*

Lowe 1969

***Gymnopilus junonius***

Melburn 1970

also as *Pholiota spectabilis*

Hardy 1946

Hardy 1947

Hardy 1949b

Hardy 1952a

Thomas & Podmore 1953

Hardy 1954

Melburn 1967

Lowe 1969

*Gymnopilus liquiritae*  
as *Flammula liquiritiae*  
Buckland 1946  
Lowe 1969

*Gymnopilus magnus*  
Hesler 1969

*Gymnopilus pallidus*  
Murrill 1912b  
Murrill 1917  
Lowe 1969

*Gymnopilus penetrans*  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

**Gyroporus** A small genus with one western Canadian species known.

*Gyroporus castaneus*  
Lowe 1969

**Hebeloma** A moderately large important mycorrhizal genus, but very poorly known. Species are difficult to differentiate and no North American monograph exists. No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.

*Hebeloma albidulum*  
Davidson 1930

*Hebeloma colvini*  
Davidson 1930

*Hebeloma crustuliniforme*  
Bandoni & Szczawinski 1976

*Hebeloma sordidulum*  
Lowe 1969

*Hebeloma strophosum*  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

**Heliocybe** A monotypic segregate of *Lentinus* related to *Neolentinus*.

*Heliocybe sulcata*  
Schalkwijk-Barendsen 1991a



**Hemimycena**

A relatively small segregate genus of *Mycena*, which is perhaps polyphyletic. Although the genus was treated in the North American monograph of *Mycena* by Smith (1947), no western Canadian material was included. No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Hemimycena albicolor*** c.n.

as *Helotium albicolor*

Redhead 1982a

***Hemimycena albidula***

as *Omphalia albidula*

Lowe 1969

***Hemimycena cyphelloides***

as *Helotium cyphelloides*

Redhead 1982a

***Hemimycena delectabilis***

Garnier & Berch 1992

***Hemimycena hirsuta***

as *Helotium hirsutum*

Redhead 1982a

***Hemimycena leucophaea*** c.n.

as *Helotium leucophaeum*

Redhead 1982a

***Hemimycena nebulophila*** c.n.

as *Helotium nebulophilum*

Redhead 1982a

***Hemimycena substellata*** c.n.

as *Helotium substellatum*

Redhead 1982a

***Hemimycena tortuosa***

Redhead 1980a

Redhead 1989

**Hohenbuehelia**

A relatively small and distinctive genus only recently critically examined in North America (Thorn), largely based upon eastern Canadian material. No critical study of western species exists and additional species are expected to be found.

***Hohenbuehelia angustata***

as *Panus angustatus*

Davidson 1930

Lowe 1969

***Hohenbuehelia petaloides***

Thorn & Barron 1986  
also as *Pleurotus petaloides*  
Foster & Foster 1951  
Lowe 1969  
also as *Pleurotus spathulatus*  
Lowe 1969

***Hygrocybe***

A segregate of *Hygrophorus* treated with that genus in a North American monograph by Hesler & Smith (1963). However, little western Canadian material was studied. No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Hygrocybe ceraceus***

as *Hygrophorus ceraceus*  
Davidson 1930  
Lowe 1969

***Hygrocybe conica***

Goward & Hickson 1989  
also as *Hydrocybe conica*  
Murrill 1912a  
also as *Hygrophorus conicus*  
Hardy 1954  
Lowe 1954  
Melburn 1961a  
Bandoni & Szczawinski 1964  
Melburn 1965a  
Melburn 1967  
Lowe 1969  
Melburn 1970  
Bandoni & Szczawinski 1976

***Hygrocybe laeta***

Gamiet & Berch 1992

***Hygrocybe miniata***

Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b  
also as *Hygrophorus miniatus*  
Davidson 1930  
Hardy 1952a  
Lowe 1969  
Melburn 1970  
Bandoni & Szczawinski 1976

***Hygrocybe minutula***

as *Hygrophorus minutulus*  
Lowe 1969

*Hygrocybe psittacina*  
as *Hygrophorus psittacinus*  
Davidson 1930  
Smith & Hesler 1942  
Lowe 1969  
as *Hygrophorus psittacinus* var. *psittacinus*  
Hesler & Smith 1963

**Hygrophoropsis** A small genus with either one variable North American species or several poorly differentiated species.

*Hygrophoropsis aurantiaca*  
Bigelow 1975  
Watling & Gregory 1991  
also as *Cantharellus aurantiacus*  
Cheesman 1910  
Davidson 1930  
Hardy 1946  
Hardy 1947  
Hardy 1949b  
Hardy 1952a  
Hardy 1954  
also as *Chanterel alectorolophoides*  
Murrill 1912a  
also as *Clitocybe aurantiaca*  
Bandoni & Szczawinski 1964  
Lowe 1969  
Perrin & Koske 1973  
Bandoni & Szczawinski 1976

**Hygrophorus** This is here accepted in a more restricted sense than in the North American monograph by Hesler & Smith (1963). Relatively little western Canadian material was studied in that monograph. No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.

*Hygrophorus aureus*  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

*Hygrophorus camarophyllus*  
Hesler & Smith 1963

*Hygrophorus capreolarius*  
Lowe 1969

*Hygrophorus eburneus*  
Davidson 1930  
Hesler & Smith 1963

Bandoni & Szczawinski 1964  
Lowe 1969  
Bandoni & Szczawinski 1976  
Goward & Hickson 1989  
Gamiet & Berch 1992

***Hygrophorus hypothejus***

Bandoni & Szczawinski 1976

***Hygrophorus piceae***

Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

***Hygrophorus saxatilis***

Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

***Hypholoma***

A relatively small genus, moderately well known but several species remain to be documented in British Columbia and elsewhere in Canada.

***Hypholoma capnoides***

Davidson 1930  
Buckland 1946  
Gamiet & Berch 1992  
also as *Naematoloma capnoides*  
Smith 1951  
Bandoni & Szczawinski 1964  
Lowe 1969  
Bandoni & Szczawinski 1976  
Bandoni 1977  
Martin & Gilbertson 1980

***Hypholoma dispersum***

Redhead 1989  
also as *Naematoloma dispersum*  
Lowe 1969  
Bandoni & Szczawinski 1976

***Hypholoma epixanthum***

Davidson 1930  
also as *Naematoloma epixanthum*  
Lowe 1969

***Hypholoma fasciculare***

Davidson 1930  
Buckland 1946  
Hardy 1946  
Hardy 1947  
Hardy 1949b  
Hardy 1952a

Hardy 1954  
Lowe 1954  
also as *Naematoloma fasciculare*  
Smith 1951  
Bandoni & Szczawinski 1964  
Lowe 1969  
Perrin & Koske 1973  
Bandoni & Szczawinski 1976  
Bandoni 1977  
Bandoni & McLennan 1978  
Ammirati et al. 1985

***Hypholoma sublateritium***

Davidson 1930  
Hardy 1954  
also as *Naematoloma sublateritium*  
Lowe 1969

***Hypholoma tuberosa***

Redhead & Kroeger 1987

***Hypsizygus***

A genus segregated from *Pleurotus* but more closely allied to *Lyophyllum*. Two species are known from Canada, with one from the west.

***Hypsizygus tessullatus***

as *Hypsizygus marmoreus*  
Redhead 1984d  
also as *Pleurotus ulmarius* as misapplied by both  
Thomas & Podmore 1953  
Lowe 1969

***Inocybe***

A large genus of important mycorrhizal species in Canada. However, no recent North American monograph exists and no complete treatment of either Canadian or British Columbian species is available. Most of the British Columbian species remain to be reported. Records of most of the few species reported require confirmation.

***Inocybe calamistrata***

Garnet & Berch 1992

***Inocybe fuscodisca***

Garnet & Berch 1992

***Inocybe geophylla***

Bandoni & Szczawinski 1964  
Melburn 1965a  
Lowe 1969  
Melburn 1970  
Perrin & Koske 1973  
Bandoni & Szczawinski 1976

Ammirati et al. 1985  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b  
Gamiet & Berch 1992

***Inocybe godeyi***

Lowe 1969

***Inocybe lanuginosa***

Bandoni & Szczawinski 1976

***Inocybe napipes***

Perrin & Koske 1973  
Ammirati et al. 1985

***Inocybe radiata***

Gamiet & Berch 1992

***Inocybe rimosa***

as *Inocybe fastigiata*

Melburn 1970  
Bandoni & Szczawinski 1976

***Inocybe subdestricta***

Ammirati et al. 1985

***Inocybe whitei***

as *Inocybe pudica*

Bandoni 1977

***Kuehneromyces***

A relatively small segregate genus differentiated from *Pholiota* and *Psilocybe*. Species have been treated in the monograph of *Pholiota* (Smith & Hesler 1968). No complete treatment of either Canadian or British Columbian species is available and additional species are known.

***Kuehneromyces lignicola***

Redhead 1984c  
also as *Kuehneromyces vernalis*  
Lowe 1969  
also as *Gymnopilus hillii*  
Murrill 1912b  
Lowe 1969  
also as *Naucoria lignicola*  
Davidson 1930  
Lowe 1969

***Kuehneromyces mutabilis***

Lowe 1969  
also as *Pholiota mutabilis*  
Thomas & Podmore 1953  
Smith & Hesler 1968

**Laccaria** This genus was just treated in a North American monograph (Mueller 1992), but critical collecting in British Columbia has not been carried out. Additional species are to be expected.

***Laccaria amethyseo-occidentalis***

Mueller 1984

Mueller 1992

***Laccaria amethystina***

Lowe 1969

Perrin & Koske 1973

also as *Clitocybe laccata* var. *amethystina*

Davidson 1930

also as *Laccaria laccata* var. *amethystina*

Hardy 1954

Lowe 1954

Melburn 1961a

Melburn 1966

***Laccaria bicolor***

Mueller 1992

***Laccaria laccata***

Murrill 1912a

Hardy 1947

Lowe 1954

Bandoni & Szczawinski 1964

Melburn 1968

Lowe 1969

Bandoni & Szczawinski 1976

Bandoni 1977

Goward & Hickson 1989

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Laccaria laccata* var. *pallidifolia***

Mueller 1992

***Laccaria montana***

Mueller 1992

***Laccaria proxima***

Mueller 1992

**Lacrymaria** A relatively small genus segregated from *Psathyrella*. The species have not been critically studied from British Columbia. In North America they were treated as *Psathyrellas* by Smith (1972).

***Lacrymaria lacrymabunda***

as *Hypholoma velutinum*

Davidson 1930

also as *Psathyrella velutina*

Lowe 1969

***Lacrymaria rigidipes***

Watling 1979

also as *Psathyrella rigidipes*

Smith 1972

***Lactarius***

A North American monograph by Hesler & Smith (1979) treats virtually all species expected in British Columbia, although some northern taxa may not be included. However, only a single specimen from British Columbia was cited. No other complete treatment of either Canadian or British Columbian species is available. This is a large and showy genus, in which many additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Lactarius aurantiacus***

Bandoni & Szczawinski 1964

Bandoni & Szczawinski 1976

Bandoni 1977

***Lactarius camphoratus***

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Lactarius chrysorrheus***

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Lactarius circellatus***

Lowe 1969

***Lactarius deliciosus***

Melburn 1956

Melburn 1961a

Bandoni & Szczawinski 1964

Melburn 1966

Lowe 1969

Melburn 1970

Bandoni & Szczawinski 1976

Goward & Hickson 1989

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

also as *Lactaria deliciosa*

Lowe 1954



- Lactarius glyciosmus*  
Goward & Hickson 1989
- Lactarius kauffmanii* var. *kauffmanii*  
Hesler & Smith 1979
- Lactarius luculentus*  
Gamiet & Berch 1992
- Lactarius piperatus*  
Hardy 1948a
- Lactarius representaneus*  
Bandoni & Szczawinski 1976
- Lactarius resimus*  
Goward & Hickson 1989  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b
- Lactarius rufus*  
Bandoni & Szczawinski 1964  
Perrin & Koske 1973  
Bandoni & Szczawinski 1976  
Goward & Hickson 1989  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b
- Lactarius sanguifluus*  
Bandoni & Szczawinski 1964  
Bandoni & Szczawinski 1976
- Lactarius scrobiculatus*  
McKnight & McKnight 1987  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b
- Lactarius torminosus*  
Bandoni & Szczawinski 1964  
Bandoni & Szczawinski 1976
- Lactarius trivialis*  
Lowe 1969
- Lactarius volemus*  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

**Leccinum** A moderately sized genus with some poorly differentiated species. Preliminary monographic treatments for North America are incomplete. No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Leccinum aurantiacum***

Lowe 1969  
Schisler & Volkoff 1977  
Goward & Hickson 1989  
also as *Boletus aurantiacus*  
Bandoni & Szczawinski 1976

***Leccinum boreale***

Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

***Leccinum holopus* var. *americanum***

Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

***Leccinum scabrum***

Lowe 1969  
Schisler & Volkoff 1977  
also as *Boletus scaber*  
Bandoni & Szczawinski 1964  
Bandoni & Szczawinski 1976

**Lentinellus** A small genus monographed in North America by Miller (1971). No complete treatment of either Canadian or British Columbian species is available. Additional species may exist in British Columbia. Records of several species require confirmation.

***Lentinellus cochleatus***

as *Lentinus cochleatus*  
Lowe 1969

***Lentinellus flabelliformis***

as *Lentinus bisus*  
Lowe 1969

***Lentinellus micheneri***

as *Lentinellus omphalodes*  
Miller & Stewart 1971

***Lentinellus ursinus***

as *Lentinus ursinus*  
Davidson 1930  
Lowe 1969

***Lentinellus vulpinus***

as *Lentinus vulpinus*

Lowe 1969

***Lepiota***

A moderately large genus for which there is no North American treatment. No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Lepiota acutesquamosa***

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

probably as *Lepiota friesii*

Davidson 1930

Lowe 1969

***Lepiota alba***

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Lepiota cristata***

Hardy 1946

Hardy 1947

Hardy 1952a

Hardy 1954

Lowe 1954

Melburn 1959

Melburn 1960

Melburn 1962

Melburn 1963

Melburn 1966

Lowe 1969

***Lepiota helveola***

Schalkwijk-Barendsen 1991a

***Lepiota rubrotincta***

Davidson 1930

Lowe 1969

***Lepiota subincarnata***

Lampe 1989

***Lepista***

A moderately large segregate genus differentiated from *Clitocybe*. No complete treatment of either Canadian or British Columbian species is available, but all species are described in the North American monograph of *Clitocybe* by Bigelow (1982, 1985). Additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Lepista caespitosa***

as *Tricholoma panaeolum* var. *caespitosum*

Davidson 1930

***Lepista inversa***

as *Clitocybe inversa*

Davidson 1930

Bigelow & Smith 1969

Lowe 1969

***Lepista nuda***

Lowe 1969

also as *Tricholoma nudum*

Davidson 1930

Bandoni 1977

***Lepista personata***

Lowe 1969

also as *Tricholoma personatum*

Hardy 1947

Hardy 1954

Melburn 1960

Melburn 1963

Bandoni & Szczawinski 1964

Bandoni & Szczawinski 1976

***Lepista sordida***

Lowe 1969

also as *Tricholoma sordidum*

Davidson 1930

***Leptonia***

Many western species are treated by Largent (1977) and a new monograph is expected, but virtually no British Columbian material is included. No complete treatment of either Canadian or British Columbian species is available. Many more species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Leptonia lampropoda***

Lowe 1969

***Leptonia serrulata***

Lowe 1969

***Leucoagaricus***

A segregate genus from *Lepiota*. No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported.

***Leucoagaricus naucinus***

as *Lepiota naucina*

Hardy 1947

Bandoni & Szczawinski 1964  
Lowe 1969  
Bandoni & Szczawinski 1976  
Ammirati et al. 1985

**Leucocoprinus** A segregate genus from *Lepiota*. No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported.

***Leucocoprinus caespitosa***

as *Lepista caespitosa*  
Lowe 1969

**Leucopaxillus** An early monograph of all known *Leucopaxillus* species (Singer & Smith 1943) covers most Canadian species, but does not give detailed information on distribution. No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Leucopaxillus albissimus* var. *paradoxus* f. *albiformis***

Lowe 1969

***Leucopaxillus giganteus***

as *Clitocybe gigantea*  
Hardy 1947  
Hardy 1948a  
Lowe 1954  
Melburn 1956  
Melburn 1958  
Bandoni & Szczawinski 1964  
Bandoni & Szczawinski 1976

***Leucopaxillus laterarius***

Lowe 1969  
also as *Tricholoma laterarium*  
Davidson 1930

***Leucopaxillus piceinus***

as *Clitocybe piceina*  
Hardy 1946

**Lyophyllum** No complete treatment of either Canadian or British Columbian species is available. Many more species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Lyophyllum decastes* s.l.**

as *Clitocybe multiceps*  
Lowe 1954  
Lowe 1969

***Lyophyllum loricatum***

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Lyophyllum tylicolor***

Redhead 1984c

***Macrolepiota***

A segregate genus from *Lepiota*. No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported.

***Macrolepiota rachodes***

as *Lepiota rachodes*

Hardy 1947

Hardy 1952b

Melburn 1957

Bandoni & Szczawinski 1964

Lowe 1969

Weresub 1971

Bandoni & Szczawinski 1976

***Marasmiellus***

A large mostly tropical genus with few temperate species. Additional species may exist in British Columbia and no complete treatment of either Canadian or British Columbian species is available; however, most Canadian species have been described in recent literature.

***Marasmiellus candidus***

Redhead 1989

as *Marasmius candidus*

Hardy 1947

Hardy 1954

Lowe 1954

Melburn 1956

Lowe 1969

also as *Marasmius magnisporus*

Bandoni 1977

***Marasmiellus filopes***

Redhead 1980d

Redhead 1989

also as *Marasmius thujinus*

Gilliam 1976

***Marasmiellus papillatus***

Redhead & Halling 1982

Redhead 1989

***Marasmiellus pluvius***

Redhead 1982c

Redhead 1989  
Gamiet & Berch 1992

***Marasmiellus vaillantii***

Redhead 1981

***Marasmius***

A large genus well represented in both tropical and temperate regions. Additional species may exist in British Columbia and no complete treatment of either Canadian or British Columbian species is available; however, most Canadian species have been described in recent literature.

***Marasmius androsaceus***

Redhead 1984c  
Redhead 1989  
Gamiet & Berch 1992

***Marasmius caricis***

Redhead 1981

***Marasmius epidryas***

Redhead et al. 1982  
Redhead 1989

***Marasmius epiphyllus***

Melburn 1957  
Redhead 1989

***Marasmius limosus***

Redhead 1981

***Marasmius oreades***

Hardy 1947  
Bandoni & Szczawinski 1964  
Lowe 1969  
Bandoni & Szczawinski 1976  
Leichter & Bandoni 1980

***Marasmius pallidocephalus***

Redhead 1984c  
Ginns 1986  
Redhead 1989

***Marasmius plicatulus***

Redhead 1989  
as *Marasmius bellipes*  
Hardy 1946  
Hardy 1947  
Hardy 1954  
Melburn 1956

Melburn 1962  
Melburn 1963  
Lowe 1969

***Marasmius salalis***

Desjardin & Redhead 1987  
Redhead 1989  
as *Marasmius copelandi*  
Redhead 1982b

***Marasmius scorodoni***

Buckland 1946  
Lowe 1969  
Gilliam 1975a  
Goward & Hickson 1989

***Marasmius tremulae***

Redhead 1989

***Megacollybia***

A small genus segregated from *Tricholomopsis* but not closely allied to it. A single Canadian species is known.

***Megacollybia platyphylla***

Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b  
also as *Collybia platyphylla*  
Lowe 1954

***Melanotus***

A small, mostly tropical genus allied to *Psilocybe*. All known Canadian species have been treated in recent literature, but additional species may be discovered.

***Melanotus caricicola***

Redhead 1984b  
Kroeger 1991a

***Melanotus textilis***

Redhead & Kroeger 1984  
Redhead 1989  
Kroeger 1991a

***Micromphale***

A small genus segregated from *Marasmius* and *Collybia*. Additional species, such as *M. perforans*, occur in British Columbia.

***Micromphale foetidum***

as *Marasmius foetidus*  
Lowe 1969

***Micromphale perforans***

Garnet & Berch 1992



***Mycena*** No complete treatment of either Canadian or British Columbian species is available. Many more species exist in British Columbia and remain to be reported. Records of several species require confirmation. The genus, in a broad sense, was monographed for North America by Smith (1947). In recent years, Maas Geesteranus has been revising the genus on a global basis. This is a large genus well represented in British Columbia.

***Mycena acicula***

Davidson 1930  
Lowe 1969

***Mycena adonis***

Melburn 1965b  
Melburn 1967

***Mycena alcalina***

Cheesman 1910  
Davidson 1930  
Lowe 1969  
Goward & Hickson 1989

***Mycena alnicola***

Garnier & Berch 1992

***Mycena amabilissima***

Garnier & Berch 1992

***Mycena amicta***

Smith 1947  
Garnier & Berch 1992  
probably as *Mycena cyaneobasis*  
Davidson 1930  
Lowe 1969

***Mycena atroalboides***

Smith 1947

***Mycena aurantiomarginata***

Garnier & Berch 1992

***Mycena bulbosa***

Redhead 1981

***Mycena citrinomarginata***

Smith 1947  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

***Mycena clavicularis***

Lowe 1969

***Mycena culmigena***

Redhead 1989  
as *Mycena juncicola*  
Redhead 1981  
Redhead 1984b

***Mycena elegantula***

Gamiet & Berch 1992

***Mycena epipterygia***

Gamiet & Berch 1992  
probably as *Mycena clavicularis* var. *luteipes*  
Davidson 1930

***Mycena fagetorum***

Gamiet & Berch 1992

***Mycena flavoalba***

Melburn 1963  
Lowe 1969

***Mycena galericulata***

Davidson 1930  
Hardy 1946  
Hardy 1947  
Hardy 1952a  
Hardy 1954  
Lowe 1954  
Melburn 1957  
Lowe 1969

***Mycena griseiconica***

Buckland 1946  
Lowe 1969  
Gamiet & Berch 1992

***Mycena haematopus***

Smith 1947  
Hardy 1954  
Bandoni & Szczawinski 1964  
Lowe 1969  
Bandoni & Szczawinski 1976  
Gamiet & Berch 1992  
also as *Mycena haematopa*  
Davidson 1930  
Melburn 1956  
Melburn 1957  
also as *Mycena haematopoda*  
Hardy 1946

***Mycena inclinata***

Davidson 1930  
Lowe 1969

***Mycena laevigata***

Garnier & Berch 1992

***Mycena leptcephala***

Davidson 1930  
Lowe 1969  
Garnier & Berch 1992  
also as *Mycena ammoniaca*  
Davidson 1930  
Lowe 1969

***Mycena lohwegii***

Redhead 1984e  
Redhead 1989

***Mycena longiseta***

Garnier & Berch 1992

***Mycena occidentalis***

Smith 1947

***Mycena osmundicola***

Smith 1947

***Mycena parabolica***

Davidson 1930  
Lowe 1969

***Mycena pterigena***

Redhead 1984e  
Garnier & Berch 1992

***Mycena pura***

Davidson 1930  
Smith 1947  
Hardy 1954  
Melburn 1957  
Lowe 1969  
Garnier & Berch 1992

***Mycena rorida***

Garnier & Berch 1992

***Mycena rosella***

Davidson 1930  
Lowe 1969

*Mycena rubromarginata*  
Smith 1947

*Mycena rugulosiceps*  
Gamiet & Berch 1992

*Mycena sanguinolenta*  
Davidson 1930  
Smith 1947  
Lowe 1969

*Mycena strobilinoidea*  
Smith 1947

*Mycena stylobates*  
Redhead 1981

*Mycena subsanguinolenta*  
Gamiet & Berch 1992

*Mycena tubarioidea*  
Redhead 1984b

*Mycena vulgaris*  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

**Mythicomyces** A monotypic genus recently segregated from *Psilocybe*.

*Mythicomyces corneipes*  
Redhead & Smith 1986  
Huhtinen & Vauras 1992

**Naucoria** A moderately sized genus often treated as *Alnicola*. There is no modern North American treatment. No complete treatment of either Canadian or British Columbian species is available. Many more species exist in British Columbia and remain to be reported.

*Naucoria melinoides*  
as *Alnicola melinoides*  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b  
Gamiet & Berch 1992

**Neolentinus** A small genus segregated from *Lentinus*. Additional species may exist in British Columbia. All are described as *Lentinus* species in the world monograph by Pegler (1983), but a detailed treatment of the species in British Columbia is lacking.

***Neolentinus kauffmanii***

Redhead 1989  
also as *Lentinus kauffmanii*  
Bier & Nobles 1946  
Bier et al. 1946  
Nobles 1948  
Lowe 1969  
Martin & Gilbertson 1980  
Gilbertson 1981  
Pegler 1983

***Neolentinus lepideus***

as *Lentinus lepideus*  
Lowe 1969

***Omphalina***

A moderately small genus variously circumscribed and as such sometimes combined with *Gerronema* which is unrelated or combined with *Clitocybe* with which it is closely allied. Many species are treated as *Clitocybe* in Bigelow's North American monograph of *Clitocybe* (Bigelow 1982, 1985). No complete treatment of either Canadian or British Columbian species is available. Many more species exist in British Columbia and remain to be reported.

***Omphalina hohensis***

as *Clitocybe hohensis*  
Bigelow 1985

***Omphalina marchantiae***

as *Gerronema marchantiae*  
Kroeger 1989b

***Omphalina viridis***

Redhead 1986b  
Redhead 1989  
also as *Clitocybe atroviridis*  
Bigelow 1982  
Bigelow 1985  
also as *Clitocybe smaragdina*  
Bigelow & Smith 1962  
Lowe 1969

***Ossicaulis***

A monotypic genus recently segregated from both *Pleurotus* and *Clitocybe*.

***Ossicaulis lignatilis***

Redhead & Ginns 1985  
also as *Pleurotus lignatilis*  
Thomas & Podmore 1953  
Lowe 1969

***Panaeolina*** A small genus segregated from both *Panaeolus* and *Psathyrella*. Species are described as *Psathyrellas* by Smith (1972).

***Panaeolina foenisecii***

as *Panaeolus foenisecii*

Bandoni & Szczawinski 1976

Ammirati et al. 1985

***Panaeolus*** A relatively small genus of mainly cosmopolitan species on dung. Many species were described by Ota (1970), but no detailed treatment of western species exists.

***Panaeolus acuminatus***

Lowe 1969

***Panaeolus campanulatus***

Davidson 1930

Melburn 1967

Lowe 1969

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Panaeolus phalaenarum***

Stamets 1978

***Panaeolus retirugis***

Davidson 1930

Lowe 1969

***Panaeolus subbalteatus***

Ammirati et al. 1985

***Panellus*** A relatively small genus segregated from *Pleurotus*. Miller (1970) monographed the North American species but did not examine very much western Canadian material. Subsequently a common British Columbian species was discovered.

***Panellus longinquus* ssp. *pacificus***

Libonati-Barnes & Redhead 1984

Kroeger 1989

Redhead 1989

***Panellus mitis***

Miller 1970

also as *Pleurotus mitis*

Lowe 1969

***Panellus ringens***

Lowe 1969

also as *Panus salicinus*  
Lowe 1969

***Panellus serotinus***

Bandoni 1977  
Martin & Gilbertson 1980  
Kroeger 1989  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

also as *Crepidopus serotinus*

Murrill 1912a  
Murrill 1916

also as *Pleurotus serotinus*

Davidson 1930  
Hardy 1954  
Lowe 1969  
Bandoni & Szczawinski 1976

***Panellus stypticus***

as *Panus stypticus*

Davidson 1930  
Lowe 1969

***Panus*** This mainly tropical genus is sometimes included with *Lentinus* (see Pegler's 1983 world monograph). The few Canadian species have not been documented in detail, but no new species are expected.

***Panus rudis***

Lowe 1969

***Panus torulosus***

Cheesman 1910  
Bandoni & Szczawinski 1964  
Lowe 1969  
Bandoni & Szczawinski 1976

***Paxillus*** A relatively small but important pioneering mycorrhizal genus. The most common species, *P. involutus*, is probably a species complex much like *Armillaria mellea* s.l. *Paxillus vernalis* probably occurs in British Columbia, too.

***Paxillus atrotomentosus***

Lowe 1969  
Bandoni & Szczawinski 1976  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

***Paxillus involutus***

Davidson 1930  
Hardy 1946

Hardy 1947  
Hardy 1951  
Melburn 1957  
Bandoni & Szczawinski 1964  
Lowe 1969  
Bandoni & Szczawinski 1976  
Bandoni & McLennan 1978  
Ammirati et al. 1985  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b  
Gamiet & Berch 1992

***Phaeocollybia*** A relatively small distinctive genus characteristic of the Pacific Northwest, but only recently discovered in British Columbia. Several additional species are known and are currently being studied by Norvell (pers. comm., 1993). Two North American monographs (Smith 1957; Smith & Trappe 1972) exist, but require major revision.

***Phaeocollybia carmanahensis***  
Redhead & Norvell 1993

***Phaeocollybia kauffmanii***  
Norvell 1992a  
Redhead & Norvell 1993

***Phaeolepiota*** A showy and characteristic monotypic genus first documented in North America from British Columbia.

***Phaeolepiota aurea***  
Bandoni & Szczawinski 1964  
Lowe 1969  
Bandoni & Szczawinski 1976  
Turner 1978  
Ammirati et al. 1985  
Redhead 1989  
Rogers 1990  
also as *Pholiota aurea*  
Smith 1937c  
Bach 1956  
Smith & Hesler 1968

***Phaeomarasmius*** A small genus segregated from *Pholiota*, where it was treated by Smith & Hesler (1968). Possibly additional species exist in British Columbia, but this is unlikely.

***Phaeomarasmius erinaceus***  
Redhead 1980b  
Redhead 1989



**Pholiota** A large important genus of wood-decaying species. A North American monograph exists (Smith & Hesler 1968), but is now outdated. No complete treatment of either Canadian or British Columbian species is available. Many more species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Pholiota adiposa***

Davidson 1930  
Bier et al. 1948  
Nobles 1948  
Foster & Foster 1951  
Foster et al. 1954  
Foster et al. 1958  
Smith & Hesler 1968  
Martin & Gilbertson 1980

***Pholiota alnicola***

Martin & Gilbertson 1980  
also as *Flammula alnicola*  
Denyer 1960  
Lowe 1969

***Pholiota astragalina***

Gamiet & Berch 1992

***Pholiota aurivella***

Smith & Hesler 1968  
Lowe 1969  
Martin & Gilbertson 1980

***Pholiota aurivelloides***

Lowe 1969

***Pholiota decorata***

Smith & Hesler 1968  
also as *Flammula decorata*  
Buckland 1946  
Lowe 1969

***Pholiota flammans***

Lowe 1969  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b  
Gamiet & Berch 1992

***Pholiota jahnii?***

Jacobsson 1987

***Pholiota limonella***

Martin & Gilbertson 1980  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b  
also as *Pholiota squarroso-adiposa*  
Smith 1949  
Bandoni & Szczawinski 1964  
Lowe 1969  
Bandoni & Szczawinski 1976

***Pholiota lubrica***

as *Flammula lubrica*  
Lowe 1969

***Pholiota malicola***

Lowe 1969  
Bandoni & McLennan 1978  
probably also as *Flammula conissans*  
Foster et al. 1954  
Foster et al. 1958

***Pholiota polychroa***

as *Flammula polychroa*  
Hardy 1952a

***Pholiota populnea***

as *Pholiota destruens*  
Davidson 1930  
Thomas & Podmore 1953  
Lowe 1969

***Pholiota scamba***

Kroeger 1989  
Gamiet & Berch 1992

***Pholiota squarrosa***

Hardy 1946  
Bandoni & Szczawinski 1964  
Lowe 1969  
Bandoni & Szczawinski 1976  
Ammirati et al. 1985

***Pholiota squarrosoides***

Lowe 1969  
Jacobsson 1989

***Pholiota terrestris***

Smith & Hesler 1968  
Lowe 1969

Bandoni & Szczawinski 1976  
Bandoni 1977  
Bandoni & McLennan 1978  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

**Phylloopsis** A small genus represented by a single species in Canada.

***Phylloopsis nidulans***

Lowe 1969

**Phytoconis** A small lichenized genus segregated from *Omphalina*. Species have been treated as *Omphalinas* by Bigelow (1970) and as *Botrydina* by Redhead & Kuyper (1987). Several other species are expected to be discovered in British Columbia.

***Phytoconis ericetorum***

Redhead 1989  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b  
Gamiet & Berch 1992  
also as *Botrydina botryoides*  
Redhead & Kuyper 1987  
also as *Omphalia umbellifera*  
Davidson 1930  
Lowe 1969  
also as *Omphalina ericetorum*  
Bigelow 1970  
Perrin & Koske 1973  
Bandoni & Szczawinski 1976  
also as *Omphalina umbellifera*  
Murrill 1916  
Bandoni & Szczawinski 1964  
Melburn 1965a

**Pleurocybella** A small genus represented by a single common species in Canada.

***Pleurocybella porrigens***

Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b  
Gamiet & Berch 1992  
also as *Pleurotus porrigens*  
Bandoni & Szczawinski 1964  
Lowe 1969  
Bandoni & Szczawinski 1976

**Pleurotus** This genus is largely restricted to species allied to *P. ostreatus*, which includes *P. sapidus*. In North America, several criteria have been used to distinguish species (e.g., spore print colour), but these have proved to be

unreliable. In more recent years the complex has been shown to encompass several intersterile populations. For the most part, the biological species have not been accurately determined in Canada or more specifically in British Columbia.

***Pleurotus ostreatus***

Hardy 1946  
Hardy 1947  
Thomas & Podmore 1953  
Lowe 1969  
Bandoni & Szczawinski 1976  
Bandoni & McLennan 1978  
Leichter & Bandoni 1980  
Martin & Gilbertson 1980  
Turner et al. 1987

also as *Pleurotus sapidus*

Davidson 1930  
Hardy 1952a  
Bandoni & Szczawinski 1964  
Lowe 1969

***Pleurotus subareolatus***

Thomas & Podmore 1953  
Lowe 1969

***Pluteus***

There is no North American monograph. No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Pluteus atricapillis***

as *Pluteus cervinus*

Davidson 1930  
Hardy 1946  
Hardy 1947  
Hardy 1950  
Melburn 1961a  
Bandoni & Szczawinski 1964  
Lowe 1969  
Perrin & Koske 1973  
Bandoni & Szczawinski 1976  
Gamiet & Berch 1992

***Pluteus flavofulgineus***

Lowe 1969

***Pluteus granularis***

Lowe 1969

***Pluteus leoninus***

Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

***Polyozellus*** A monotypic genus.

***Polyozellus multiplex***

Imazeki 1953  
Bigelow 1978  
also as *Cantharellus multiplex*  
Smith & Morse 1947  
Smith 1949  
Lowe 1969

***Psathyrella*** This genus was monographed for North America by Smith (1972), but little Canadian material, especially western Canadian material, was examined. No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.

***Psathyrella ammophila***

Agriculture Canada 1983

***Psathyrella candolleana***

Lowe 1969  
Bandoni & Szczawinski 1976

***Psathyrella columbiana***

Smith 1972

***Psathyrella hydrophila***

Lowe 1969  
Smith 1972  
also as *Hypholoma hydrophilum*  
Davidson 1930

***Psathyrella incerta***

also as *Hypholoma incertum*  
Hardy 1954

***Psathyrella longistriata***

Bandoni & Szczawinski 1976

***Psathyrella madeodisca***

Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

***Psathyrella spadicea***

Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

- Pseudoarmillariella*** A monotypic genus.
- Pseudoarmillariella ectypoides***  
Gamiet & Berch 1992
- Pseudobaeospora*** A small genus segregated from *Lepiota*. A single Canadian species is known.
- Pseudobaeospora pillodii***  
Redhead 1982d
- Pseudoclitocybe*** A small genus segregated from *Clitocybe*. Species are treated in the North American monograph of *Clitocybe* by Bigelow (1982, 1985). No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported.
- Pseudoclitocybe cyathiformis***  
as *Clitocybe cyathiformis*  
Lowe 1969
- Psilocybe*** This genus was monographed worldwide by Guzman (1983) and includes western Canadian materials from around Vancouver, but little else from the west. No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported. Records of several species require confirmation.
- Psilocybe baeocystis***  
Robinson 1975  
Guzman et al. 1976  
Guzman 1983  
Ammirati et al. 1985
- Psilocybe cyanescens***  
Robinson 1975  
Guzman 1978  
Stamets 1978  
Lincoff 1981  
Guzman 1983  
Ammirati et al. 1985
- Psilocybe fimetaria***  
Guzman 1983
- Psilocybe inquilina***  
Kroeger 1989b
- Psilocybe pelliculosa***  
Robinson 1975  
Guzman et al. 1976  
Lincoff 1981

Guzman 1983  
Ammirati et al. 1985

***Psilocybe pratense?***

Kroeger 1989b

***Psilocybe semilanceata***

Robinson 1975  
Guzman et al. 1976  
Weil 1977  
Stamets 1978  
Z 1980  
Guzman 1983  
Redhead 1989b  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b  
Turner & Szczawinski 1991

***Psilocybe strictipes***

Robinson 1975  
Guzman et al. 1976  
Ammirati et al. 1985

***Psilocybe stuntzii***

Guzman & Ott 1976  
Guzman et al. 1976  
Guzman 1983  
Ammirati et al. 1985

***Psilocybe subfimetaria***

Guzman & Smith 1978  
Guzman 1983

***Psilocybe subviscida***

Davidson 1930  
Lowe 1969

***Pulveroboletus*** A small segregate genus differentiated from *Boletus*.

***Pulveroboletus retipes***

Lowe 1969

***Resinomyцена***

A small recently described genus segregated from *Mycena*. Western Canadian material was included and additional species are not expected, but the ranges require documentation.

***Resinomyцена montana***

Redhead & Singer 1981  
Redhead 1989

*Resinomyцена saccharifera* ssp. *kalalochensis*

Redhead 1984b

Redhead 1989

also as *Resinomyцена kalalochensis*

Redhead & Singer 1981

**Resupinatus** A small genus allied to *Hohenbuehelia*. Possibly more than one species exists in British Columbia.

*Resupinatus striatulus*

Thorn & Barron 1986

also as *Pleurotus striatulus*

Coker 1944

**Rhodocybe** This genus was monographed worldwide by Baroni (1981) concentrating on North American materials. No complete treatment of either Canadian or British Columbian species is available. Additional species probably exist in British Columbia and remain to be reported.

*Rhodocybe hirneola*

Baroni 1981

*Rhodocybe trachyspora* var. *trachyspora*

Baroni & Largent 1989

also as *Rhodocybe carlottae* var. *carlottae*

Redhead & Baroni 1986

*Rhodocybe trachyspora* var. *vinacea*

Baroni & Largent 1989

also as *Rhodocybe carlottae* var. *vinacea*

Redhead & Baroni 1986

**Rickenella** A small genus with other species in British Columbia.

*Rickenella fibula*

Gamiet & Berch 1992

**Rimbachia** A small cyphelloid genus easily overlooked. Existing Canadian collections were revised by Redhead (1984).

*Rimbachia arachnoidea*

Redhead 1984a

*Rimbachia bryophila*

Redhead 1984a

*Rimbachia neckerae* ssp. *neckerae*

Redhead 1984a



**Rozites** A small genus allied to *Cortinarius* represented by a single Canadian species.

***Rozites caperata***

Lowe 1969  
Bandoni & Szczawinski 1976  
Rogers 1990  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

**Russula** A large important mycorrhizal genus presenting many taxonomic problems. There is no North American monograph. No complete treatment of either Canadian or British Columbian species is available. Many additional species exist in British Columbia and remain to be reported. Records of most species require confirmation.

***Russula abietina***

Lowe 1969

***Russula alutacea***

Hardy 1947  
Lowe 1954  
Melburn 1956  
Hardy 1962  
Gamiet & Berch 1992

***Russula atropurpurea***

Lowe 1954

***Russula brevipes***

Goward & Hickson 1989  
Gamiet & Berch 1992

***Russula cascadiensis***

Bandoni & Szczawinski 1976  
Schalkwijk-Barendsen 1991  
Schalkwijk-Barendsen 1991b

***Russula delica***

Bandoni & Szczawinski 1964  
Lowe 1969  
Melburn 1970

***Russula densifolia***

Bandoni & Szczawinski 1976

***Russula emetica***

Davidson 1930  
Bandoni & Szczawinski 1964

Lowe 1969  
Perrin & Koske 1973  
Bandoni & Szczawinski 1976  
Bandoni 1977  
Goward & Hickson 1989

***Russula foetens***

Melburn 1970

***Russula foetidus***

Lowe 1954

***Russula fragilis***

Lowe 1969

***Russula fragrantissima***

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Russula furcata***

Lowe 1969

***Russula lutea***

Lowe 1969

***Russula mariae***

Hardy 1946

***Russula nigricans***

Bandoni & Szczawinski 1964

Gamiet & Berch 1992

***Russula olivacea***

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Russula vesca***

Gamiet & Berch 1992

***Russula veteriosa***

Davidson 1930

Lowe 1969

***Russula xerampelina***

Bandoni & Szczawinski 1976

Bandoni 1977

Morrison & Morrison 1980

**Schizophyllum** A small genus represented by a single cosmopolitan Canadian species.

***Schizophyllum commune***

Davidson 1930  
Buckland 1946  
Cooke 1961  
Lowe 1969

**Stagnicola** A recently described monotypic genus segregated from *Tubaria*.

***Stagnicola perplexa***

Redhead & Smith 1986

**Strobilurus** A small genus segregated from *Collybia*, but not closely allied to it. Canadian material has been revised by Redhead(1980, 1989). Additional species are not expected in British Columbia.

***Strobilurus albopilatus***

Redhead 1980d  
Redhead 1989  
Gamiet & Berch 1992

***Strobilurus occidentalis***

Redhead 1980d  
Redhead 1989  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

***Strobilurus trullisatus***

Redhead 1980d  
Redhead 1989  
Rogers 1990  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b  
Gamiet & Berch 1992

**Stropharia** A relatively small genus for which no North American monograph exists. No complete treatment of either Canadian or British Columbian species is available. Additional species probably exist in British Columbia and remain to be reported. Records of some species require confirmation.

***Stropharia aeruginosa***

Hardy 1949b  
Lowe 1969  
Bandoni & Szczawinski 1976

***Stropharia albonitens***

Davidson 1930  
Lowe 1969

***Stropharia ambigua***

Hardy 1947

Hardy 1952

Hardy 1954

Lowe 1954

Bandoni & Szczawinski 1964

Lowe 1969

Bandoni & Szczawinski 1976

also as *Hypholoma ambigua*

Hardy 1949b

***Stropharia coronilla***

Ammirati et al. 1985

***Stropharia pseudocyanea***

Redhead 1984b

Kroeger 1989b

possibly as *Pholiota aeruginosa*

Lowe 1969

***Stropharia riparia***

Kroeger 1989b

***Stropharia semiglobata***

Hardy 1946

***Stropharia stercoraria***

Davidson 1930

Lowe 1969

***Suillus***

This moderately sized, important mycorrhizal genus was monographed for North America by Smith & Thiers (1964), but little Canadian material was cited. No complete treatment of either Canadian or British Columbian species is available. Additional species probably exist in British Columbia and remain to be reported. Records of some species require confirmation.

***Suillus albidipes***

Pantidou & Groves 1966

Lowe 1969

***Suillus brevipes***

Pantidou & Groves 1966

Lowe 1969

Schisler & Volkoff 1977

also as *Boletus brevipes*

Bandoni & Szczawinski 1976

***Suillus caeruleus***

Pantidou & Groves 1966

Lowe 1969

***Suillus granulatus***

Lowe 1969  
Schisler & Volkoff 1977  
also as *Boletus granulatus*  
Bandoni & Szczawinski 1964

***Suillus lakei***

Pantidou & Groves 1966  
Lowe 1969  
Bandoni 1977  
Schisler & Volkoff 1977  
Goward & Hickson 1989  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b  
also as *Boletinus amabilis*  
Lowe 1969  
The application of the name *B. amabilis* is in dispute, but it seems to have been generally applied to *S. lakei* in western North America  
also as *Boletinus lakei*  
Bandoni & Szczawinski 1964  
Bandoni & Szczawinski 1976  
also as *Boletus lakei*  
Melburn 1966  
possibly as *Boletinus pictus* (see excluded species)  
Hardy 1947  
Melburn 1960  
Melburn 1961a  
possibly as *Boletus pictus* (see excluded species)  
Hardy 1952b

***Suillus luteus***

Schisler & Volkoff 1977  
Bandoni & McLennan 1978  
also as *Boletus luteus*  
Hardy 1954  
Lowe 1954  
Bandoni & Szczawinski 1964  
Bandoni & Szczawinski 1976

***Suillus placidus***

Pantidou & Groves 1966  
Lowe 1969

***Suillus ponderosus***

Schisler & Volkoff 1977  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

***Suillus punctipes***

Lowe 1969  
Schisler & Volkoff 1977

***Suillus subaureus***

as *Boletus subaureus*

Hardy 1947

Hardy 1949b

Hardy 1952b

Hardy 1954

Lowe 1954

***Suillus subluteus***

Leichter & Bandoni 1980

***Suillus subolivaceus***

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Suillus subvariegatus***

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Suillus tomentosus***

Pantidou & Groves 1966

Lowe 1969

Schisler & Volkoff 1977

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

also as *Boletus tomentosus*

Bandoni & Szczawinski 1976

***Suillus umbonatus***

Pantidou & Groves 1966

Lowe 1969

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Tapinella*** A monotypic genus.

***Tapinella panuoides***

as *Paxillus panuoides*

Lowe 1969

***Tetrapyrgos*** A small, mainly tropical genus recently segregated from *Marasmiellus*, itself a segregate of both *Marasmius* and *Collybia*. At least one other species is known from British Columbia, but requires research before documentation.

***Tetrapyrgos subdendrophora***

Redhead 1989

also as *Campanella subdendrophora*

Redhead 1974

**Tricholoma** A large, important mycorrhizal genus presenting many taxonomic problems. *Tricholoma magnivelare*, the Pine Mushroom, is commercially harvested in British Columbia. There is no North American monograph. No complete treatment of either Canadian or British Columbian species is available. Many additional species exist in British Columbia and remain to be reported. Records of most species require confirmation.

***Tricholoma caligata***

as *Armillaria calligata*

Kinugawa & Goto 1978

***Tricholoma flavovirens***

Schalkwijk-Barendsen 1991a

also as *Tricholoma equestre*

Bandoni & Szczawinski 1976

***Tricholoma focale***

as *Armillaria zelleri*

Bandoni & Szczawinski 1976

also as *Tricholoma zelleri*

Ogawa 1981

***Tricholoma grave***

Davidson 1930

***Tricholoma inamoenum***

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

***Tricholoma magnivelare***

Redhead 1984d

Turner et al. 1987

Kroeger 1989

Redhead 1989

Kroeger 1991b

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

also as *Armillaria ponderosa*

Lowe 1969

Bandoni & Szczawinski 1976

Kinugawa & Goto 1978

Turner 1978

Kroeger 1989b

Saenger 1989

also as *Tricholoma ponderosum*

Yokoyama & Kobayashi 1973

Ogawa 1979

***Tricholoma populinum***

Turner et al. 1987

***Tricholoma terreum***

Hardy 1954  
Lowe 1969  
Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

***Tricholomopsis*** A moderately small genus monographed in North America by Smith (1960), but without examining western Canadian material. No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported.

***Tricholomopsis decora***

Martin & Gilbertson 1980  
also as *Clitocybe decora*  
Lowe 1969  
also as *Tricholoma decorum*  
Bandoni & Szczawinski 1976

***Tricholomopsis rutilans***

Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b  
also as *Tricholoma rutilans*  
Bandoni & Szczawinski 1976

***Tubaria*** A small, often overlooked genus for which no North American monograph exists. No complete treatment of either Canadian or British Columbian species is available. Additional species exist in British Columbia and remain to be reported.

***Tubaria furfuracea***

Schalkwijk-Barendsen 1991a  
Schalkwijk-Barendsen 1991b

***Tylopilus*** A moderately sized genus segregated from *Boletus*. No complete treatment of either Canadian or British Columbian species is available. Additional species possibly exist in British Columbia and remain to be reported.

***Tylopilus alboater***

Schisler & Volkoff 1977

***Tylopilus pseudoscaber***

as *Boletus olivaceobrunneus*  
Lowe 1969

***Volvariella*** Shaffer (1957) monographed the genus, which is widespread but rarely collected. No complete treatment of either Canadian or British Columbian species is available. Additional species possibly exist in British Columbia and remain to be reported.



***Volvariella speciosa*** var. *speciosa*

Shaffer 1957

Lowe 1969

***Volvariella stercoraria***

as *Locellina stercoraria*

Murrill 1912b

***Xeromphalina***

This genus was monographed in Canada by Redhead (1988), who revised all western Canadian specimens. Additional species are not expected, but ranges require further documentation.

***Xeromphalina campanella***

Bandoni & Szczawinski 1964

Melburn 1965

Lowe 1969

Smith et al. 1970

Perrin & Koske 1973

Bandoni & Szczawinski 1976

Martin & Gilbertson 1980

Redhead 1988

also as *Omphalia campanella*

Davidson 1930

Bier et al. 1946

Buckland 1946

Hardy 1946

Hardy 1947

Bier et al. 1948

Nobles 1948

Foster & Foster 1951

Foster et al. 1954

Hardy 1954

Lowe 1954

Thomas & Thomas 1954

Foster et al. 1958

***Xeromphalina campanelloides***

Redhead 1988

***Xeromphalina caudicinalis*** ssp. *caudicinalis*

Redhead 1988

***Xeromphalina cirris***

Redhead 1988

***Xeromphalina cornui***

Redhead 1988

*Xeromphalina fulvipipes*

Lowe 1969  
Redhead 1988  
Redhead 1989  
Gamiet & Berch 1992

**Excluded or  
Doubtful Species**

*Amanita phalloides*

Hardy 1947  
Early reports of this species from North America refer to the *Amanita virosa* complex, a group of white toxic species. *Amanita phalloides* is generally agreed to be an introduced species in North America and is found in California, Oregon, and Washington, but has never been reliably recorded from British Columbia to date. Hardy's report is undoubtedly erroneous.

*Amanita rubescens*

Lowe 1969  
This is an eastern North American species. Until verified, this report should be treated as suspect.

*Clitocybe catina*

Davidson 1930  
Lowe 1969  
This species was not recognized from western North America by Bigelow (1982, 1985). The name has probably been misapplied to another *Clitocybe*.

*Clitocybe cerussata*

possibly as *Clitocybe pithyophila*

Davidson 1930  
Lowe 1969  
This application of the name *C. pithophylla* possibly refers to *C. dilatata*.

*Crepidotus latifolius*

Lowe 1969  
This is an eastern North American species not reliably documented from the west.

*Crepidotus sphaerosporus*

Lowe 1969  
This species is only known from Europe and is not reliably known from North America.

*Lactarius subdulcis*

Davidson 1930  
Hardy 1946  
Hardy 1947

Melburn 1958

Melburn 1966

Lowe 1969

Melburn 1970

as *Lactaria subdulcis*

Lowe 1954

This species is not known for certain from North America. A complex of species has been referred to this name in older literature.

***Leccinum***

as *Boletus versipellis*

Lowe 1969

This species name has been variously applied to different species and its application in this report is unclear.

***Lyophyllum ambustum***

as *Collybia ambusta*

Melburn 1961b

This name has been variously applied and its application here is ambiguous.

***Lyophyllum* sp.**

possibly as *Clitocybe cartilaginea*

Lowe 1969

This species of *Clitocybe* is not recognized from North America. Varieties of *C. cartilaginea* reported from North America have been referred to *Lyophyllum*.

***Marasmius felix***

Lowe 1969

This is an eastern North American species. Western material represents different species.

***Marasmius rotula***

Hardy 1952a

Hardy 1954

Lowe 1954

Melburn 1956

Melburn 1957

This is an eastern North American species not reliably documented from western North America.

***Mycena atroalba***

Davidson 1930

Lowe 1969

Smith (1947) was uncertain about the use of this name in North America. Its application remains doubtful in older records.

***Mycena excisa***

Davidson 1930

Lowe 1969

An eastern species probably not found in western North America.

***Mycena leaiiana***

Schalkwijk-Barendsen 1991a

Schalkwijk-Barendsen 1991b

A doubtful report from British Columbia, as the species appears to extend no further west than Manitoba.

***Mycena minutula***

Davidson 1930

Lowe 1969

A species described from the east and not fully characterized.

***Mycena niveipes***

as *Mycena polygramma* var. *albida*

Davidson 1930

An eastern North American species not reliably documented from western North America.

***Mycena polygramma***

Lowe 1969

A species known for certain only from eastern North America.

***Oudemansiella mucida***

as *Armillaria mucida*

Cheesman 1910

This species is European and has never been reliably documented from North America. It is possible that it could be introduced with colonized trees but in this case is probably erroneously reported.

***Pholiota marginata***

Melburn 1967

This species was poorly known and early applications refer to a number of species.

***Pholiota subsquarrosa***

Lowe 1969

This species was not recognized from North America by Smith & Hesler (1968). It was said to possibly be = *P. subvelatipes*, which is now considered to be synonymous with *P. limonella*.

***Pholiota tuberculosa***

Lowe 1969

This species was not recognized from North America by Smith & Hesler (1968).

***Pleurotus albolanatus***

Thomas & Podmore 1953

Lowe 1969

This species is possibly synonymous with *Pleurocybella porrigens*. Older applications of the name are ambiguous.

***Psathyrella crenata***

Davidson 1930

Lowe 1969

A poorly known species of European origin interpreted as *Coprinus hiascens* by some Europeans.

***Psilocybe callosa***

Guzman 1983

A misapplied name, in this case possibly referring to *P. strictipes*.

***Strobilurus* sp.**

as *Collybia albipilata*

Hardy 1946

Hardy 1949b

Melburn 1956

Melburn 1957

Melburn 1960

Melburn 1961a

Melburn 1963

Melburn 1968

Lowe 1969

as *Collybia conigena*

Davidson 1930

as *Collybia conigenoides*

Davidson 1930

Lowe 1969

*Strobilurus* species have been variously reported as *Collybia albipilata* and *C. conigenoides*. Unless examined microscopically none can be reliably assigned (see Redhead 1980d). *Collybia albipilata* s.s. = *Strobilurus albipilatus*.

***Stropharia appendiculata***

Hardy 1946

An untraceable name possibly referring to a *Psathyrella* or *Stropharia ambigua*.

***Suillus spraguei***

as *Boletinus pictus*

Hardy 1947

Melburn 1960

Melburn 1961a

as *Boletus pictus*

Hardy 1952b

This is an eastern North American species found under eastern white pine. Early western reports are probably based upon *S. lakei* (q.v.), a Douglas-fir associate.

***Xerula radicata***

as *Collybia radicata*

Lowe 1969

This species is rare in North America and is only known from the eastern United States. The British Columbia record appears to have been based on *Collybia maculata*.

**Gasteromycetes and False Truffles**

*Astraeus hygrometricus*  
*Battarrea stevensii*  
*Bovista pila*  
*Bovista pusilla*  
*Calvatia elata*  
*Calvatia gigantea*  
*Calvatia lepidophorum*  
*Calvobovista subsculpta*  
*Clathrus ruber*  
*Crucibulum laeve*  
*Cyathus striatus*  
*Geastrum minus*  
*Geastrum triplex*  
*Lycoperdon curtisii*  
*Lycoperdon perlatum*  
*Lycoperdon pyriforme*  
*Lycoperdon subincarnatum*  
*Lysurus cruciatus*  
*Mycenastrum corium*  
*Mycoacia denudata*  
*Mycoacia uda*  
*Mutinus caninus*  
*Nidula candida*  
*Nidula niveotomentosa*  
*Nidularia pulvinatus*  
*Phallus impudicus*  
*Pisolithus tinctorius*  
*Podaxis pistillaris*  
*Rhizopogon canadensis*  
*Rhizopogon cinnamomeus*  
*Rhizopogon columbianus*  
*Rhizopogon defectus*  
*Rhizopogon diabolicus*  
*Rhizopogon evadens*  
*Rhizopogon florencianus*  
*Rhizopogon hawkeriae*  
*Rhizopogon idahoensis*  
*Rhizopogon molallaensis*  
*Rhizopogon occidentalis*  
*Rhizopogon ochraceorubens*  
*Rhizopogon olivaceofuscus*  
*Rhizopogon pseudoroseolus*  
*Rhizopogon pseudovillosus*  
*Rhizopogon roseolus*  
*Rhizopogon rubescens*

*Rhizopogon subcaerulescens*  
*Rhizopogon subsalmoneus*  
*Rhizopogon vinicolor*  
*Scleroderma aerolatum*  
*Scleroderma aurantia*  
*Scleroderma cepa*  
*Scleroderma lycoperdoides*  
*Simblum sphaerocephalum*  
*Truncocolumella citrina*  
*Truncocolumella rubra*  
*Tulostoma campestre*  
*Tulostoma tuberculatum*

**Hydnoid and Thelephoroid Fungi**

*Hydnellum aurantiacum*  
*Hydnellum caeruleum*  
*Hydnellum peckii*  
*Hydnellum pineticola*  
*Hydnellum scrobiculatum*  
*Hydnellum suaveolens*  
*Hydnum repandum*  
*Hydnum umbilicatum*  
*Phellodon tomentosus*  
*Sarcodon calvatum*  
*Sarcodon fuscoindicum*  
*Sarcodon imbricatum*  
*Sarcodon stereosarcinon*  
*Thelephora caryophyllea*  
*Thelephora palmata*  
*Thelephora regularis*

**Coral Fungi**

*Clavaria vermicularis*  
*Clavariadelphus ligula*  
*Clavariadelphus occidentalis*  
*Clavariadelphus sachalinensis*  
*Clavariadelphus truncatus*  
*Clavicornia taxophila*  
*Clavulina cinerea*  
*Clavulina cristata*  
*Clavulinopsis aurantio-cinnabarinus*  
*Macrotyphula fistulosa*  
*Ramaria apiculata*  
*Ramaria botrytis*  
*Ramaria concolor*  
*Ramaria distinctissima*  
*Ramaria flava*

*Ramaria flavo-brunnescens*  
*Ramaria formosa*  
*Ramaria mutabilis*  
*Ramaria rubella*  
*Ramaria stricta*  
*Ramaria subbotrytis*  
*Ramaria suecia*  
*Sparassis crispa*

*Typhula abietina*  
*Typhula erythropus*  
*Typhula incarnata*  
*Typhula mycophaga*  
*Typhula setipes*  
*Typhula thaxteri*  
*Typhula umbrina*



<i>Aleuria aurantia</i>	<i>Elaphomyces muricatus</i>
<i>Anthracobia macrocystis</i>	<i>Encoelia fascicularis</i>
<i>Anthracobia melaloma</i>	<i>Encoelia furfuracea</i>
<i>Apiosporina morbosa</i>	<i>Gelatinodiscus flavidus</i>
<i>Ascobolus carbonarius</i>	<i>Geopyxis carbonaria</i>
<i>Ascobolus epimyces</i>	<i>Geopyxis vulcanalis</i>
<i>Ascobolus furfuraceus</i>	<i>Godronia cassandrae</i>
<i>Ascobolus immersus</i>	<i>Godronia confertus</i>
<i>Ascobolus michaudii</i>	<i>Godronia fuliginosa</i>
<i>Ascobolus sacchariferus</i>	<i>Godronia spiraeae</i>
<i>Ascobolus tenuisporus</i>	<i>Godronia zelleri</i>
<i>Ascocoryne sarcoides</i>	<i>Gyromitra ambigua</i>
<i>Bisporella citrina</i>	<i>Gyromitra californica</i>
<i>Bryoglossum gracile</i>	<i>Gyromitra caroliniana</i>
<i>Caloscypha fulgens</i>	<i>Gyromitra columbiana</i>
<i>Cenangium acuum</i>	<i>Gyromitra esculenta</i>
<i>Cenangium ferruginosum</i>	<i>Gyromitra infula</i>
<i>Cenangium singulare</i>	<i>Gyromitra melaleucoides</i>
<i>Cheilymenia ciliata</i>	<i>Helvella acetabulum</i>
<i>Cheilymenia coprinata</i>	<i>Helvella corlum</i>
<i>Chlorenchocella versiformis</i>	<i>Helvella crispa</i>
<i>Chlorociboria aeruginascens</i>	<i>Helvella elastica</i>
<i>Ciboria gordonii</i>	<i>Helvella lacunosa</i>
<i>Ciboria rufo-fusca</i>	<i>Helvella macropus</i>
<i>Ciborina foliicola</i>	<i>Helvella solitaria</i>
<i>Ciborina whetzelii</i>	<i>Herpotrichia juniperina</i>
<i>Cordyceps militaris</i>	<i>Humaria hemisphaerica</i>
<i>Cordyceps myrmecophila</i>	<i>Hypomyces aurantius</i>
<i>Daldinia concentrica</i>	<i>Hypomyces cervinigenus</i>
<i>Daldinia occidentalis</i>	<i>Hypomyces lactifluorum</i>
<i>Dasyscyphus bicolor</i>	<i>Hypomyces rosellus</i>
<i>Dasyscyphus ellisianus</i>	<i>Hypoxylon cerebrinum</i>
<i>Dasyscyphus sulphureus</i>	<i>Hypoxylon cinereo-lilacinum</i>
<i>Dasyscyphus turbinulatus</i>	<i>Hypoxylon diathrauston</i>
<i>Dasyscyphus virginellus</i>	<i>Hypoxylon fragiforme</i>
<i>Dematioscypha dematiicola</i>	<i>Hypoxylon fuscum</i>
<i>Dermea balsamea</i>	<i>Hypoxylon howeianum</i>
<i>Dermea cerasi</i>	<i>Hypoxylon mammatum</i>
<i>Dermea prunastri</i>	<i>Hypoxylon mediterraneum</i>
<i>Dermea pseudotsugae</i>	<i>Hypoxylon multiforme</i>
<i>Dermea rhytidiformans</i>	<i>Hypoxylon nummularium</i>
<i>Dermea tetrasperma</i>	<i>Hypoxylon rubiginosum</i>
<i>Discina macrospora</i>	<i>Hypoxylon serpens</i>
<i>Discina perlata</i>	<i>Hypoxylon vogesiacum</i>
<i>Discinella schimperi</i>	<i>Lachnellula agassizii</i>
<i>Elaphomyces granulatus</i>	<i>Lachnellula arida</i>

<i>Lachnellula calyciformis</i>	<i>Pulvinula archeri</i>
<i>Lachnellula ciliata</i>	<i>Roesleria subterranea</i>
<i>Lachnellula flavovirens</i>	<i>Roeslerina microspora</i>
<i>Lachnellula fuscanguinea</i>	<i>Roeslerina radicella</i>
<i>Lachnellula occidentalis</i>	<i>Pyronema omphalodes</i>
<i>Lachnellula pini</i>	<i>Rhizina undulata</i>
<i>Leucoscypha hetleri</i>	<i>Rutstroemia sydowiana</i>
<i>Mitrula elegans</i>	<i>Sarcoscypha coccinea</i>
<i>Morchella angusticeps</i>	<i>Sacrospira coronaria</i>
<i>Morchella elata</i>	<i>Sarcosoma mexicana</i>
<i>Morchella esculenta</i>	<i>Sclerotinia borealis</i>
<i>Monilinia corni</i>	<i>Sclerotinia bulborum</i>
<i>Monilinia demissa</i>	<i>Sclerotinia fructicola</i>
<i>Monilinia oxycocci</i>	<i>Sclerotinia gladioli</i>
<i>Monilinia padi</i>	<i>Sclerotinia homeocarpa</i>
<i>Monilinia vaccinii-corymbosi</i>	<i>Sclerotinia laxa</i>
<i>Neournula pouchetii</i>	<i>Sclerotinia minor</i>
<i>Onygena equina</i>	<i>Sclerotinia narcissicola</i>
<i>Otidea kauffmanii</i>	<i>Sclerotinia polyblastis</i>
<i>Otidea leporina</i>	<i>Sclerotinia sclerotiorum</i>
<i>Otidea onotica</i>	<i>Sclerotinia trifoliorum</i>
<i>Otidea smithii</i>	<i>Scutellinia scutellata</i>
<i>Paxina barlae</i>	<i>Scutellinia setosa</i>
<i>Paxina recurvum</i>	<i>Scutellinia umbrarum</i>
<i>Peziza badia</i>	<i>Spathularia flavida</i>
<i>Peziza brunneoatra</i>	<i>Spathularia velutipes</i>
<i>Peziza domiciliana</i>	<i>Tarzetta cupularis</i>
<i>Peziza emileia</i>	<i>Tarzetta rosea</i>
<i>Peziza melaleuca</i>	<i>Thelebolus stercoreus</i>
<i>Peziza petersii</i>	<i>Thelebolus zukalii</i>
<i>Peziza phyllogena</i>	<i>Tricharina praecox</i>
<i>Peziza praetervisa</i>	<i>Trichoglossum hirsutum</i>
<i>Peziza repanda</i>	<i>Tricophaea contradicta</i>
<i>Peziza succosa</i>	<i>Tuber gibbosum</i>
<i>Peziza sylvestris</i>	<i>Tympanis alnea</i>
<i>Peziza vesciculosa</i>	<i>Tympanis confusa</i>
<i>Peziza violacea</i>	<i>Tympanis conspersa</i>
<i>Pithya cupressina</i>	<i>Tympanis hypopodia</i>
<i>Pithya vulgaris</i>	<i>Tympanis hysterioides</i>
<i>Plectania melastoma</i>	<i>Tympanis laricina</i>
<i>Plectania nannfeldtii</i>	<i>Tympanis spermatiospora</i>
<i>Plicaria endocarpoides</i>	<i>Tympanis truncatula</i>
<i>Plicaria trachycarpa</i>	<i>Ustulina deusta</i>
<i>Pseudoplectania melaena</i>	<i>Verpa bohemica</i>
<i>Pseudoplectania nigrella</i>	<i>Verpa conica</i>
<i>Pseudoplectania vogesiaca</i>	<i>Xylaria hypoxylon</i>

Each “element” (e.g., a species) on the Conservation Data Centre’s list is ranked using the system developed over the last 20 years by the Nature Conservancy. This system is now in use in six Canadian provinces, all U.S. states, and a number of Latin American countries. Most government agencies within these jurisdictions have also adopted this ranking system.

Each element is ranked at two levels: global (G) and provincial, or “subnational” (s). The global rank is based on the status of the element throughout its entire range, whereas the provincial rank is based solely on its status within British Columbia. The global rank is established by a biologist assigned to that element by The Nature Conservancy; the provincial rank cannot exceed the global rank.

The status of an element is indicated on a scale of one to five; the score is based primarily on the number of extant occurrences of the element, but other factors such as abundance, range, protection, and threats are also considered if the information is available. Generally, the Conservation Data Centre will track only those species with ranks of 1–3. In addition to the ranks 1–5, there are several letter ranks; all are defined below.

- 1 = Critically imperiled because of extreme rarity (5 or fewer extant occurrences or very few remaining individuals) or because of some factor(s) making it especially vulnerable to extirpation or extinction.
- 2 = Imperiled because of rarity (typically 6–20 extant occurrences or few remaining individuals) or because of some factor(s) making it vulnerable to extirpation or extinction.
- 3 = Rare or uncommon (typically 21–100 occurrences); may be susceptible to large-scale disturbances (e.g., may have lost extensive peripheral populations).
- 4 = Frequent to common (greater than 100 occurrences); apparently secure but may have a restricted distribution; or there may be perceived future threats.
- 5 = Common to very common; demonstrably secure and essentially ineradicable under present conditions.
- H = Historical occurrence; usually not verified in the last 40 years, but with the expectation that it may someday be rediscovered.
- X = Apparently extinct or extirpated, without the expectation that it will be rediscovered.
- U = Status uncertain, often because of low search or cryptic nature of the element; uncertainty spans a range of 4 or 5 ranks.
- R = Reported from the province, but without persuasive documentation for either accepting or rejecting the report.
- RE = Reported in error, but this error has persisted in the literature.
- ? = No information is available or the number of extant occurrences is estimated.
- A = An element (usually an animal) that is considered accidental or casual in province; a species that does not appear on an annual basis.

- E = An exotic or introduced species to the province.
- Z = Occurs in the province but as a diffuse, usually moving, population; difficult or impossible to map static occurrences.

In addition to the above ranks, there are four letter qualifiers sometimes used on conjunction with them:

- T = Designates a rank associated with a subspecies.
- B = Breeding; the associated rank refers to breeding occurrences of mobile animals.
- N = Non-breeding; the associated rank refers to non-breeding occurrences of mobile animals.
- Q = Taxonomic validity of the element is not clear or is in question.

Mycological Herbarium — Curator Dr. R. Bandoni  
Department of Botany  
University of British Columbia  
Vancouver, British Columbia  
V6T 2B1

FIDS Herbarium — Curator Dr. B. Callan  
Pacific Forestry Centre  
506 West Burnside Road  
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National Mycological Herbarium — Curator Dr. S. Redhead  
Centre for Land & Biological Resources Research  
Research Branch, Agriculture Canada  
Ottawa, Ontario  
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Mycological Herbarium — Curator Dr. R. Fogel  
University of Michigan  
Ann Arbor, Michigan 48109

Mycological Herbarium — Curator Dr. J. Ammirati  
Department of Botany  
University of Washington  
Seattle, Washington 98195

**APPENDIX 8** Mycological taxonomists in North America

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Taxonomist	Address	Area of expertise
Dr. Joseph F. Ammirati	Dept. Botany, University of Washington, Seattle, WA 98195 phone: 206 543-1986 fax: 206 685-1728	Agarics and other macrofungi, especially Cortinariaceae and Amanita; secondary and old- growth forestry plots in Washington.
Dr. Robert J. Bandoni (retired)	Dept. Botany, University of British Columbia, Vancouver, B.C. V6T 2B1	Jelly fungi (esp. Tremellales), general mycology.
Dr. Timothy J. Baroni	P.O. Box 2000, Dept. Biol. Sci., Cortland College, SUNY, Cortland, NY 13045 phone: 607 753-2725 fax: 607 753-5999	Rhodocybe, Clitopilus, other pink-spored mushrooms.
Dr. Shannon Berch	B.C. Ministry of Forests Research Branch Glyn Road Research Station, 1320 Glyn Road, Victoria, B.C. V8W 3E7 phone: 250 356-9051 fax: 250 356-8543	VAM fungi, but also general mycology.
Dr. Brenda Callan	Pacific Forest Centre, Forestry Canada, 506 West Burnside Road, Victoria, B.C. V8V 2Y1 phone: 250 363-0744 fax: 250 363-0775	Forest pathogens, Xylariaceae, general fungi incl. polypores, common agarics and ascomycetes.
Dr. Dennis E. Desjardin	Department of Biology, San Francisco State Univ., San Francisco, CA 94132 phone: 415 338-1548	Marasmius, Collybia, Mycena.
Dr. Keith N. Egger	Faculty of Natural Resources and Environmental Studies, University of Northern B.C. 3333 University Way, Prince George, B.C. V2N 2Z9 phone: 604 960-5860	Cup fungi, especially ascomycetes on burned sites.
Ms. Sharmin Gamiet	356 Defehr Road, Abbotsford, B.C. V2S 1M3 phone: 604 856-7572 fax: 604 857-0829	Generalist.

Dr. James Ginns	ECORC, Research Branch Agriculture & Agri-Food Canada Ottawa, Ont. K1A 0C6 phone: 613 759-1382	Polypores, other aphylophorales, miscellaneous wood decay fungi.
Mr. Paul Kroeger	395 East 40th, Vancouver, B.C. V5W 1M1 phone: 604 322-0074	Contact for Vancouver Mycological Society, experienced amateur mushroom collector.
Dr. David L. Largent	Dept. Biol., Humboldt State University, Arcata, CA 95221 phone: 707 826-4841	Leptonia, Nolanea, Entoloma, other pink-spored mushrooms/ contact for mushroom harvesting plots in California.
Dr. Roy E. Halling	New York Botanical Garden, Bronx, NY 10458-5126 phone: 212 220-8613 fax: 212 220-6504	Collybia, boletes.
Dr. Andrew S. Methven	Botany Dept., Eastern Illinois Univ., Charleston, IL 61920 phone: 217 345-9401	Clavariadelphus.
Dr. Duncan Morrison	Pacific Forest Centre, Forestry Canada, 506 West Burnside Road, Victoria, B.C. V8V 2Y1 phone: 250 388-0600 fax: 250 388-0775	Armillaria.
Dr. Gregory M. Mueller	Dept. Botany, Field Museum Natural History, Chicago, IL 60605-2496 phone: 312 922-9410 fax: 312 427-7269	Laccaria.
Mrs. Lorelei L. Norvell	Pacific Northwest Mycology Service LLC 6720 NW Skyline, Portland, OR 97229 phone: 503 297-3296	Phaeocollybia, chanterelles/contact for Oregon Mycological Society — chanterelle harvesting plots in Oregon.
Dr. Clark Ovrebo	Dept. Biol., Univ. Central Oklahoma, Edmond, OK 73034 phone: 405 341-2980 fax: 405 341-4964	Tricholoma.
Dr. Ronald H. Petersen	Dept. Botany, Univ. Tennessee, Knoxville, TN 37916-1100 phone: 615 974-6217 fax: 615 974-0978	Coral fungi, Gomphus, chanterelles.

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Agarics, boletes, other fleshy fungi,  
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Amanita.



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