

FOREST FUNGI COLLECTED IN BANFF NATIONAL PARK, ALBERTA

by

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J. J. Lawrence and Y. Hiratsuka*

ABSTRACT

Eighty-two species of forest fungi collected on 47 different hosts in the Banff National Park, Alberta, Canada, are listed alphabetically under each host and common names of the disease or types of fungi are shown in connection with each fungus.

INTRODUCTION

Following is a list of fungi collected during the forest disease surveys from 1952 to 1970 in Banff National Park. They are arranged alphabetically under each host and common names of the diseases or types of fungi are also shown after each fungus name. Most of the specimens were collected by the field personnel of the Insect and Disease Survey Section of the Northern Forest Research Centre, Canadian Forestry Service. All specimens and records are kept at the Mycological Herbarium, Northern Forest Research Centre, Canadian Forestry Service, Edmonton, Alberta (International herbarium code letters: C F B).

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LIST OF FOREST FUNGI AND HOSTS

Abies lasiocarpa (Hook.) Nutt., alpine fir.

Epipolaeum abietis (Dearn.) Shoemaker, needle fungus.

Fomes pini (Thore ex Pers.) Lloyd, "red ring rot", red scale,
conk rot or pecky rot.

Herpotrichia nigra Hartig, snow mold.

Isthmiella abietis (Dearn.) Darker, needle cast.

Lophomerum autumnale (Darker) Magasi needle cast.

Phacidium abietis (Dearn.) Reid & Cain, needle cast.

Pucciniastrum goeppertianum (Kuehn.) Kleb., (O,I)* needle rust,
II, III states on Vaccinium spp.

Allium sp. onion

Puccinia blasdalei Diet. & Holw., (O,I,II,III) leaf rust.

Amelanchier alnifolia Nutt., saskatoon.

Gymnosporangium nidus-avis Thaxt., (O,I), leaf rust, III state on
Juniperus

Arceuthobium americanum Nutt. ex Engelm., lodgepole pine.

Cladosporium sp., saprophyte.

Colletotrichum gloeosporioides Penz. sensu Arx, hyperparasite on
stem and seed.

Septogloeum gillii D.E. Ellis, hyperparasite on stem and seed.

Arctostaphylos rubra (Rehd. & Wils.) Fern., alpine bearberry.

Pucciniastrum sparsum (Wint.) E. Fisch., (II,III) leaf rust, O,I
states on needles of Picea spp.

* O, I, II and III denote spermogonia, aecia, uredinia, and telia respectively of rust fungi.

Arctostaphylos uva-uris (L.) Spreng., common bearberry.

Exobasidium sp., leaf spot, gall.

Aster ciliolatus Lindl., Lindley's aster.

Coleosporium asterum (Diet.) Syd., (II,III), leaf rust, alternate states of a pine needle rust.

Aster laevis L.

Puccinia asteris Duby, (III) leaf rust, autoecious species.

Aster sp., aster.

Puccinia dioicae Magn., (O,I) leaf rust, alternate states on Carex spp.

Cassiope lycopodioides (Pall.) D. Don., Club-moss mountain heather.

Exobasidium sp., leaf spot, gall.

Castilleja miniata Dougl., common red paint-brush.

Cronartium coleosporioides Arth., (II,III), leaf rust, alternate states of the "stalactiform blister rust" of hard pines.

Conifers

Hirschioporus abietinus (Dicks, ex Fr.) Donk

Peniophora byssoides (Pers. ex Fr.) Bres., slash fungi.

Polyporus adustus Willd. ex Fr., the scorched conk, white mottled or cubical rot of dead sapwoods.

Trametes serialis Fr., brown cubical rot, occasionally causes heart rot.

Cerastium arvense L.

Melampsorella caryophyllacearum Schroet., (II, III) alternate states of the "fir witches' broom rust" on Abies.

Cronartium comandrae Pk., Comandra blister rust of hard pine.

Cladosporium sp., saprophyte.

Dryas drummondii Richards, yellow dryad.

Isothea rhytismoides (Bab. ex Berk.) Fr., leaf spot.

Empetrum nigrum L., crowberry.

Chrysomyxa empetri Schroet. ex Cumm., (II,III), leaf rust, alternate states of a spruce needle rust.

Erythronium grandiflorum Pursh, glacier lily.

Uromyces heterodermus Syd., (0,III), leaf rust.

Juniperus communis L., ground juniper.

Gymnosporangium clavariiforme (Pers.) DC. (III), rust, 0, I states on Amelanchier spp.

Gymnosporangium gaeumannii Zogg. ssp. albertensis Parmelee, (II,III) needle rust.

Lophodermium juniperi (Grev.) Darker, needle cast.

Juniperus horizontalis Moench, creeping juniper

Gymnosporangium corniculans Kern (III), alternate states 0, I states on Amelanchier spp.

Larix lyallii Parl. alpine larch.

Fomes pini (Thore ex Pers.) Lloyd, "red ring rot", red scale, conk rot or pecky rot.

Lachneulula arida (Phill.) Dennis, stem fungus.

Melampsora paradoxa Diet. & Holw. (0,I), needle rust, II, III states on Salix spp.

Ledum glandulosum Nutt., glandular Labrador tea.

Chrysomyxa ledicola Lagh., (II, III) leaf rust, alternate states of a spruce needle rust.

Ledum groenlandicum Oeder, common Labrador tea.

Chrysomyxa ledicola Lagh., (II, III) leaf rust, alternate states of a spruce needle rust.

Parnassia fimbriata Koenig, fringed parnassia, Rocky Mountain parnassia.

Puccinia parnassiae Arth., (III) leaf rust.

Pedicularis bracteosa Benth., lousewort.

Cronartium coleosporioides Arth., (II, III) leaf rust, alternate states of "stalactiform blister rust" of hard pines.

Phyllodoce empetrifomis (Smith) D. Don., red purple heather.

Herpotrichia nigra Hartig., snow mold.

Picea engelmannii Parry, Engelmann spruce.

Chrysomyxa arctostaphyli Diet., (0, I), "yellow witches' broom", twig and needle rust, III state on Arctostaphylos, uva-ursi.

Chrysomyxa ledicola Lagh., (0, I) leaf rust, alternate states (II, III) on Ledum spp.

Chrysomyxa pirolata Wint., (0, I) cone rust, II, III states on Pyrola spp.

Chrysomyxa weirii Jacks., (III) leaf rust, autoecious species.

Cytospora curreyi Sacc., branch & stem fungus.

Fomes pini (Thore ex Pers.) Lloyd, "red ring rot", "red scale",
conk or pecky rot.

Herpotrichia nigra Hartig., snow mould.

Hirschioporus abietinus (Dicks. ex Fr.) Donk, "the purple conk"
causes white pocket rot on dead coniferous wood.

Isthmiella crepidiformis (Darker) Darker, needle cast.

Lirula macrospora (Hartig.) Darker, needle cast.

Trametes heteromorpha (Fr.) Bres., brown cubical rot.

Picea glauca (Moench.) Voss, white spruce.

Arceuthobium americanum Nutt. ex Engelm., "lodgepole pine dwarf
mistletoe"

Chrysomyxa arctostaphyli Diet., (0,I) "yellow witches' broom",
twig and needle rust, III state on Arcostaphylos uva-ursi.

Chrysomyxa ledicola Lagh., (0,I), needle rust, alternate states
(II,III) on Ledum spp.

Chrysomyxa pirolata Wint., (0,I) cone rust, alternate states (II,III)
on Pyrola spp.

Chrysomyxa weirii Jacks., (III) needle rust, autoecious species.

Picea sp., spruce.

Arceuthobium americanum Nutt. ex Engelm., "lodgepole pine dwarf mistle-
toe".

Chrysomyxa empetri Schroet. ex Cumm., (0,I) leaf rust, alternate
states (II,III) on Empetrum nigrum.

Chrysomyxa ledicola Lagh., (0,I) leaf rust, alternate states (II,III)
on Ledum spp.

Chrysomyxa weirii Jacks., (III) leaf rust, autoecious species.

Coryne sarcoides (Jacq.) Tul., associated with purple stain in the heartwood.

Cytospora kunzei Sacc., twig blight.

Oidium microspermum Berk. & Br., powdery mildew.

Stereum chailletii (Pers. ex Fr.) Fr., white stringy rot.

Pinus albicaulis Engelm., whitebark pine.

Lophodermium nitens Darker, needle cast.

Pinus contorta Dougl., lodgepole pine.

Arceuthobium americanum Nutt. ex Engelm., "lodgepole pine mistletoe" witches' broom.

Armillaria mellea (Vahl ex Fr.) Quel., "Armillaria root rot", "shoestring fungus rot", spongy rot, and butt rot.

Atropellis piniphila (Weir) Loman & Cash., "Atropellis canker" on the stem.

Cladosporium herbarum Link. ex Fr., saprophyte.

Coleosporium asterum (Diet.) (0,I) needle rust, (II,III) states on Aster sp.

Cronartium cloesporioides Arth. (Peridermium stalactiforme Arth. & Kern.) (0,I), "stalactiform blister rust", on stems, (II,III) on Castillja spp. and Pedicularis spp.

Cronartium comandrae Pk., (0,I) "Comandra blister rust", on stem, (II,III) states on Comandra & Geocaulon.

Dacrymyces stipitatus Neuh., slash fungus.

Elytroderma deformans (Weir) Darker, systemic needle cast.

Endocronartium harknessii (J. P. Moore) Y. Hiratsuka, (O,I) "western gall rust" on stems, autoecious species.

Fomes pini (Thore ex Fr.) Lloyd, "red ring rot", red scale or pecky rot.

Gloeocoryneum cinereum (Dear.) Weindlmayr, needle cast.

Hendersonia pinicola Wehm., needle cast.

Iachnellula agassizii (Berk. & Curt.) Dennis, stem fungus.

Iachnellula arida (Phill.) Dennis, stem fungus.

Leptographium sp., from blue stain wood.

Lophodermella concolor (Dearn.) Darker, needle cast.

Lophodermella montivaga Petr., needle cast.

Lophodermium pinastri (Schrad. ex Fr.) Chev., needle cast.

Peniophora septentrionalis Laurila, red heart rot.

Peniophora sp., slash fungus.

Phoma sp., branch fungus.

Polyporus lapponicus Rom., slash fungus.

Trametes serialis Fr., brown cubical rot.

Trametes variformis Pk., brown carbonizing rot.

Pinus flexilis James, limber pine.

Naemacyclus niveus Darker, needle cast.

Populus balsamifera L., balsam poplar.

Melampsora medusae Thuem. (II,III) leaf rust, (II,III) states on
Larix spp.

Venturia populina (Vuill.) Fabric., (= Pollaccia elegans Servazzi),
leaf and twig blight.

Populus tremuloides Michx., trembling aspen.

Cytospora chrysosperma Pers. ex Fr., stem and twig fungus.

Drepanopeziza sp. leaf spot (has been reported as Marssonina tremuloides).

Melampsora medusae Thuem. (M. albertensis Arth.), (II,III), leaf rust (II,III) states on Larix.

Peniophora polygonia (Pers. ex Fr.) Bourd. & Galz., slash fungus.

Venturia tremulae Aderh. (Pollaccia radiosa (Lib.) Bald. & Cif.), leaf and shoot blight.

Potentilla fruticosa L., shrubby cinquefoil.

Phragmidium andersonii Shear (I, II, III) leaf rust.

Pseudotsuga menziesii (Mirb.) Franco, Douglas-fir.

Armillaria mellea (Vahl. ex Fr.) Quel., "shoe string rot", spongy rot, and butt rot.

Coryne sarcoides (Jacq.) Tul., associated with a purple stain.

Cytospora sp., stem fungus.

Melampsora medusae Thuem., (M. albertensis Arth.), (0,I), leaf rust, (II,III) state on Salix spp.

Melampsora occidentalis (M. Wils.) Hahn, (0,I), leaf rust, (II,III) states on Populus spp.

Rhabdocline pseudotsugae Syd., needle cast.

Pucciniastrum goeppertianum (Kuehn) Kelb., needle rust of fir.

Tuberculina persicina (Ditm.) Sacc., hyperparasite.

Pyrola asarifolia Michx., common pink wintergreen.

Chrysomyxa pirolata Diet. ex Arth., (II,III), leaf rust, alternate states of spruce cone rust.

Pyrola secunda L., one-sided wintergreen.

Pucciniaastrum pyrolae Diet. ex Arth., (II,III), leaf rust, O,I states not known.

Pyrola virens Schweigg., greenish-flowered wintergreen.

Chrysomyxa pirolata Wint., (II,III) leaf rust, alternate states of spruce cone rust.

Pucciniaastrum pyrolae Diet. ex Arth., (II,III) leaf rust, O,I states not known.

Rhododendron albiflorum Hook., White-flowered rhododendron.

Exobasidium burtii Zeller, yellow leaf spot.

Ribes sp.

Puccinia caricina DC., (O,I), leaf rust, II,III states on Carex spp.

Salix sp.

Encoelia furfuracea Bolt. ex Fr., stem fungus.

Melampsora epitea Thuem., (II,III), leaf rust, O,I states on conifers.

Polyporus varius Fr., slash fungus.

Rhytisma salicinum (Pers.) Fr., tar spot on leaf.

Tympanis saligna (DC.) Wint., stem fungus.

Solidago sp., goldenrod.

Coleosporium asterum (Diet.) Syd., (II,III) leaf rust, (O,I) states on Pinus spp.

Sorbus scopulina Greene, mountain ash.

Gymnosporangium cornutum Arth. ex Fr., (0,I) leaf rust, (III)
state on Juniperus.

Gymnosporangium tremelloides Hartig., (0,I), leaf rust, (III)
state on Juniperus comunis.

Vaccinium myrtillus L., low bilberry.

Pucciniastrum goeppertianum (Kuehn) Kleb., (II,III) leaf rust,
alternate states of fir needle rust.

Vaccinium scoparium Leiberg, grouse-berry.

Pucciniastrum goeppertianum (Kuehn) Kleb., (II,III), leaf rust,
alternate states of fir needle rust.

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