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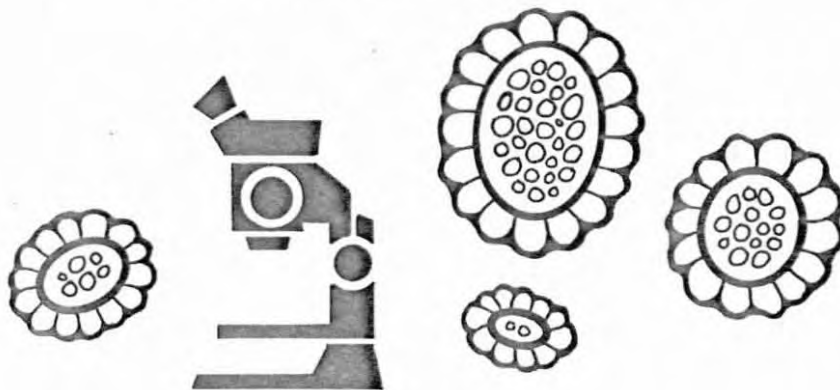
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# ANNOTATED CHECK LIST OF FOREST INSECTS AND DISEASES OF THE YUKON TERRITORY

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## ABSTRACT

Few publications have been made available on forest insects and diseases of the Yukon Territory. This listing, partly annotated, includes upwards of 523 insect species and 312 disease organisms, and represents the most up-to-date data derived from the records of the Forest Insect and Disease Survey at Victoria, B.C.

## RÉSUMÉ

Il existe peu de publications sur les insectes et les maladies des arbres du Territoire du Yukon. Cette énumération, partiellement annotée, contient plus de 523 espèces d'insectes et 312 organismes pathogènes et représente les données les plus récentes provenant du Relevé des insectes et maladies des arbres à Victoria, C.-B.

## INTRODUCTION

The forest pests of the Yukon Territory have received relatively little attention, and few published references are available. The listings and notations given here are derived mainly from Forest Insect and Disease Survey annual district reports and file records 1949-1976 maintained at the Pacific Forest Research Centre. The species of insects and diseases are presented in separate lists, the insects alphabetically and the disease organisms in taxonomic sequence. A host list is provided only for the diseases. All substantiated records on file at the Research Centre have been included, but there are many species yet to be identified or discovered. Some groups of pests of the Yukon, such as root rot fungi, obviously are vaguely known. Most designations have been provided by staff at the Pacific Forest Research Centre and at the Biosystematics Research Institute, Ottawa. Notations re appearance, habit, importance, etc., have been added where species are considered significant.

## FOREST INSECTS

Insect names on the following pages are listed alphabetically by order, family, genus and species. Beetles and moths are predominant in the listing because they are the principal orders affecting the forests, and also because they are the insects most readily obtained and identified by the routine collection methods employed by the Forest Insect and Disease Survey. Host tree data are given only for those insect species with known feeding habits; the host records are necessarily incomplete. Most of the insect species occur in other regions, where they might be of different status and/or on different host plants. Subspecies have been omitted where duplication of species occurred; authors are not included. Common names approved by the Entomological Society of America have capital letters.

## Check List

## COLEOPTERA

## Alleculidae

*Androchirus* sp.

Anobiidae -- small death-watch or drug-store beetles; they bore into dead wood, including wood products, and other plant material, living or dead.

*Caenocara* sp.

*Coelostethus* spp.

*Ernobius* spp.

*Hadrobregmus* spp. -- occasionally a pest in household woodwork.

*Utobium elegans*

*Xyletinus furcatus*

## Bostrichidae

*Stephanopachys* sp.

Buprestidae -- flat-headed wood borers; larvae bore flat tunnels beneath the tree bark and sometimes into the wood; the hard-bodied adults are often metallic and sometimes brightly colored.

*Agrilus anxius*

*Buprestis maculativentris* -- stout metallic dark grey beetle.

*Buprestis nuttalli* -- stout metallic dark gray beetle.

*Chrysobothris trinervia*

*Dicerca prolongata* -- stout metallic dark grey beetle, wing tips conspicuously pointed.

*Dicerca tenebrica* -- stout metallic dark grey beetle, wing tips conspicuously pointed.

*Dicerca tenebrosa* -- stout metallic dark grey beetle, wing tips conspicuously pointed.

*Melanophila acuminata* -- small angular black beetle.

*Melanophila drummondi* -- Flat-headed Fir Borer; common.

## Byrrhidae -- pill beetles.

*Byrrhus* spp.

*Cytilus alternatus*

*Simplocaria* sp.

Cantharidae -- leather-winged beetles; common soft slender black beetles, usually marked with orange.

*Cantharis* spp.

*Podabrus* spp. -- several common species.

*Silis difficilis*

Carabidae -- ground beetles; usually predaceous.

*Agonum bembidioides*

*Bembidion* spp. -- small flat shiny black beetles.

*Nebria* spp.

*Notiophilus* sp.

Cephaloidae

Cephaloon tenuicorne

Cerambycidae -- round-headed wood borers, or long-horned beetles; some larvae bore round holes in dying timber. The largest native beetles belong to this family.

- Acmaeops proteus
- Anoplodera aspera
- Anoplodera canadensis -- black and/or red beetle.
- Anoplodera laetifica
- Anoplodera mutabilis
- Anoplodera nigrella
- Anoplodera sexmaculata
- Anoplodera tibialis - a common slender black and yellow beetle.
- Arhopalus foveicollis
- Asemum striatum
- Callidium sp. - black or dark blue beetle.
- Centrodera spurca - large pale brown beetle.
- Cortodera sp.
- Gonocallus collaris
- Grammoptera filicornis - small slender black beetle.
- Grammoptera subargentata
- Meriellum proteus
- Monochamus oregonensis - Oregon Fir Sawyer; large black beetle sometimes marked with grey and/or white; very long antennae.
- Neoclytus muricatus
- Pachyta lamed - stout brown-shaded beetle.
- Phymatodes dimidiatus
- Phymatodes elongatus
- Pogonocherus penicellatus
- Pogonocherus pictus
- Pogonocherus propinquus
- Saperda populnea - large grey poplar borer.
- Tetropium cinnamopterum
- Tetropium velutinum
- Xylotrechus obliterated
- Xylotrechus sagittatus
- Xylotrechus undulatus

Chrysomelidae - leaf beetles, frequently metallic and/or brightly colored, usually small; larvae are sometimes colonial and can cause defoliation; usually on deciduous plants.

- Adoxus obscurus
- Altica spp. - metallic, blue-green flea-beetles; frequently common.

- Altica tombacina - small black flea-beetle.
- Chalcoides sp.
- Chrysomela aeneicollis
- Chrysomela falsa
- Entomoscelis americana - Red Turnip Beetle.
- Gonioctena americana
- Gonioctena notmani
- Orsodacne atra
- Phratora hudsonia
- Phratora purpurea
- Pyrrhalta carbo - Pacific Willow Leaf Beetle; sometimes numerous.
- Pyrrhalta punctipennis
- Syneta carinata
- Syneta hamata
- Syneta pilosa - common.
- Zeugophora abnormis

Cicindelidae - tiger beetles; large active predators.

Cicindela longilabris

Cleridae - checkered beetles; predaceous.

- Enoclerus lecontei - active black beetle with grey bands; frequently associated with bark insects.
- Necrobia sp.
- Thanasimus undulatus
- Trichodes ornatus - blue and yellow beetle, on flowers.

Coccinellidae - lady-bird beetles; common predators.

- Adalia bipunctata - Two-spotted Lady Beetle.
- Adalia frigida
- Anatis mali
- Anisocalvia quatuordecimguttata
- Coccinella monticola
- Coccinella transversoguttata richardsoni
- Coccinella trifasciata perplexa
- Hippodamia lunatomaculata dobzhanski
- Hippodamia parenthesis
- Hippodamia quinquesignata quinquesignata
- Hippodamia tredecimpunctata tibialis
- Microwisea sp.
- Mulsantina hudsonica
- Mulsantina picta
- Neomysia pullata
- Neomysia randalli

## Colydiidae

*Lasconotus* sp.

## Cryptophagidae - fungus beetles.

*Cryptophagus* sp.

## Cucujidae - flat beetles.

## Cupesidae

Curculionidae - weevils, or snout beetles; the larvae usually live in plants or plant material, and can cause growth deformity, seed mortality, food spoilage, etc.

*Dorytomus frosti*

*Hylobius piceus* - large black root weevil.

*Hylobius pinicola*

*Lepyrus gemellus* - large brown weevil.

*Magdalis* spp. - dark blue weevils.

*Panscopus* sp.

*Pissodes canadensis*

*Pissodes rotundatus*

*Pissodes schwarzi*

*Pissodes terminalis* - Lodgepole Terminal Weevil;  
pine leaders are killed by its boring.

*Proctorus decipiens*

*Rhyncolus* sp.

## Dascillidae

*Macropogon piceus*

## Dermestidae - larder beetles.

*Attagenus* sp. - carpet beetles; may be household  
pests of organic material.

*Perimegatoma* sp.

## Dryopidae

Elaterridae - click beetles, or wireworms; the larvae feed on plant material, most often in the soil.

*Ampedus nigrinus* - small shiny black click beetle.

*Ampedus pullus*

*Conoderus falli*

*Ctenicera aereipennis* - Puget Sound Wireworm.

*Ctenicera bombycina*

*Ctenicera hoppingi*

*Ctenicera kendalli*

*Ctenicera lobata caricina*

*Ctenicera mendax*

*Ctenicera morula*

*Ctenicera nitidula*

*Ctenicera ochreipennis*

*Ctenicera propola columbiana*

*Ctenicera semimetallica*

*Ctenicera triundulata*

*Ctenicera umbricola*

*Dalopius tristis*

*Denticollis* sp.

*Drasterius debilis*

*Eanus decoratus*

*Eanus estriatus*

*Hypolithus impressicollis*

*Lacon brevicornis*

*Lacon obtectus*

*Lacon profusus*

*Limonius aeger* - small slender black click beetle.

*Limonius pectoralis*

*Negastrius tumescens*

*Sericus brunneus*

## Helodidae

*Cyphon variabilis*

Lampyridae - fireflies; larvae are frequently scavengers under bark.

*Lucidota* sp. - soft black beetle with orange-pink markings.

## Lathridiidae

*Corticaria* sp.

## Leptodiridae

*Catops* sp.



## Melandryidae - bark boring beetles.

Scotochroa basalis  
 Stenotrachelus aeneus  
 Tetratoma concolor  
 Xylita laevigata

## Melyridae - soft-winged flower beetles.

Hoppingiana hudsonica - small black beetle.  
 Malachius sp.  
 Trichochorus sp.

## Mordellidae - flower beetles.

Anaspis sp.

## Nitidulidae - sap feeding beetles.

Brachypterus sp.  
 Epuraea sp. - small flat oval brown beetles.  
 Nitidula rufipes

## Orthoperidae

Sacium sp.

## Ostomidae

Ostoma ferruginea

## Rhizophagidae

Rhizophagus sp.

## Scaphidiidae

Scaphium castanipes

Scarabaeidae - leaf chafers, dung beetles, June beetles, etc.; some larvae are "white grubs" that usually live on plant material in the soil, sometimes causing damage to lawns, gardens, nurseries, etc; adults may cause defoliation.

Dichelonyx spp. - bronze-green leaf chafers.  
 Diplotaxis sp. - brown June beetle.

Scolytidae - bark beetles, ambrosia beetles, wood engravers, etc. A large group of beetles, widely distributed; mostly secondary in feeding habit, but many of them primary, and some are serious forest pests to wood mill products. Bark beetles bore tunnels through the bark and lay eggs, from which the larvae make extensive galleries between the bark and the wood. Ambrosia beetles bore small round tunnels into the wood, which is usually stained by fungus introduced with the beetle.

Carphoborus carri  
 Cryphalus nitidus  
 Dendroctonus murrayanae - Lodgepole Pine Beetle.  
 Dendroctonus ponderosae - Mountain Pine Beetle; a serious pest of western pines.  
 Dendroctonus pseudotsugae - Douglas Fir Beetle; frequently of economic importance.  
 Dendroctonus punctatus - Allegheny Spruce Beetle.  
 Dendroctonus rufipennis  
 Dendroctonus simplex - Eastern Larch Beetle.  
 Dryocoetes affaber  
 Dryocoetes autographus  
 Ips amiskwiensis  
 Ips interpunctus  
 Ips perturbatus  
 Ips pini - Pine Engraver; a common and frequently important bark beetle. Adults have a spiny posterior.  
 Myeloborus boycei  
 Orthotomicus caelatus  
 Orthotomicus latidens  
 Orthotomicus vicinus  
 Phloeosinus alaskanus  
 Pityogenes carinulatus  
 Pityogenes knechteli  
 Pityophthorus aquilus  
 Pityophthorus borealis  
 Pityophthorus gracilis  
 Pityophthorus murrayanae  
 Pityophthorus nitidulus  
 Pityophthorus tuberculatus - a twig beetle.  
 Polygraphus rufipennis  
 Scolytus piceae - a stubby shiny black bark beetle.  
 Taenioglyptes ruficollis ruficollis  
 Trypodendron lineatum  
 Trypodendron retusum

## Staphylinidae - rove beetles.

Tenebrionidae - darkling beetles.

Corticeus praetermissus  
Corticeus substriatus  
Helops sp.  
Scaphidema aeneolum  
Upis ceramboides - a large black sculptured beetle associated with rotten wood.

Throscidae

Aulonothroscus sp.

EPHEMEROPTERA

Ephemeroptera - Mayflies; in or near water.

HEMIPTERA

Alydidae

Alydus pluto

Anthocoridae - minute pirate bugs.

Anthocoris antevolens  
Anthocoris melanocerus  
Anthocoris musculus  
Tetraphleps canadensis  
Tetraphleps furvus

Aradidae - flat bugs; sap feeders, often under bark.

Aneurus septentrionalis  
Aradus funestus  
Aradus lugubris

Lygaeidae - plant bugs.

Crophius sp.  
Kleidocerys sp.  
Ligyrocorys sylvestris  
Sphragisticus nebulosus

Miridae - leaf bugs.

Agnocoris pulverulentus  
Deraeocoris brevos  
Deraeocoris diveni  
Deraeocoris kennicotti  
Deraeocoris piceicola  
Dichroscytus suspectus  
Dycyphus discrepans  
Lepidopsallus rostratus  
Lepidopsallus rubidus  
Lygidea salicis  
Lygocoris pabulinus  
Lygus borealis  
Lygus columbiensis  
Lygus shulli  
Microphylellus sp.  
Neolygus sp.  
Orthotylus sp.  
Phytocoris spp.  
Pilophorus ameonus  
Pilophorus uhleri  
Pinalitus approximatus  
Plagiognathus suffuscipennis  
Platylygus sp.  
Psallus drakei  
Salignus distinguendus  
Stenodema sp.

Nabidae - damsel bugs - predators.

Nabis ferus  
Nabis inscriptus

Pentatomidae - stink bugs; some feed on plant juices, some are predaceous.

Chlorochroa uhleri - large green predator.  
Elasmotethus cruciatus  
Elasmotethus interstinctinus  
Meadorus lateralis

HOMOPTERA

Achilidae

Catonia sp.  
Epiptera sp. - large brown tree hopper, common on herbage, shrubs and trees.



Adelgidae - woolly aphids, most frequently found on spruces.

*Adelges cooleyi* - Cooley Spruce-Gall Aphid; several variable generations may occur with this common insect; the pineapple-shaped galls on spruce and the woolly white nymphs on Douglas-fir being the most conspicuous.

*Adelges lariciatus*

*Adelges strobilobius*

*Pineus pinifoliae* - forms small pointed galls on the twigs of young spruce.

Aphididae - aphids.

*Chaitophorus populicola*

*Cinara* spp. - large dark aphids, most often on conifers.

*Pterocomma salicis*

Cercopidae - spittle bugs.

*Aphrophora* sp.

*Philaronia bilineata*

Cicadellidae - leaf hoppers; small active sap feeders.

*Cuerna striata*

*Empoa* sp.

*Empoasca* sp.

*Idiocerus lachrymalis*

*Macropsis viridis*

*Oncopsis* sp.

Cicadidae - cicadas.

Cixiidae

*Cixius basalis*

*Cixius meridionalis*

Coccidae - scale insects.

*Pulvinaria vitis*

Flatidae

Membracidae - thorn insects.

## HYMENOPTERA

Apidae - bees.

*Bombus terricola occidentalis* - a bumblebee.

*Nomada* sp.

Argidae - sawflies, mostly deciduous feeders.

*Arge clavicornis*

Braconidae

Chalcididae

Chrysididae

*Omalus* sp.

Cimbicidae - large sawflies.

*Cimbex americana* - Elm Sawfly; large black and white adult; large yellow or pink larva.

*Trichiosoma triangulum* - large pale green sawfly on willow.

*Zaraea americana*

*Zaraea inflata*

Diprionidae

*Neodiprion* sp. - a sawfly, the green and black larvae common on conifers.

Formicidae - ants.

Ichneumonidae - common parasitic wasps.

*Phaeogenes* sp.

Leucospidae

Leucospis sp.

Megachilidae - leaf cutting bees.

Hoplitis albifrons

Pamphiliidae - web spinning sawflies.

Acantholyda sp. - green larvae.

Siricidae - horntail wasps; wood borers.

Sirex cyaneus - Blue Horntail.

Sirex juvencus

Urocerus flavicornis - Yellow Horntail.

Tenthredinidae - sawflies, most often found on deciduous plants.

Amauronematus cooki

Aneugmenus flavipes

Anoplonyx canadensis - usually on larch.

Anoplonyx laricivorus - usually on larch.

Anoplonyx luteipes

Blennocampa sp.

Dolerus elder

Empria sp.

Euura sp. - a common gall maker on willow leaves.

Hemichroa crocea - Striped Alder Sawfly; the orange and black larvae may be sufficiently numerous to cause local defoliation.

Nematus mendicus

Nematus occidentalis

Nematus populi

Nematus ventralis

Nematus oligospilus

Phyllocolpa sp.

Pikonema alaskensis - Yellow-headed Spruce Sawfly.

Pikonema dimmockii - Green-headed Spruce Sawfly.

Platycampus americanus

Pristiphora erichsonii - Larch Sawfly.

Pristiphora siskiyouensis

Rhogogaster vividis

Strongylogaster sp.

Tenthredo sp.

Xiphydriidae

Xyelidae

Pleuroneura sp.

Xyela minor

Xyela pini - small cream-colored larvae in pine flowers.

LEPIDOPTERA

Aegeriidae - clear-wing moths.

Albuna pyramidalis

Agaristidae - forester moths.

Alypia langtoni

Androloma mac-cullochi

Arctiidae - tiger moths, woolly bears.

Lexis bicolor - a small grey moth with orange wing margins; the larvae feed on deciduous hosts.

Paractia lapponica yarrowi

Coleophoridae - case bearers.

Coleophora sp.

Cosmopterygidae

Mompha sp.

Cossidae - carpenter moths.

Prionoxystus robiniae - Carpenterworm; in cottonwood.

Drepanidae

Drepana arcuata

## Gelechiidae

Anacampsis innocuella  
 Aristotelia sp.  
 Compsolechia niveopulvella  
 Eucordylea atrupictella  
 Filatima sp.

## Geometridae - loopers, inchworms.

Anthelia hyperborea  
 Brephos infans - on birch and willow.  
 Cabera exanthemata bryantaria  
 Campaea perlata - a pale green moth; the solitary larvae feed on deciduous trees.  
 Caripeta angustiorata  
 Cyclophora pendulinaria griseor - small green larvae; on alder, birch and willow.  
 Dysstroma formosa  
 Dysstroma truncata  
 Elpiste lorquinaria  
 Epirrhantis substriataria  
 Epirrhoe alternata  
 Epirrita autumnata - soft striped green larvae, on deciduous hosts.  
 Eupithecia albicapitata  
 Eupithecia annulata  
 Eupithecia filmata - on spruces.  
 Eupithecia lutea bifasciata - on conifers.  
 Eupithecia misturata misturata  
 Eupithecia niphadophilata - on juniper.  
 Eupithecia perfusca kootenaiata - on alder, birch, willow, etc.  
 Eupithecia ravocostaliata - red and green larvae, on willow.  
 Hydrionema furcata - on alder, birch, willow, etc.  
 Hydrionema renuciata - on alder.  
 Hypagyrtis piniata - on spruce.  
 Itame anataria - on deciduous trees.  
 Itame andersoni amboflava  
 Itame loricaria - on deciduous trees.  
 Leucobrephos brephoides - on birch.  
 Lycia rachelae - on birch.  
 Lycia ursaria - on willow.  
 Lygris destinata - on willow.  
 Lygris xyliana - on willow.  
 Melanolophia imitata - on spruce  
 Nematocampa filamentaria  
 Nyctobia limitaria - green larvae, on spruce and fir.  
 Operophtera bruceata - green larvae, on deciduous plants.  
 Operophtera occidentalis - green larvae, on deciduous plants.

Plemyria georgii - green larvae, on deciduous trees.  
 Rheumaptera albodecorata - near-black larvae, on alder and birch.  
 Rheumaptera hastata - near-black larvae, on alder and birch.  
 Selenia alciphearia - on alder and birch.  
 Semiothisa granitata - green larvae, on spruce and other conifers.  
 Semiothisa hebetata  
 Semiothisa neptaria  
 Semiothisa perplexa - green larvae, on pine.  
 Semiothisa sexmaculata  
 Semiothisa signaria unipunctaria  
 Semiothisa ulsterata  
 Sicya macularia - spiky larvae, on alder and willow.  
 Spargania magnoliata pernotata  
 Synaxis jubararia - brown larvae, on willow.

## Glyphipterygidae

Allononyma vicarialis - on deciduous trees.

## Gracillariidae - blotch miners.

Gracillaria alnivorella - on alder.  
 Gracillaria glutinella - on alder.  
 Gracillaria serotinella - on birch.  
 Lithocolletis populiella - on aspen.  
 Lithocolletis salicifoliella  
 Lithocolletis tremuloidiella - on aspen.  
 Phyllocnistis populiella - on poplars.  
 Phyllocnistis vitifoliella

## Lasiocampidae - tent caterpillars, lappet moths.

Epicnaptera americana - large fringed grey larvae, on deciduous trees.

## Lycaenidae - copper butterflies, meadow-blues.

Celastrina lucia  
 Plebeius sp.

## Lymantriidae - tussock moths.

Byridia rossi  
 Orgyia antiqua badia - Rusty Tussock Moth; on aspen, birch, spruce, willow, etc.  
 Parorgyia griseaefacta

## Lyonetiidae

*Lyonetia saliciella* - a willow leaf miner.

## Nepticulidae

*Ectoedemia* sp.

*Nepticula* sp.

## Noctuidae - cutworms.

*Acronicta impressa*

*Acronicta leporina* - hairy brown larvae, on aspen and birch.

*Acronicta lepusculina* - hairy yellow larvae, on aspen and birch.

*Actebia fennica* - a ground-surface feeder, occasionally a pest in some regions.

*Anathix puta*

*Andropolia aedon*

*Anomogyna dilucida* - on spruce.

*Anomogyna mustelina* - on spruce.

*Anomogyna perquiritata* - on spruce.

*Energia decolor* - on aspen.

*Energia infumata* - on aspen.

*Eupsilia tristigmata*

*Feralia deceptiva*

*Ipimorpha pleonectusa*

*Panthea* sp.

*Polia cristifera* - on spruce.

*Polia imbrifera* - on spruce.

*Scoliopteryx libatrix* - large soft green larvae, on alder and willow.

*Syngrapha* spp. - green and white cutworms with only two pairs of ventral prolegs.

*Syngrapha alias interalia* - on spruce.

*Syngrapha epigaea* - on aspen and birch.

*Syngrapha octoscripta* - on spruce.

*Syngrapha selecta* - on spruce.

## Notodontidae - prominents.

*Cerura occidentalis* - puss moth; larvae with long "tails"; on aspen.

*Gluphisia septentrionalis* - on aspen.

*Ichthyura albosigma* - on aspen.

*Ichthyura brucei* - on aspen.

*Notodonta simplaria* - on aspen and willow.

*Pheosia rimosa* - on aspen.

## Nycteolidae

*Nycteola* sp.

## Nymphalidae - brush footed butterflies.

*Nymphalis antiopa* - Mourning Cloak Butterfly; large spiny black and orange caterpillars on deciduous trees; usually colonial.

*Polygonia faunus rusticus*

## Oecophoridae

*Agonopterix argillacea* - on willow.

*Agonopterix canadensis* - on birch.

*Martyrhilda ciniflonella* - on birch.

*Semioscopis* sp.

## Olethreutidae

*Aphania capreana*

*Aphania spinifana*

*Badebecia urticana*

*Epinotia crenana* - on aspen and willow.

*Epinotia medioplagata* - on aspen and willow.

*Epinotia solandriana* - on deciduous trees and shrubs.

*Grapholitha lunatana*

*Griselda radicana* - a small brown and white leaf-webber on fir and spruce.

*Laspeyresia bracteata*

*Laspeyresia rana*

*Laspeyresia youngana* - a spruce cone borer.

*Petrova albicapitana* - Northern Pitch Twig Moth -- the larvae cause large pitch nodules on pine branches.

*Petrova metallica* - on pine.

*Sciaphila duplex* - on aspen and willow.

*Taniva* sp.

*Zeiraphera canadensis* - a small brown budworm on spruce.

*Zeiraphera fortunana* - a small brown budworm on spruce.

*Zeiraphera improbana*

## Papilionidae - swallowtail butterflies; ordinarily on deciduous hosts.

*Papilio glaucus*

*Papilio rutulus*

Pieridae - sulphur butterflies.

*Colias eurytheme*

Plutellidae

*Cerostoma dorsimaculella*  
*Trachoma senex*

Pyralidae

*Dioryctria abietivorella* - a borer of variable habit,  
 in pines.  
*Dioryctria reniculella* - Spruce Coneworm.

Satyridae - wood-nymph butterflies.

*Erebia* sp.  
*Oeneis* sp.

Sphingidae - hawk moths, sphinx moths, hummingbird  
 moths, horn-tails, etc. large robust insects, often brightly  
 colored. The narrow-winged moths may be day fliers;  
 the solitary larvae are usually on deciduous plants, and  
 most of them have a conspicuous curved "horn" at  
 their posterior.

*Celerio gallii intermedia*  
*Hemaris* sp.  
*Smerinthus cerisyi*  
*Smerinthus jamaicensis*  
*Sphinx* sp.

Tortricidae - leaf rollers.

*Acleris caliginosana* - on birch.  
*Acleris chalybeana*  
*Acleris fuscana*  
*Acleris gloverana* - Black-Headed Budworm; on fir  
 and spruce. The small green larvae are impor-  
 tant defoliators in some regions; they may  
 also occur on other conifers.  
*Acleris hudsoniana*  
*Acleris nigrolinea* - on willow.  
*Acleris pulverosana*  
*Acleris semiannula*  
*Archippus albertus*  
*Archips argyrospilus* - on alder and birch.  
*Argyrotaenia* sp.  
*Choristoneura conflictana* - colonial dark green  
 larvae on aspen.

*Choristoneura fumiferana* - Spruce Budworm; on  
 most conifers. The light-spotted brown  
 larvae are important defoliators in some  
 regions.

*Clepsis persicana*  
*Pandemis limitata*  
*Syndemis afflictana*

Yponomeutidae - leaf and twig miners.

*Argyresthis pygmaeella* - a leaf-webber, on willow.

NEUROPTERA

Chrysopidae - green lacewings; predators.

*Chrysopa carnea*

Hemerobiidae - small brown lacewings.

*Hemerobius* sp.  
*Wesmaelius* sp.

ODONATA

Agrionidae - damsel flies; aquatic predators.

ORTHOPTERA

Acrididae - grasshoppers.

PLECOPTERA

Nemouridae - stoneflies; aquatic.

TRICHOPTERA

Limnephilidae - fishflies; aquatic.

*Limnephilus* sp.

## FOREST DISEASES

The taxonomy of fungus groups follows Ainsworth (1971); common names and descriptions of the Uredinales are modified from Ziller (1974), and of poroid Aphyllophorales from Boyce (1961) and Kimmey and Stevenson (1957). "R" following a species name indicates a record found in literature, whereas no such notation means a specimen is deposited in the herbarium of the Pacific Forest Research Centre (International call code DAVFP). "C" following a species name indicates a culture only is filed or recorded. "T" following a species name indicates a type record or collection.

### Check List

#### BACTERIA

*Pseudomonas syringae* van Hall  
*Populus x balsamifera* cv. 'Cordeniensis'

#### MASTIGOMYCOTINA

##### PERONOSPORALES - Downy mildews.

*Peronospora chenopodii* Schlecht.  
*Chenopodium capitatum*  
*Peronospora parasitica* (Fr.) Fr.  
*Cardamine digitata*  
*Plasmopara latifolii* Savile  
*Epilobium latifolium*, R

#### ASCOMYCOTINA

##### TAPHRINALES - Fungi causing minor malformations; no ascocarps are produced.

*Taphrina nana* Johans.  
*Betula glandulosa*  
*Taphrina occidentalis* Ray  
*Alnus tenuifolia*

##### ERYSIPHALES - Powdery mildews. These fungi are most important during cool summers; ascocarps lack an ostiole.

*Erysiphe cichoracearum* DC. ex Merat  
*Mertensia paniculata*  
*Erysiphe graminis* DC. ex Merat  
*Agropyron subsecundum*, R  
*A. yukonense*, R  
*Hordeum jubatum*, R  
*Poa arctica*, R  
*P. pratensis*, R  
*Erysiphe polygoni* DC. ex St. Aman.  
*Lupinus* sp.  
*Erysiphe* sp.  
*Beckmannia syzigachne*  
*Phyllactinia guttata* (Fr.) Lev.  
*Alnus sinuata*  
*A. tenuifolia*  
*Betula papyrifera* var. *humilis*  
*Uncinula adunca* (Wallr. ex Fr.) Lev.  
*Populus tremuloides*  
*Salix* sp.

##### SPHAERIALES - Fungi in this order have dark coloured, hard, ostiolate ascocarps, and although most are saprophytes, the ones listed here cause leaf spots and diebacks.

*Buergenerula biseptata* (Rostr.) H. Syd.  
*Carex aquatilis*, R  
*Cucurbitodthis pithyophila* (Fr.) Petr.  
*Salix* sp.  
*Gnomonia setacea* (Pers. ex Fr.) Ces. & de Not.  
*Alnus sinuata*  
*Leptosphaerulina hyperborea* (Fckl.) Barr  
*Cassiope tetragona*  
*Metasphaeria bromigena* Sprague  
*Bromus pumpellianus* var. *arcticus*, R



SPHAERIALES (cont'd.)

- Valsa abietis Fr.  
Larix laricina
- Valsa sp.  
Picea glauca  
Populus tremuloides

PHACIDIALES - The immature ascocarps are covered with a membrane.

Hypodermataceae - Needle-casts and tar-spots. These fungi are borne on a particular year of foliage and cause increment loss if they persist from year to year. Elytroderma is the most important since it can be systemic, causing brooms, stunting and predisposition to bark beetle attack.

- Davisomycella ampla (J.J. Davis) Darker  
Pinus contorta
- Elytroderma deformans (Weir) Darker  
Pinus contorta
- Isthmiella abietis (Dearn.) Darker  
Abies lasiocarpa
- Isthmiella crepidiformis (Darker) Darker  
Picea glauca  
P. mariana
- Lirula abietis-concoloris (Mayr ex Dearn.) Darker  
Abies lasiocarpa
- Lirula macrospora (Hartig) Darker  
Picea glauca  
P. mariana
- Lophodermella concolor (Dearn.) Darker  
Pinus contorta
- Lophodermella montivaga Petr.  
Pinus contorta
- Lophodermium juniperi (Grev.) Darker  
Juniperus communis  
J. horizontalis
- Lophodermium pinastri (Schrad. ex Hook.) Chev.  
Pinus contorta, R
- Lophomerum darkeri Ouellette  
Picea glauca
- Rhytisma salicinum (Pers.) Fr.  
Salix sp.

Cryptomycetaceae - A tree dieback group.

- Potebniamyces balsamicola Smerlis  
Abies lasiocarpa

Phacidiaceae - A leaf blight group.

- Darkera abietis Whitney, Reid & Pirozynski  
Abies lasiocarpa

HELOTIALES - To date, there are no major Yukon diseases in this dieback group. Asci inoperculate.

- Ascocalyx tenuisporus Groves  
Abies lasiocarpa, T
- Cenangium pruinosum (Ell. & Ev.) Seav.  
Populus tremuloides
- Dasyscyphus sp.  
Abies lasiocarpa
- Kriegeria juniperina (Ell.) Seav.  
Juniperus communis
- Lachnellula occidentalis (Hahn & Ayers) Dharne  
Larix laricina
- Orbilia coccinella (Sommerf.) Fr.  
Betula papyrifera, R
- Tapesia strobilicola (Rehm) Sacc.  
Pinus contorta, R
- Tryblidiopsis pinastri (Fr.) Karst.  
Picea glauca
- Tympanis alnea (Pers.) Fr.  
Alnus sinuata
- Tympanis laricina (Fckl.) Sacc.  
Larix laricina

TUBERALES - Typically a subterranean group, some of which are mycorrhizal.

- Hydnotrya yukonensis Gilkey  
Soil and duff, R

PEZIZALES - Typically ascocarps large; asci operculate; saprophytic.

- Geopyxis carbonaria (Alb. & Schw. ex Pers.) Sacc.  
Soil and duff, R
- Gyromitra ambigua (Karst.) Harmaja  
Soil and duff, R
- Lasiobolus ciliatus (Schmidt ex Pers.) Boud.  
Duff, R
- Microstoma protracta (Fr.) Kanouse  
Soil and duff, R
- Morchella angusticeps Peck  
Soil and duff, R
- Otidea auricula (Cooke) Mass.  
see Wynnella silvicola
- Paxina corium (Weberb.) Seav.  
Soil and duff, R
- Thecotheus agranulosus Kimbrough  
Moose dung, R
- Thelebolus spp.  
Moose dung, R
- Wynnella silvicola (Beck ap. Sacc.) Nannf.  
Soil and duff

**DOTHIDEALES** - Fungi in this order cause many types of plant disease. The most striking in this list, *Rhytidiella* sp., is the cause of poplar and aspen cork-bark, a very widespread disease. Ascocarp locules lack paraphyses.

*Didymella festucae* (Weg.) Holm  
Festuca altaica, R  
*Mycosphaerella oxyriae* Savile  
Oxyria digyna, R  
*Mycosphaerella* sp.  
Alnus sinuata  
*Rhytidiella moriformis* Zalasky  
Populus balsamifera

**PLEOSPORALES** - The order contains only a few leaf and dieback fungi, including the important *Venturia* spp., which commonly blacken poplar and aspen foliage.

*Atopospora betulina* (Fr.) Petr.  
Betula glandulosa  
*Guignardia populi* G.E. Thomps.  
Populus tremuloides  
*Metacoleria dickiei* (Berk. & Br.) Petr.  
Linnaea borealis  
*Platychora alni* (Peck) Petr.  
Alnus sinuata  
*Venturia macularis* (Fr.) E. Muell. & von Arx  
Populus tremuloides  
*Venturia populina* (Vuill.) Fabric.  
Populus balsamifera

#### BASIDIOMYCOTINA HETEROBASIDIOMYCETES

**USTILAGINALES** - The smuts. These fungi do not attack conifers or any economically important plants in the Yukon.

*Anthracoidea atratae* (Savile) Kukkonen  
Carex podocarpa, R  
*Anthracoidea elyinae* (Syd.) Kukkonen  
Kobresia myosuroides, R  
*Anthracoidea fischeri* (Karst.) Kukkonen  
Carex rhynchophysa, R  
*Cintractia caricis* (Pers.) Magn. var. *acutatum* Savile  
Carex aquatilis, R, T  
*Cintractia caricis* (Pers.) Magn. var. *intermedia* Savile  
Carex obtusata, R  
*Cintractia carpophila* (Schum.) Liro var. *carpophila*  
Carex disperma, R  
C. gynocrates, R

C. lugens, R  
C. praticola, R  
Kobresia myosuroides, R  
*Cintractia carpophila* (Schum.) Liro var. *elyinae*  
(Syd.) Savile  
Carex bipartita, R  
*Cintractia limosa* Syd. var. *gigantissima* (Lehtola)  
Savile  
Carex montanensis, R  
*Cintractia limosa* Syd. var. *limosa*  
Carex scirpoidea, R  
C. vaginata, R  
*Cintractia limosa* Syd. var. *minor* Savile  
Carex lugens, R  
*Entyloma compositarum* Farl.  
Aster sibiricus  
*Planetella lironis* Savile  
Carex leiophylla, R  
*Thecaphora aterrimum* Tul.  
Carex filifolia, R  
*Urocystis anemones* (Pers.) Wint.  
Ranunculus nivalis, R  
*Ustilago bistortarum* (DC.) Koern.  
Polygonum bistorta subsp. plumosum, R  
*Ustilago bullata* Berk.  
Hordeum jubatum, R  
*Ustilago vinosa* (Berk.) Tul.  
Oxyria digyna, R

**UREDINALES** - The rusts. All recorded Yukon rusts have typical yellow-orange spore masses. Leaf, needle and shoot rusts are important to increment loss if they occur for several years in succession. Brooms of chlorotic foliage caused by rust can frequently result in high cull factors. If stem blister rusts get into the bole they can result in degrade and mortality. Several of the needle rusts can be found on cone scales, but only the cone rust *Chrysomyxa pirolata* can cause devastating seed losses. All the important rusts listed below have been given descriptive common names.

*Chrysomyxa arctostaphyli* Diet. - Spruce broom rust.  
Arctostaphylos uva-ursi  
Picea glauca  
P. mariana  
*Chrysomyxa empetri* Schroet. ex Cumm. - Spruce  
needle - crowberry rust.  
Empetrum nigrum  
Picea glauca  
*Chrysomyxa ledi* de Bary var. *cassandrae* (Peck &  
G.W. Clint.) Savile  
Chamaedaphne calyculata, R

## UREDINALES (cont'd.)

- Chrysomyxa ledi* de Bary var. *ledi*,  
*Ledum decumbens*
- Chrysomyxa ledi* de Bary - Small-spored needle -  
 Labrador-tea rust.  
*Picea glauca*
- Chrysomyxa laedicola* Lagerh. - Large-spored spruce  
 needle - Labrador-tea rust.  
*Ledum decumbens*  
*L. groenlandicum*  
*Picea glauca*  
*P. mariana*
- Chrysomyxa pirolata* Wint. - Inland spruce cone  
 rust.  
*Moneses uniflora*  
*Picea glauca*  
*P. mariana*, R  
*Pyrola grandiflora*, R  
*P. minor*  
*P. secunda*, R
- Chrysomyxa woroninii* Tranz. - Spruce shoot rust.  
*Ledum decumbens*  
*L. groenlandicum*  
*Picea glauca*  
*P. mariana*
- Coleosporium asterum* (Diet.) Syd.  
*Solidago multiradiata*, R  
*S. racemosa*, R  
*S. spathulata* var. *neomexicana*
- Cronartium comandrae* Peck - Comandra blister rust.  
*Comandra livida*  
*Pinus contorta*
- Endocronartium harknessii* (J.P. Moore) Y. Hiratsuka  
 - Western gall rust.  
*Pinus contorta*
- Gymnosporangium nelsonii* Arth.  
*Amelanchier alnifolia*, R  
*Juniperus horizontalis*, R
- Hyalopsora polypodii* (Diet.) Magn.  
*Cystopteris fragilis*, R
- Melampsora epitea* Thuem. - Conifer - willow rust.  
*Salix* sp.
- Melampsora lini* (Ehr.) Lev.  
*Linum perenne* var. *lewisii*
- Melampsora medusae* Thuem. - Conifer - aspen rust.  
*Populus tremuloides*
- Melampsora paradoxa* Diet. & Holw.  
*Larix laricina*
- Melampsora ribesii-purpureae* Kleb.  
*Ribes rubrum*, R
- Melampsorella caryophyllacearum* Schroet. - Fir  
 broom rust.  
*Abies lasiocarpa*
- Melampsorium betulinum* (Fr.) Kleb. - Birch rust.  
*Betula glandulosa*  
*B. papyrifera* var. *humilis*  
*B. papyrifera* var. *kenaica*  
*B. papyrifera*
- Phragmidium andersonii* Shear  
*Potentilla fruticosa*
- Phragmidium fusiforme* Schroet. var. *novi-boreale*  
 Savile  
*Rosa acicularis* var. *bourgeauiana*, R
- Phragmidium fusiforme* Schroet.  
*Rosa* sp.
- Phragmidium potentillae* (Pers.) Karst.  
*Potentilla pensylvanica*, R  
*Potentilla* sp.
- Phragmidium rosae-arkansanae* Diet.  
*Rosa* sp.
- Phragmidium rubi-idaei* (DC.) Karst.  
*Rubus idaeus* subsp. *sachalinensis* var. *sacha-*  
*linensis*
- Puccinia andropogonis* Schw.  
*Penstemon procerus*
- Puccinia atrofusca* (Dudl. & C.H. Thomps.) Holw.  
*Carex eleocharis*, R
- Puccinia austroberingiana* (Savile) Savile subsp.  
*austroberingiana*  
*Chrysosplenium wrightii*, R  
*Saxifraga punctata* subsp. *porsildiana*, R
- Puccinia bistortae* (Strauss) DC.  
*Polygonum viviparum*
- Puccinia brachypodii* Otth var. *arrhenatheri* (Kleb.)  
 Cumm. & H.C. Greene  
*Deschampsia caespitosa*, R
- Puccinia brachypodii* Otth var. *poae-nemoralis* (Otth)  
 Cumm. & H.C. Greene  
*Poa canbyi*, R  
*P. glauca*, R  
*P. palustris*, R
- Puccinia bupleuri* Rud.  
*Bupleurum americanum*, R
- Puccinia conglomerata* (Strauss) Roehl.  
*Petasites frigidus* var. *palmatum*, R
- Puccinia coronata* Corda  
*Bromus pumpellianus* var. *arcticus*, R  
*Calamagrostis purpurascens*, R  
*Deschampsia caespitosa*, R  
*Shepherdia canadensis*
- Puccinia cruciferarum* Rud. subsp. *borealis* Savile  
*Cardamine bellidifolia*, R
- Puccinia drabae* Rud.  
*Draba lactea*, R  
*D. lonchocarpa* var. *lonchocarpa*, R  
*D. longipes*, R  
*D. stenoloba*, R

UREDINALES (cont'd.)

- Puccinia fergussonii* Berk. & Br.  
Viola epipsila subsp. repens, R
- Puccinia fischeri* Cruch. & Mayor  
Saxifraga oppositifolia, R
- Puccinia gigantea* Bub.  
Anemone multifida
- Puccinia grumosa* Syd. & Holw. in Syd.  
Zygadenus elegans
- Puccinia helicalis* Savile  
Pedicularis capitata, R
- Puccinia heucherae* (Schw.) Diet. var. *austroberingiana* Savile  
see *P. austroberingiana* subsp. *austroberingiana*
- Puccinia heucherae* (Schw.) Diet. var. *cordillerana* Savile  
Saxifraga lyallii subsp. hultenii, R
- Puccinia hieracii* (Roehl.) Mart.  
Taraxacum sp., R
- Puccinia holboellii* (Hornem.) Rostr.  
Arabis holboellii vars., R  
A. lyrata, R
- Puccinia kukkonensis* Savile  
Lloydia serotina, R, T
- Puccinia menthae* Pers.  
Monarda fistulosa var. mollis, R
- Puccinia millefolii* Fckl.  
Achillea millefolium  
Artemisia tilesii, R
- Puccinia oudemansii* Tranz.  
Parrya nudicaulis subsp. interior, R
- Puccinia palmeri* Diet. & Holw.  
Penstemon procerus, R
- Puccinia pazschkei* Diet. var. *tricuspidatae* Savile  
Saxifraga tricuspidata, R
- Puccinia poarum* Niels.  
Petasites frigidus
- Puccinia recondita* Rob. ex Desm.  
Trisetum spicatum, R
- Puccinia rubefaciens* Johans.  
Galium boreale
- Puccinia saxifragae* Schlecht. var. *curtipes* (Howe) Diet.  
Saxifraga reflexa, R  
S. rivularis, R  
S. serpyllifolia, R
- Puccinia tanacetii* DC.  
Artemisia tilesii
- Puccinia thlaspeos* Schub.  
Arabis holboellii, R
- Puccinia violae* (Schum.) DC.  
Viola sp.

- Pucciniastrum arcticum* Tranz.  
Rubus arcticus
- Pucciniastrum epilobii* Otth - Fir needle - fireweed rust.  
Abies lasiocarpa  
Epilobium angustifolium
- Pucciniastrum goeppertianum* (Kuehn) Kleb. - Fir needle - blueberry witches' broom.  
Abies lasiocarpa  
Vaccinium vitis-idaea
- Pucciniastrum pyrolae* Diet. ex Arth.  
Moneses uniflora  
Pyrola minor, R  
P. secunda var. obtusata, R  
P. secunda  
P. virens, R
- Pucciniastrum sparsum* (Wint.) E. Fisch.  
Arctostaphylos rubra  
Picea glauca  
P. mariana
- Pucciniastrum vaccinii* (Wint.) Joerst.  
Vaccinium vitis-idaea
- Tranzschelia anemones* (Pers.) Nannf.  
Anemone multifida
- Uredo alaskana* (Mains) Cumm.  
Gentiana glauca
- Uromyces hedysari-obscuri* (DC.) Lev.  
Hedysarum alpinum var. americanum  
H. alpinum  
H. boreale var. mackenzii, R
- Uromyces lapponicus* Lagerh. var. *oxytropis* Savile  
Oxytropis maydelliana, R  
O. nigrescens, R
- Uromyces lapponicus* Lagerh.  
Oxytropis gracilis, R
- Uromyces phacae-frigidae* (Wahl.) Hariot  
Astragalus umbellatus, R

TREMELLALES - Jelly fungi. All are saprophytes.

- Aporpium caryae* (Schw.) Teixeira & Rogers  
Hardwood, R
- Auricularia auricula* (Hook.) Underw.  
Abies lasiocarpa
- Dacrymyces palmatus* (Schw.) Bres.  
Picea glauca
- Exidia glandulosa* Fr. f. *populij* Neuh.  
Salix sp.
- Exidia glandulosa* Fr.  
Alnus sinuata  
A. tenuifolia

## TREMELLALES (cont'd.)

- Exidia pinicola* (Peck) Coker  
Picea glauca  
*Exidia recisa* Fr.  
Salix sp.  
*Exidia* sp.  
Betula glandulosa  
*Tremella mesenterica* Fr.  
Betula papyrifera  
Populus tremuloides

## BASIDIOMYCOTINA HOMOBASIDIOMYCETES

## EXOASIDIALES - Gall-forming yeasts.

- Exobasidium vaccinii-ulfuginosi* Boud.  
Vaccinium uliginosum  
*Exobasidium vaccinii* Wor. var. *vaccinii*  
Arctostaphylos uva-ursi  
Vaccinium uliginosum  
*V. vitis-idaea*, R

APHYLLOPHORALES - Thelephoroid forms. The hymenophore is flattened and smooth to slightly roughened. Most members are unimportant and decay only cut or fallen timber. *Peniophora polygonia* has a small pink sporophore and is commonly associated with heart-rot in standing aspen.

- Aleurodiscus amorphus* (Purt.) Schroet.  
Abies lasiocarpa, R  
*Amphinema byssoides* (Fr.) Erikss.  
Picea glauca, R  
*Chondrostereum purpureum* (Fr.) Pouzar  
Betula papyrifera  
Populus tremuloides, R  
*Columnocystis abietina* (Fr.) Pouzar  
Conifer, R  
*Coniophora puteana* (Schum. ex Fr.) Karst.  
Picea glauca  
*Cytidia flocculenta* (Fr.) Hoehn. & Litsch.  
Salix glauca, R  
*Cytidia salicina* (Fr.) Burt  
Salix alaxensis, R  
Salix sp.  
*Gloeocystidiellum leucoxanthum* (Bres.) Boid.  
Alnus sinuata  
*Gloeoporus dichrous* (Fr.) Bres.  
Betula papyrifera

- Hyphoderma mutatum* (Peck) Donk  
Hardwood  
*Merismodes fasciculata* (Schw.) Donk  
Alnus sp.  
*Meruliopsis ambiguus* (Berk.) Ginns  
Wood, R  
*Peniophora aurantiaca* (Bres.) Hoehn. & Litsch.  
Alnus sp., R  
*Peniophora erikssonii* Boid.  
Alnus tenuifolia  
*Peniophora media* Bourd. & Galz.  
Picea glauca, R  
*Peniophora polygonia* (Fr.) Bourd. & Galz.  
Populus tremuloides  
*Peniophora rufa* (Fr.) Boid.  
Populus tremuloides

APHYLLOPHORALES - Hydroid forms. The hymenium is tooth-like. No important pathogens have been collected in the Yukon.

- Hydnellum aurantiacum* (Batsch ex Fr.) Karst.  
Soil and duff  
*Hydnum imbricatum* Fr.  
Soil and duff, R

APHYLLOPHORALES - Poroid forms. The hymenium is borne in pores. Heart- and sap-rot fungi are found in this group. Important members are listed below with a common name and description.

- Daedalea confragosa* Bolt. ex Fr.  
Salix sp.  
*Daedalea unicolor* Bull. ex Fr.  
Alnus sinuata  
A. tenuifolia  
Betula sp.  
Populus sp.  
Salix sp.  
*Fomes fomentarius* (L. ex Fr.) Kickx - The tinder fungus causes a white mottled rot of hardwoods. It is commonly found on recently dead birch.  
Betula papyrifera  
*Fomes ignarius* (L. ex Fr.) Kickx - The false tinder fungus causes a white heart-rot of hardwoods.  
Alnus tenuifolia  
Betula papyrifera  
*Fomes nigrolimitatus* (Rom.) Egel.  
Picea glauca, R



## APHYLLOPHORALES (cont'd.)

*Fomes pini* (Brot. ex Fr.) Karst. - The red ring rot fungus causes a white pocket heart-rot of practically all conifers. This probably causes more cull in Yukon conifers than any other agent.

*Abies lasiocarpa*  
*Picea glauca*  
*P. mariana*

*Fomes pinicola* (Sw. ex Fr.) Cooke - The red belt fungus causes a light brown crumbly rot of recently killed conifers. Occasionally, it causes a heart-rot in living trees.

*Picea glauca*

*Fomes roseus* (Alb. & Schw. ex Fr.) Karst.

*Picea glauca*, R

*Fomes viticola* (Schw.) Lowe

*Picea glauca*, R

*Ganoderma applanatum* (Pers. ex Wallr.) Pat. - The artist conk causes a mottled white rot with black flecks in hardwoods and conifers. It may be found on the lower part of living trees or downed timber.

*Populus balsamifera*

*Hirschioporus abietinus* (Dicks. ex Fr.) Donk - The purple conk causes a pitted sap-rot of conifers. It is a small gregarious conk that is rare on living trees and old logs.

*Picea glauca*

*Hirschioporus pargamenus* (Fr.) Bond. & Sing.

*Betula papyrifera*  
*Populus balsamifera*  
*P. tremuloides*

*Lenzites betulina* (L. ex Fr.) Fr.

*Betula papyrifera*

*Lenzites saepiaria* (Wulf. ex Fr.) Fr.

*Picea glauca*

*Polyporus adustus* Willd. ex Fr.

*Picea glauca*, R

*Polyporus anceps* Peck

*Picea glauca*

*Polyporus betulinus* Bull. ex Fr.

*Betula papyrifera*, R

*Polyporus brumalis* Pers. ex Fr.

*Salix* sp., R

*Polyporus elegans* Bull. ex Fr.

*Alnus* sp., R  
*Populus balsamifera*  
*Salix* sp., R

*Polyporus lapponicus* Rom.

*Picea glauca*, R  
*Picea* sp.

*Polyporus melanopus* Sw. ex Fr.

*Salix* sp., R

*Polyporus pallescens* Karst.

Wood, R

*Polyporus picipes* Fr.

*Populus balsamifera*

*Polyporus planellus* (Murr.) Overh.

*Salix* sp., R

*Polyporus subchartaceus* (Murr.) Overh.

*Populus tremuloides*

*Polyporus unitus* Pers. f. *pulchella* Baxt.

*Populus tremuloides*, C, R

*Polyporus unitus* Pers. f. *tenuis* Baxt.

Hardwood, R

*Polyporus varius* Fr.

*Salix* sp., R

*Polyporus volvatus* Peck - The pouch fungus is vectored by beetles to recently killed trees and causes a superficial sapwood decay.

*Picea glauca*

*Polyporus zonatus* Nees ex Fr.

*Populus balsamifera*

*P. tremuloides*

*Poria albobrunnea* (Rom.) Baxt.

Conifer, R

*Poria crustulina* Bres.

*Picea glauca*, R

*Poria fimbriatella* (Peck) Sacc.

Hardwood, R

*Poria mollusca* (Pers. ex Fr.) Cooke

Wood, R

*Poria purpurea* (Fr.) Cooke

Conifer, R

Hardwood, R

*Poria sinuosa* (Fr.) Cooke

Conifer, R

*Poria subacida* (Peck) Sacc.

Wood, R

*Trametes heteromorpha* (Fr.) Bres.

*Picea glauca*, R

*Trametes hispida* Bagl.

*Populus tremuloides*, R

*Trametes odorata* (Wulf. ex Fr.) Fr.

*Picea glauca*, R

*Trametes serialis* Fr.

Conifer, R

*Trametes suaveolens* (L. ex Fr.) Fr.

*Populus balsamifera*

*Salix* sp.

*Trametes variiformis* Peck

*Picea glauca*, R



AGARICALES - The mushrooms. Only a few cause decay in trees and no important ones have been recorded for the Yukon.

- Clitocyba cerussata* (Fr.) Kumm. var. *difförmis* (Fr.) Gill. sensu Bres.  
Soil and duff, R
- Clitocyba pyxidata* (Fr.) Sing.  
Soil and duff, R
- Clitocyba septentrionalis* (Sing. & A.H. Smith) Bigel.  
Soil and duff, R
- Collybia confluens* (Pers. ex Fr.) Kumm.  
Soil and duff, R
- Collybia dryophila* (Bull. ex Fr.) Kumm.  
Soil and duff, R
- Coprinus comatus* (O.F. Muell. in Fl. Dan. ex Fr.) S.F. Gray  
Soil and duff, R
- Coprinus exstinctorius* (Bull. ex St. Amans) Fr.  
Populus tremuloides, R
- Coprinus micaceus* (Bull. ex Fr.) Fr.  
Soil and duff, R
- Coprinus narcoticus* (Pers. ex Fr.) Fr.  
Horse dung, R
- Coprinus radians* (Desm.) Fr.  
Soil and duff, R
- Coprinus subimpatiens* M. Lange & A.H. Smith  
Soil and duff, R
- Cortinarius* sp.  
Soil and duff, R
- Hygrophorus pudorinus* (Fr.) Fr. var. *pudorinus*  
Soil and duff
- Lepista irina* (Fr.) Bigel.  
Soil and duff, R
- Leptoglossum lobatum* (Pers. ex Fr.) Ricken.  
Bryophyta, R
- Lyophyllum loricatum* (Fr.) Kuehn  
Soil and duff, R
- Marasmius epidryas* Kuehner  
Dryas alaskanus, R
- Omphalina ericetorum* (Fr.) M. Lange  
Soil and duff, R
- Omphalina luteovitellina* (Pilát & Nannf.) M. Lange  
Soil and duff, R
- Panaeolus campanulatus* (L. ex Fr.) Quel.  
Horse dung, R
- Panaeolus semiovatus* (Fr.) Lund.  
Horse dung, R
- Panaeolus solidipes* Peck  
Horse dung, R
- Panellus patellaris* (Fr.) Konr. & Maubl.  
Alnus sp., R  
Salix sp., R

- Panus rudis* Fr.  
Betula papyrifera
- Phaeomarasmium erinaceus* (Fr.) Kuehner  
Salix sp.
- Pholiota destruens* (Brond.) Gill.  
Alnus sp.
- Pholiota squarroso-adiposa* Lange  
Populus tremuloides
- Phyllotopsis nidulans* (Pers. ex Fr.) Sing.  
Populus tremuloides
- Pleurotus atrocaeruleus* (Fr.) Quel.  
Alnus sinuata
- Pleurotus ostreatus* (Jacq. ex Fr.) Kumm.  
Betula papyrifera  
Populus sp., R
- Pleurotus silvanus* Sacc.  
Populus sp.
- Pleurotus subareolatus* Peck  
Populus tremuloides
- Russula emetica* Schaeff. ex Fr. var. *alpestris* Boud.  
Soil and duff, R
- Trogia crispa* (Pers.) Fr.  
Alnus tenuifolia, R
- Volvariella speciosa* (Fr. ex Fr.) Sing. var. *speciosa*  
Soil and duff, R
- Xeromphalina campanella* (Batsch ex Fr.) Kuehner & Maire  
Soil and duff, R

## BASIDIOMYCOTINA GASTEROMYCETES

## The puff balls

- Bovistella humidicola* Bowerm.  
Soil and duff, R
- Calbovista subsculpta* Morse  
Soil and duff, R
- Calvatia artica* Ferd. & Winge  
Soil and duff, R
- Calvatia cretacea* (Berk.) Lloyd  
Soil and duff, R
- Calvatia excipuliformis* (Pers.) Perd.  
Soil and duff
- Calvatia tatrensis* Hollos  
Soil and duff, R
- Crucibulum levis* (DC.) Kamb. & Lee  
Wood, R
- Cyathus striatus* Pers.  
Hardwood, R
- Lycoperdon ericetorum* Pers. var. *ericetorum*  
Soil and duff, R

GASTEROMYCETES (cont'd.)

- Lycoperdon muscorum* Morg.  
Soil and duff, R
- Lycoperdon perlatum* Pers. var. *bonordenii* (Mass.)  
Perd.  
Soil and duff, R
- Lycoperdon perlatum* Pers. var. *nigrescens* Pers.  
Soil and duff, R
- Lycoperdon perlatum* Pers. var. *perlatum*  
Soil and duff, R
- Lycoperdon pusillum* Pers.  
Soil and duff, R
- Lycoperdon pyriforme* Schaeff. ex Pers.  
Soil and duff, R
- Lycoperdon rimulatum* Peck ex Trel.  
Soil and duff, R
- Lycoperdon subvelatum* Lloyd  
Soil and duff, R
- Lycoperdon umbrinum* Pers. var. *umbrinum*  
Soil and duff, R
- Tulostoma simulans* Lloyd  
Soil and duff, R

DEUTEROMYCOTINA

These are asexually producing fungi for which the sexual stage (of the Ascomycotina) is not known or not produced. Several of these fungi cause minor diebacks and leaf spots. To date, there are two important genera recorded from the Yukon: *Cytospora* spp. are common diebacks in conifers and hardwoods which are commonly growing under environmental stress; *Marssonina brunnea* causes a significant blighting of aspen foliage which is symptomatically similar to *Venturia macularis*.

- Cladosporium herbarum* (Pers.) Link  
*Abies lasiocarpa*  
*Salix* sp.
- Cladosporium* sp.  
*Cronartium comandrae* on *Pinus contorta*, R  
*Populus tremuloides*
- Clasterosporium caricinum* Schw.  
*Carex aquatilis*, R
- Cytospora* spp.  
*Abies lasiocarpa*  
*Picea glauca*  
*Populus tremuloides*, R  
*Populus* sp.  
*Prunus virginiana*  
*Salix* sp.

- Cytosporina* sp.  
*Alnus sinuata*
- Darlucia filum* (Biv.-Bern. ex Fr.) Cast.  
*Melampsora epitea* on *Salix* sp.  
*Puccinia brachypodii* var. *poae-nemorialis* on  
*Poa canbyi*, R
- Drechslera poae* (Baudys) Shoem.  
*Poa glauca*, R
- Fusarium nivale* (Fr.) Ces.  
*Agropyron latiglume*, R  
*Hordeum jubatum*, R
- Fusarium* sp.  
*Picea pungens*
- Hainesia borealis* Ell. & Ev.  
*Galium boreale*
- Hendersonia pinicola* Wehm.  
*Pinus contorta*
- Heterosporium avenae* Oud.  
*Hordeum jubatum*, R
- Marssonina brunnea* (Ell. & Ev.) Magn.  
*Populus tremuloides*
- Ovularia pusilla* (Ung.) Sacc. & D. Sacc.  
*Bromus pumpellianus* var. *arcticus*, R  
*Festuca ovina* var. *brachyphylla*, R  
*Hordeum jubatum*, R
- Passalora graminis* (Fckl.) Hoehn.  
*Agropyron subsecundum*, R  
*Hordeum jubatum*, R  
*Poa canbyi*, R  
*P. stenantha*, R
- Plenodomus meliloti* Dearn. & Sanford  
*Medicago sativa*, R
- Ramularia montana* Speg.  
*Epilobium angustifolium*, R
- Ramularia rufomaculans* Peck  
*Polygonum phytolaccaefolium*
- Selenophoma bromigena* (Sacc.) Sprague &  
A.G. Johnson  
*Bromus carinatus*, R
- Selenophoma donacis* (Pass.) Sprague & A.G. Johnson  
var. *stomaticola* (Baeuml.) Sprague & A.G.  
Johnson  
*Festuca ovina* var. *brachyphylla*, R  
*Poa canbyi*, R
- Selenophoma donacis* (Pass.) Sprague & A.G.  
Johnson  
*Agropyron latiglume*, R  
*A. repens*, R  
*Poa pratensis*, R  
*P. stenantha*, R
- Selenophoma everhartii* (Sacc. & Syd.) Sprague &  
A.G. Johnson  
*Arctophila fulva*, R  
*Calamagrostis purpurascens*, R  
*Poa compressa*, R

DEUTEROMYCOTINA (cont'd.)

- Septogloeum oxysporum Sacc., Bomm. & Roussel
- Agropyron latiglume, R
- A. subsecundum, R
- Septoria secalis Prill. & Del. var. stipae Sprague
- Stipa columbiana, R
- Sirodothis sp.
- Larix laricina

Host Index (diseases only)

*Abies lasiocarpa* (Hook.) Nutt. - alpine fir

*Aleurodiscus amorphus*, R  
*Ascocalyx tenuisporus*, T  
*Auricularia auricula*  
*Cladosporium herbarum*  
*Cytospora* sp.  
*Darkera abietis*  
*Dasyscyphus* sp.  
*Fomes pini*  
*Isthmiella abietis*  
*Lirula abietis-concoloris*  
*Melampsorella caryophyllacearum*  
*Potebniamyces balsamicola*  
*Pucciniastrum epilobii*  
*P. goeppertianum*

*Achillea millefolium* L. - common yarrow

*Puccinia millefolii*

*Agropyron latiglume* (Scribn. & Sm.) Rydb. - wheat-grass

*Fusarium nivale*, R  
*Selenophoma donacis*, R  
*Septogloeum oxysporum*, R

*Agropyron repens* (L.) Beauv. - couchgrass, quackgrass

*Selenophoma donacis*, R

*Agropyron subsecundum* (Link) Hitchc. - bearded wheat-grass

*Erysiphe graminis*, R  
*Passalora graminis*, R  
*Septogloeum oxysporum*, R

*Agropyron yukonense* Scribn. & Merr. - Yukon wheat-grass

*Erysiphe graminis*, R

*Alnus sinuata* (Regel) Rydb. - Sitka alder

*Cytosporina* sp.  
*Daedalea unicolor*  
*Exidia glandulosa*  
*Gloeocystidiellum leucoxanthum*  
*Gnomonia setacea*  
*Mycosphaerella* sp.  
*Phyllactinia guttata*  
*Platychora alni*  
*Pleurotus atrocaeruleus*  
*Tympanis alnea*

*Alnus tenuifolia* Nutt. - mountain alder

*Daedalea unicolor*  
*Exidia glandulosa*  
*Fomes ignarius*  
*Peniophora erikssonii*  
*Phyllactinia guttata*  
*Taphrina occidentalis*  
*Trogia crispa*, R

*Alnus* sp. - alder

*Merismodes fasciculata*  
*Panellus patellaris*, R  
*Peniophora aurantiaca*, R  
*Pholiota destruens*  
*Polyporus elegans*, R

*Amelanchier alnifolia* (Nutt.) Nutt. - Saskatoon-berry

*Gymnosporangium nelsonii*, R

*Anemone multifida* Poir. - windflower, globe anemone

*Puccinia gigantispora*  
*Tranzschelia anemones*

*Arabis holboellii* Hornem. - Holboell's rock cress

*Puccinia holboellii*, R  
*P. thlaspeos*, R

*Arabis lyrata* L. - lyre-shaped rock cress

*Puccinia holboellii*, R

*Arctophila fulva* (Trin.) Anders. - pendent grass

*Selenophoma everhartii*, R

*Arctostaphylos rubra* (Rehd. & Wils.) Fern. - alpine bearberry

*Pucciniastrum sparsum*

*Arctostaphylos uva-ursi* (L.) Spreng. - bearberry, kinnikinnick

*Chrysomyxa arctostaphyli*  
*Exobasidium vaccinii* var. *vaccinii*

*Artemisia tilesii* Ledeb. - sagebrush

*Puccinia millefolii*, R  
*P. tanacetii*

*Aster sibiricus* L. - Siberian aster

*Entyloma compositarum*

*Astragalus umbellatus* Bunge - milk vetch  
*Uromyces phacae-frigidiae*, R

*Beckmannia syzigachne* (Steud.) Fern. - American slough-  
grass  
*Erysiphe* sp.

*Betula glandulosa* Michx. - glandular birch, scrub birch  
*Atopospora betulina*  
*Egidia* sp.  
*Melampsorium betulinum*  
*Taphrina nana*

*Betula papyrifera* Marsh. var. *humilis* (Regel) Fern. &  
Raup - paper birch  
*Melampsorium betulinum*  
*Phyllactinia guttata*

*Betula papyrifera* Marsh. var. *kenaica* (W.H. Evans)  
Henry - Kenai birch  
*Melampsorium betulinum*

*Betula papyrifera* Marsh. - white birch  
*Chondrostereum purpureum*  
*Fomes fomentarius*  
*F. igniarius*  
*Gloeoporus dichrous*  
*Hirschioporus pargamenus*  
*Lenzites betulina*  
*Melampsorium betulinum*  
*Orbilbia coccinea*, R  
*Panus rudis*  
*Pleurotus ostreatus*  
*Polyporus betulinus*, R  
*Tremella mesenterica*

*Betula* sp. - birch  
*Daedalea unicolor*

*Bromus carinatus* Hook. & Arn. - California brome  
*Selenophoma bromigena*, R

*Bromus pumpellianus* Scribn. var. *arcticus* (Shear) Porsild -  
brome-grass  
*Metasphaeria bromigena*, R  
*Ovularia pusilla*, R  
*Puccinia coronata*, R

Bryophyta - mosses and liverworts  
*Leptoglossum lobatum*, R

*Bupleurum americanum* Coult. & Rose - thoroughwax  
*Puccinia bupleuri*, R

*Calamagrostis purpurascens* R. Br. - purple reedgrass  
*Puccinia coronata*, R  
*Selenophoma everhartii*, R

*Cardamine bellidifolia* L. - alpine bitter-cress  
*Puccinia cruciferarum* subsp. *borealis*, R

*Cardamine digitata* Richards. - bitter-cress  
*Peronospora parasitica*

*Carex aquatilis* Wahlenb. - water sedge  
*Buergenerula biseptata*, R  
*Cintractia caricis* var. *acutarum*, R, T  
*Clasterosporium caricinum*, R

*Carex bipartita* Bellardi - sedge  
*Cintractia carpophila* var. *elynae*, R

*Carex disperma* Dew. - sedge  
*Cintractia carpophila* var. *carpophila*, R

*Carex eleocharis* Bail. - involute-leaved sedge  
*Puccinia atrofusca*, R

*Carex filifolia* Nutt. - thread-leaved sedge  
*Thecaphora aterrima*, R

*Carex gynocrates* Wormsk. - sedge  
*Cintractia carpophila* var. *carpophila*, R

*Carex leiophylla* Mack. - sedge  
*Planetella lironis*, R

*Carex lugens* Holm - sedge  
*Cintractia carphophila* var. *carpophila*, R  
*C. limosa* var. *minor*, R

*Carex montanensis* Bail. - sedge  
*Cintractia limosa* var. *gigantissima*, R

*Carex obtusata* Lilj. - sedge  
*Cintractia caricis* var. *intermedia*, R

*Carex podocarpa* R. Br. - short-stalk sedge  
*Anthracoidea atratae*, R

*Carex praticola* Rydb. - sedge  
*Cintractia carpophila* var. *carpophila*, R

*Carex rhynchophysa* C.A. Mey. - sedge  
*Anthracoidea fischeri*, R

*Carex scirpoidea* Michx. - sedge  
*Cintractia limosa* var. *limosa*, R

- Carex vaginata* Tausch - sedge  
*Cintractia limosa* var. *limosa*, R
- Cassiope tetragona* (L.) D. Don - Lapland cassiope  
*Leptosphaerulina hyperborea*
- Chamaedaphne calyculata* (L.) Moench - leather-leaf,  
cassandra  
*Chrysomyxa ledi* var. *cassandrae*, R
- Chenopodium capitatum* (L.) Asch. - strawberry blite  
*Peronospora chenopodii*
- Chrysosplenium wrightii* Franch. & Sav. - golden saxi-  
frage  
*Puccinia austroberingiana* subsp. *austroberingiana*, R
- Comandra livida* Richards. - northern comandra  
*Cronartium comandrae*
- Cronartium comandrae* Peck on *Pinus contorta* Dougl. -  
comandra blister rust on lodgepole pine  
*Cladosporium* sp., R
- Cystopteris fragilis* (L.) Bernh. - fragile fern  
*Hyalopsora polypodii*, R
- Deschampsia caespitosa* (L.) Beauv. - seven-year grass  
*Puccinia brachypodii* var. *arhenatheri*, R  
*P. coronata*, R
- Draba lactea* Adams - whitlow-grass  
*Puccinia drabae*, R
- Draba lonchocarpa* Rydb. var. *lonchocarpa* - twisted  
whitlow-grass  
*Puccinia drabae*, R
- Draba longipes* Raup - whitlow-grass  
*Puccinia drabae*, R
- Draba stenoloba* Ledeb. - slender whitlow-grass  
*Puccinia drabae*, R
- Dryas alaskanus* A.E. Porsild - mountain avens  
*Marasmius epidryas*, R
- Empetrum nigrum* L. - crowberry  
*Chrysomyxa empetri*
- Epilobium angustifolium* L. - great willow-herb, fireweed  
*Pucciniastrum epilobii*  
*Ramularia montana*, R
- Epilobium latifolium* L. - broad-leaved willow-herb  
*Plasmopara latifolii*, R
- Festuca altaica* Trin. - fescue  
*Didymella festucae*, R
- Festuca ovina* L. var. *brachyphylla* (Schult.) Piper - fescue  
*Ovularia pusilla*, R  
*Selenophoma donacis* var. *stomaticola*, R
- Galium boreale* L. - northern bedstraw  
*Hainesia borealis*  
*Puccinia rubefaciens*
- Gentiana glauca* Pall. - gentian  
*Uredo alaskana*
- Hedysarum alpinum* L. var. *americanum* Michx. - alpine  
hedysarum  
*Uromyces hedysari-obscuri*
- Hedysarum alpinum* L. - alpine hedysarum, alpine sweet-  
broom  
*Uromyces hedysari-obscuri*
- Hedysarum boreale* Nutt. var. *mackenzii* (Richards.)  
C.L. Hitchc. - Mackenzie's hedysarum  
*Uromyces hedysari* - *obscuri*, R
- Hordeum jubatum* L. - foxtail barley  
*Erysiphe graminis*, R  
*Fusarium nivale*, R  
*Heterosporium avenae*, R  
*Ovularia pusilla*, R  
*Passalora graminis*, R  
*Ustilago bullata*, R
- Juniperus communis* L. - common juniper, dwarf juniper  
*Kriegeria juniperina*  
*Lophodermium juniperi*
- Juniperus horizontalis* Moench - creeping juniper  
*Gymnosporangium nelsonii*, R  
*Lophodermium juniperi*
- Kobresia myosuroides* (Vill.) Fiori & Paol. - kobresia  
*Anthracoidea elynae*, R  
*Cintractia carpophila* var. *carpophila*, R
- Larix laricina* (DuRoi) K. Koch - American or black  
larch, tamarack  
*Lachnellula occidentalis*  
*Melampsora paradoxa*  
*Sirodothis* sp.  
*Tympanis laricina*  
*Valsa abietis*



- Ledum decumbens* (Ait.) Lodd - wild rosemary, decumbent Labrador tea  
  *Chrysomyxa ledi* var. *ledi*  
  *C. ledicola*  
  *C. woroninii*
- Ledum groenlandicum* Oeder - Labrador tea  
  *Chrysomyxa ledicola*  
  *C. woroninii*
- Linnaea borealis* L. - American twinflower  
  *Metacoleria dickiei*
- Linum perenne* L. var. *lewisiai* (Pursh) Wright - western blue flax  
  *Melampsora lini*
- Lloydia serotina* (L.) Reichenb. - alp lily  
  *Puccinia kukkonensis*, R, T
- Lupinus* sp. - lupine  
  *Erysiphe polygoni*
- Medicago sativa* L. - alfalfa, lucerne  
  *Plenodomus meliloti*, R
- Melampsora epitea* Thuem. on *Salix* sp. - willow rust on willow  
  *Darluca filum*
- Mertensia paniculata* (Ait.) G. Don - tall lungwort  
  *Erysiphe cichoracearum*
- Monarda fistulosa* L. var. *mollis* (L.) Benth. - horsemint, wild bergamot  
  *Puccinia menthae*, R
- Moneses uniflora* (L.) A. Gray - one-flowered pyrola  
  *Chrysomyxa pirolata*  
  *Pucciniastrum pyrolae*
- Oxyria digyna* (L.) Hill - mountain sorrel  
  *Mycosphaerella oxyriae*, R  
  *Ustilago vinosa*, R
- Oxytropis gracilis* (A. Nels.) K. Schum. - oxytrope  
  *Uromyces lapponicus*, R
- Oxytropis maydelliana* Trautv. - oxytrope  
  *Uromyces lapponicus* var. *oxytropis*, R
- Oxytropis nigrescens* (Pall.) Fisch. - oxytrope  
  *Uromyces lapponicus* var. *oxytropis*, R
- Parrya nudicaulis* (L.) Regel subsp. *interior* Hult. - parrya  
  *Puccinia oudemansii*, R
- Pedicularis capitata* Adams - lousewort  
  *Puccinia helicalis*, R
- Penstemon procerus* Dougl. ex R. Grah. - small-flowered penstemon  
  *Puccinia andropogonis*  
  *P. palmeri*, R
- Petasites frigidus* (L.) Fr. var. *palmatus* (Ait.) Cronq. - palmate sweet coltsfoot  
  *Puccinia conglomerata*, R
- Petasites frigidus* (L.) Fr. - sweet coltsfoot  
  *Puccinia poarum*
- Picea glauca* (Moench) Voss - white spruce  
  *Amphinema byssoides*, R  
  *Chrysomyxa arctostaphyli*  
  *C. empetri*  
  *C. ledi*  
  *C. ledicola*  
  *C. pirolata*  
  *C. woroninii*  
  *Coniophora puteana*  
  *Cytospora* sp.  
  *Dacrymyces palmatus*  
  *Exidia pinicola*  
  *Fomes nigrolimitatus*, R  
  *F. pini*  
  *F. pinicola*  
  *F. roseus*, R  
  *F. viticola*, R  
  *Hirschioporus abietinus*  
  *Isthmiella crepidiformis*  
  *Lenzites saepiaria*  
  *Lirula macrospora*  
  *Lophomerum darkeri*  
  *Peniophora media*, R  
  *Polyporus adustus*, R  
  *P. anceps*  
  *P. lapponicus*, R  
  *P. volvatus*  
  *Poria crustulina*, R  
  *Pucciniastrum sparsum*  
  *Trametes heteromorpha*, R  
  *T. odorata*, R  
  *T. variiformis*, R  
  *Tryblidiopsis pinastri*  
  *Valsa* sp.

- Picea mariana* (Mill.) B.S.P. - black spruce  
Chrysomyxa arctostaphyli  
C. ledicola  
C. pirolata, R  
C. woroninii  
Fomes pini  
Isthmiella crepidiformis  
Lirula macrospora  
Pucciniastrum sparsum
- Picea pungens* Engelm. - blue spruce, Colorado spruce  
Fusarium sp.
- Picea* sp. - spruce  
Polyporus lapponicus
- Pinus contorta* Dougl. - lodgepole pine  
Cronartium comandrae  
Davisomycella ampla  
Elytroderma deformans  
Endocronartium harknessii  
Hendersonia pinicola  
Lophodermella concolor  
L. montivaga  
Lophodermium pinastri, R  
Tapesia strobilicola, R
- Poa arctica* R. Br. - Arctic bluegrass  
Erysiphe graminis, R
- Poa canbyi* (Scribn.) Piper - bluegrass  
Passalora graminis, R  
Puccinia brachypodii var. poae-nemoralis, R  
Selenophoma donacis var. stomaticola, R
- Poa compressa* L. - Canada bluegrass  
Selenophoma everhartii, R
- Poa glauca* Vahl - bluegrass  
Drechslera poae, R  
Puccinia brachypodii var. poae-nemoralis, R
- Poa palustris* L. - fowl meadow bluegrass  
Puccinia brachypodii var. poae-nemoralis, R
- Poa pratensis* L. - Kentucky bluegrass  
Erysiphe graminis, R  
Selenophoma donacis, R
- Poa stenantha* Trin. - bluegrass  
Passalora graminis, R  
Selenophoma donacis, R
- Polygonum bistorta* L. subsp. plumosum (Small) Hult. -  
bistort  
Ustilago bistortarum, R
- Polygonum phytolaccaefolium* Meisn. ex Small - knotweed  
Ramularia rufomaculans
- Polygonum viviparum* L. - viviparous knotweed  
Puccinia bistortae
- Populus balsamifera* L. - balsam poplar  
Ganoderma applanatum  
Hirschioporus pargamenus  
Polyporus elegans  
P. picipes  
P. zonatus  
Rhytidiella moriformis  
Trametes suaveolens  
Venturia populina
- Populus x balsamifera* L. cv. 'Cordeniensis' Cumming -  
Cordeniensis poplar  
Pseudomonas syringae
- Populus tremuloides* Michx. - trembling aspen  
Cenangium pruinatum  
Chondrostereum purpureum, R  
Cladosporium sp.  
Coprinus exstinctorius, R  
Cytospora sp., R  
Guignardia populi  
Hirschioporus pargamenus  
Marssonina brunnea  
Melampsora medusae  
Peniophora polygonia  
P. rufa  
Pholiota squarrosa-adiposa  
Phyllotopsis nidulans  
Pleurotus subareolatus  
Polyporus subchartaceus  
P. unitus f. pulchella, C, R  
P. zonatus  
Trametes hispida, R  
Tremella mesenterica  
Uncinula adunca  
Valsa sp.  
Venturia macularis
- Populus* sp. - poplar  
Cytospora sp.  
Daedalea unicolor  
Pleurotus ostreatus, R  
P. silvanus

- Potentilla fruticosa* L. - shrubby cinquefoil  
*Phragmidium andersonii*
- Potentilla pensylvanica* L. - Pennsylvania cinquefoil  
*Phragmidium potentillae*, R
- Potentilla* sp. - cinquefoil, five-finger  
*Phragmidium potentillae*
- Prunus virginiana* L. vars. - chokecherry  
*Cytospora* sp.
- Puccinia brachypodii* Otth var. *poae-nemoralis* (Otth) Cumm. & H.C. Greene on *Poa canbyi* (Scribn.) Piper - rust on bluegrass  
*Darluca filum*, R
- Pyrola grandiflora* Radius - Arctic pyrola or wintergreen  
*Chrysomyxa pirolata*, R
- Pyrola minor* L. - lesser pyrola  
*Chrysomyxa pirolata*  
*Pucciniastrum pyrolae*, R
- Pyrola secunda* L. var. *obtusata* Turch. - wintergreen, one-sided pyrola  
*Pucciniastrum pyrolae*, R
- Pyrola secunda* L. - wintergreen, one-sided pyrola  
*Chrysomyxa pirolata*, R  
*Pucciniastrum pyrolae*
- Pyrola virens* Schweigger - greenish-flowered wintergreen  
*Pucciniastrum pyrolae*, R
- Ranunculus nivalis* L. - snow buttercup  
*Urocystis anemones*, R
- Ribes rubrum* L. - garden currant, red currant  
*Melampsora ribesii-purpureae*, R
- Rosa acicularis* Lindl. var. *bourgeauiana* Crepin - rose  
*Phragmidium fusiforme* var. *novi-boreale*, R
- Rosa* sp. - rose  
*Phragmidium fusiforme*  
*P. rosae-arkansanae*
- Rubus arcticus* L. - Arctic bramble  
*Pucciniastrum arcticum*
- Rubus idaeus* L. subsp. *sachalinensis* (Levl.) Focke var. *sachalinensis* - raspberry  
*Phragmidium rubi-idaei*
- Salix alaxensis* (Anderss.) Cov. - feltleaf willow  
*Cytidia salicina*, R
- Salix glauca* L. - willow  
*Cytidia flocculenta*, R
- Salix* sp. - willow  
*Cladosporium herbarum*  
*Cucurbitodithis pithyophila*  
*Cytidia salicina*  
*Cytospora* sp.  
*Daedalea confragosa*  
*D. unicolor*  
*Exidia glandulosa* f. *populi*  
*E. recisa*  
*Melampsora epitea*  
*Panellus patellaris*, R  
*Phaeomarasmium erinaceus*  
*Polyporus brumalis*, R  
*P. elegans*, R  
*P. melanopus*, R  
*P. planellus*, R  
*P. varius*, R  
*Rhizisma salicinum*  
*Trametes suaveolens*  
*Uncinula adunca*
- Saxifraga lyallii* Engl. subsp. *hultenii* Calder & Savile - saxifrage  
*Puccinia heucherae* var. *cordillerana*, R
- Saxifraga oppositifolia* L. - purple mountain saxifrage  
*Puccinia fischeri*, R
- Saxifraga punctata* L. subsp. *porsildiana* Calder & Savile - cordate-leaved saxifrage  
*Puccinia austroberingiana* subsp. *austroberingiana*, R
- Saxifraga reflexa* Hook. - saxifrage  
*Puccinia saxifragae* var. *curtipes*, R
- Saxifraga rivularis* L. - alpine brook saxifrage  
*Puccinia saxifragae* var. *curtipes*, R
- Saxifraga serpyllifolia* Pursh - saxifrage  
*Puccinia saxifragae* var. *curtipes*, R
- Saxifraga tricuspidata* Rottb. - prickly saxifrage  
*Puccinia pazschkei* var. *tricuspidatae*, R
- Shepherdia canadensis* (L.) Nutt. - soopolallie, soapberry, Canada buffaloberry  
*Puccinia coronata*

*Solidago multiradiata* Ait. - alpine goldenrod  
*Coleosporium asterum*, R

*Solidago racemosa* Greene - goldenrod  
*Coleosporium asterum*, R

*Solidago spathulata* DC. var. *neomexicana* (Gray) Cronq. -  
dune goldenrod  
*Coleosporium asterum*

*Stipa columbiana* Macoun - feather grass  
*Septoria secalis* var. *stipae*, R

*Taraxacum* sp. - dandelion  
*Puccinia hieracii*, R

*Trisetum spicatum* (L.) Richt. - downy oat grass  
*Puccinia recondita*, R

*Vaccinium uliginosum* L. - bog huckleberry, blueberry  
*Exobasidium vaccinii-uliginosi*  
*E. vaccinii* var. *vaccinii*

*Vaccinium vitis-idaea* L. - rock cranberry  
*Exobasidium vaccinii* var. *vaccinii*, R  
*Pucciniastrum goeppertianum*,  
*P. vaccinii*

*Viola epipsila* Ledeb. subsp. *repens* (Turcz.) Becker -  
violet  
*Puccinia fergussonii*, R

*Viola* sp. - violet  
*Puccinia violae*

*Zygadenus elegans* Pursh - white camass  
*Puccinia grumosa*

#### Soil and duff

*Bovistella humidicola*, R  
*Calbovista subsculpta*, R  
*Calvatia artica*, R  
*C. cretacea*, R  
*C. excipuliformis*  
*C. tatrensis*, R  
*Clitocybe cerussata* var. *difformis*, R  
*C. pyxidata*, R  
*C. septentrionalis*, R  
*Collybia confluens*, R  
*C. dryophila*, R  
*Coprinus comatus*, R  
*C. micaceus*, R  
*C. radians*, R  
*C. subimpatiens*, R

#### Soil and duff (cont'd.)

*Cortinarius* sp., R  
*Geopyxis carbonaria*, R  
*Gyromitra ambigua*, R  
*Hydnellum aurantiacum*  
*Hydnotrya yukonensis*, R  
*Hydnum imbricatum*, R  
*Hygrophorus pudorinus* var. *pudorinus*  
*Lepista irina*, R  
*Lycoperdon ericetorum* var. *ericetorum*, R  
*L. muscorum*, R  
*L. perlatum* var. *bonordenii*, R  
*L. perlatum* var. *nigrescens*, R  
*L. perlatum* var. *perlatum*, R  
*L. pusillum*, R  
*L. pyriforme*, R  
*L. rimulatum*, R  
*L. subvelatum*, R  
*L. umbrinum* var. *umbrinum*, R  
*Lyophyllum loricatum*, R  
*Microstoma protracta*, R  
*Morchella angusticeps*, R  
*Omphalina ericetorum*, R  
*O. luteovitellina*, R  
*Paxina corium*, R  
*Russula emetica* var. *alpestris*, R  
*Tulostoma simulans*, R  
*Volvariella speciosa* var. *speciosa*, R  
*Wynnella silvicola*  
*Xeromphalina campanella*, R

#### Wood

##### Hardwood - Angiosperms

*Aporpium caryae*, R  
*Cyathus striatus*, R  
*Hyphoderma mutatum*  
*Polyporus unitus* f. *tenuis*, R  
*Poria fimbriatella*, R  
*P. purpurea*, R

##### Softwood - Gymnosperms, conifers

*Columnocystis abietina*, R  
*Poria albobrunnea*, R  
*P. purpurea*, R  
*P. sinuosa*, R  
*Trametes serialis*, R

##### Unidentified wood

*Crucibulum levis*, R  
*Meruliopsis ambiguus*, R  
*Polyporus pallescens*, R  
*Poria mollusca*, R  
*P. subacida*, R

Other substrates

Dung, horse

- Coprinus narcoticus, R
- Panaeolus campanulatus, R
- P. semiovatus, R
- P. solidipes, R

Dung, moose

- Thecotheus agranulosus, R
- Thelebolus spp.

Dung

- Lasiobolus ciliatus, R

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### References

- Ainsworth, G.C. 1971. Ainsworth and Bisby's dictionary of the fungi. 6th ed., Commonwealth Mycological Institute, Kew, Surrey.
- Boyce, J.S. 1961. Forest pathology. 3rd ed., McGraw-Hill, Toronto.
- Kimney, J.W. and J.A. Stevenson. 1957. A forest disease survey of Alaska. Plant Dis. Rep., Suppl. 247: 87-98.
- Ziller, W.G. 1974. The tree rusts of western Canada. Environment Canada, Canadian Forestry Service, Publ. No. 1329.

