

Macrofungi of British Columbia: Requirements for Inventory

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Ministry of Forests Research Program

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S. Redhead



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PREFACE

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

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

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

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, bird's nest 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

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

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
Mythicomyces 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 fulvozona 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 ECOREGIONS¹

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.

¹ 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**
Hemimyцена 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

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 *Pseudomphalina* (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

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

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

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> ²	<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>

² 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> ³
<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 amorphia</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

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 (Höhnel & Litsch.) Parm. 1965
Gloeocystidiellum clavuligerum (Höhnel & 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.

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
Pilly & 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

Garnier & 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 amethysteo-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

Garnier & 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

Garnier & 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 & Garnier 1992

Mycena leptcephala

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

Mycena lohwegii

Redhead 1984e
Redhead 1989

Mycena longiseta

Garnier & Garnier 1992

Mycena occidentalis

Smith 1947

Mycena osmundicola

Smith 1947

Mycena parabolica

Davidson 1930
Lowe 1969

Mycena pterigena

Redhead 1984e
Garnier & Garnier 1992

Mycena pura

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

Mycena rorida

Garnier & Garnier 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 leaiana

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>Hypoxyylon cerebrinum</i>
<i>Dasyscyphus sulphureus</i>	<i>Hypoxyylon cinereo-lilacinum</i>
<i>Dasyscyphus turbinulatus</i>	<i>Hypoxyylon diathrauston</i>
<i>Dasyscyphus virginellus</i>	<i>Hypoxyylon fragiforme</i>
<i>Dematioscypha dematiicola</i>	<i>Hypoxyylon fuscum</i>
<i>Dermea balsamea</i>	<i>Hypoxyylon howeianum</i>
<i>Dermea cerasi</i>	<i>Hypoxyylon mammatum</i>
<i>Dermea prunastri</i>	<i>Hypoxyylon mediterraneum</i>
<i>Dermea pseudotsugae</i>	<i>Hypoxyylon multiforme</i>
<i>Dermea rhytidiformans</i>	<i>Hypoxyylon nummularium</i>
<i>Dermea tetrasperma</i>	<i>Hypoxyylon rubiginosum</i>
<i>Discina macrospora</i>	<i>Hypoxyylon serpens</i>
<i>Discina perlata</i>	<i>Hypoxyylon 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>Sacrospora 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>Neourmula 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.

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APPENDIX 8 Mycological taxonomists in North America

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.

Dr. Scott A. Redhead

ECORC, Research Branch
Agriculture Canada,
Ottawa, Ont. K1A 0C6
phone: 613 759-1384
fax: 613 759-1599

Agarics, boletes, other fleshy fungi,
especially saprophytes.

Mr. Rodham E. Tulloss

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Amanita.

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