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Taxonomy & Inventories

DNA barcoding aids in generating a preliminary checklist of the lichens and allied fungi of Calvert Island, British Columbia: Results from the 2018 Hakai Terrestrial BioBlitz

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Abstract

Background

Bioblitzes are a tool for the rapid appraisal of biodiversity and are particularly useful in remote and understudied regions and for understudied taxa. Lichens are an example of an often overlooked group, despite being widespread in virtually all terrestrial ecosystems and having many important ecological functions.

New information

We report the lichens and allied fungi collected during the 2018 terrestrial bioblitz conducted on Calvert Island on the Central Coast of British Columbia, Canada. We identified 449 specimens belonging to 189 species in 85 genera, increasing the total number of species known from Calvert Island to 194, and generated Internal Transcribed Spacer (ITS) sequences for 215 specimens from 121 species. *Bryoria furcellata*, *Chaenothecopsis lecanactidis* and *C. nigripunctata* were collected for the first time in British Columbia. We also found *Pseudocyphellaria rainierensis*, which is listed as Special Concern on the federal Species at Risk Act, and other rarely reported species in British Columbia including *Opegrapha sphaerophoricola*, *Protomicarea limosa*, *Raesaenenia huuskonenii* and *Sarea difformis*. We demonstrate that DNA barcoding improves the scope and accuracy of expert-led bioblitzes by facilitating the detection of cryptic species and allowing for consistent identification of chemically and morphologically overlapping taxa. Despite the spatial and temporal limitations of our study, the results highlight the value of intact forest ecosystems on the Central Coast of British Columbia for lichen biodiversity, education and conservation.

Keywords

biogeography, Calicioids, Central Coast Regional District, Great Bear Rainforest, ITS, Pacific Northwest

Introduction

Bioblitzes are a tool for the rapid appraisal of biodiversity in a region (e.g. Anderson et al. (2012), Telfer et al. (2015), McMullin et al. (2018)). Scientists, naturalists and other volunteers assemble at a target site and, over a short period of time, attempt to find as many species as possible (Censky 2001, iNaturalist 2022). Bioblitzes are usually held over one 24-hour period but can often extend over a longer time to intensively sample important or remote locations. Integrating DNA barcoding into identification procedures can further expand the scope and scale of bioblitzes (Telfer et al. 2015). Bioblitzes are also important for understanding species in space and time particularly because of our changing climate and declining global biodiversity. A series of extended bioblitzes were recently held at the Hakai Institute on Calvert Island, in Haíłzaqv and Wuikinuxv territories on the Central Coast of British Columbia, Canada. The Hakai Institute is a British Columbia-based not-for-profit science and ecology organisation dedicated to the coordination of collaborative, multidisciplinary, field-based research and long-term monitoring of coastal ecosystems (Hakai Institute 2023). One of its field stations is located on Calvert Island, within the Hakai Lúxvbálís Conservancy, which is one of the largest protected areas in the BC Parks and Protected Areas System (Government of British Columbia 2023). To support their research initiative on the understanding of biodiversity of the Central Coast, the Hakai Institute organised three bioblitzes on Calvert Island: two marine ones in 2017 and 2018 and a

terrestrial one in 2018. Here, we present results from the 2018 terrestrial bioblitz for lichens and their allied fungi.

Lichens are a polyphyletic group that includes a symbiosis between a mycobiont and at least one photobiont (an alga and/or a cyanobacterium) (Grimm et al. 2021, Allen and Lendemer 2022, Spribille et al. 2022, Sanders 2024). Due to their dependence on and/or resemblance to lichens, some taxa of non-lichenised “allied” fungi (e.g. lichenicolous fungi) have traditionally been included in lichen studies (McMullin et al. 2017b, Spribille et al. 2020, Esslinger 2021, Bell-Doyon 2023), as they are here in our work. Lichens have many important ecological functions including aiding in soil formation (Adamo and Violante 2000), helping to stabilise soil (Belnap and Gillette 1998, Eldridge and Leys 2003), contributing to nutrient cycling (Pike 1978, Knops et al. 1991) and they provide camouflage, habitat and food for many organisms (e.g. Pettersson et al. (1995), Hansell (1996), Webber et al. (2022), Miranda-González et al. (2023)). Moreover, lichen communities are used as indicators of atmospheric pollution (Hawksworth and Rose 1970, Richardson 1988, McMullin et al. 2016, McMullin et al. 2017a), ecological continuity (Tibell 1992, Selva 2003, Goward and Arsenault 2018, Bell-Doyon et al. 2021, Wiersma and McMullin 2022) and biodiversity conservation value (Goward 1994, Malíček et al. 2019, Miller et al. 2020). Lichens are also numerous; in Canada and the United States alone, there are 5823 species in 805 genera, including allied fungi (Esslinger 2021). In British Columbia, there is a wide range of ecosystems and, as a result, it is a particularly rich region for lichens (Noble et al. 1987, Goward et al. 1994, Goward 1999, McCune and Geiser 2009, McCune 2017a, McCune 2017b). In coastal British Columbia, detailed studies have been completed for Haida Gwaii (Brodo 1993, Brodo 1995, Brodo and Ahti 1996, Brodo and Santesson 1997, Brodo and Wirth 1998, Brodo and Sloan 2005) and the southern part of Vancouver Island and the Gulf Islands (Noble 1982). The Central Coast, however, has been less studied and few lichen collections were previously made on Calvert Island.

Our goal was to create a first checklist of the lichens and allied fungi for Calvert Island. Our aims were to: **1.** Survey as many different locations and habitats as possible within the time frame of the 2018 Hakai Terrestrial BioBlitz; **2.** Collect voucher specimens of all species encountered and deposit them in publicly accessible herbaria; **3.** Generate internal transcribed spacer (ITS) sequences of all species collected to aid in identifications; and **4.** Highlight species that are rare or that represent major range extensions. Our results help to fill in distribution gaps for many species along the Central Coast of British Columbia and they provide a baseline species list for Calvert Island, from which new discoveries and future changes in populations can be acknowledged.

Materials and methods

Study site

The study site is located on northern Calvert Island (51.6592, -128.1365), on the Central Coast of British Columbia (also known as the Great Bear Rainforest) on the west coast of

Canada (Fig. 1). Calvert Island is one of the larger outer Central Coast islands and is exposed to the northeast Pacific. Its shorelines are dominated by rocky, convoluted cliffs on both the exposed western side and protected eastern side of the island. Several large sandy beaches are on the south, west and north aspects of the island. Archaeological evidence and Haíłzaqv oral histories suggest that humans have occupied these landscapes for at least 13,000 years (McLaren et al. 2018). Historical human occupation has had an effect on fire regimes (Hoffman et al. 2016, Hoffman et al. 2017) and continues to affect forest productivity and composition near known habitation sites (Trant et al. 2016, Fisher et al. 2019).

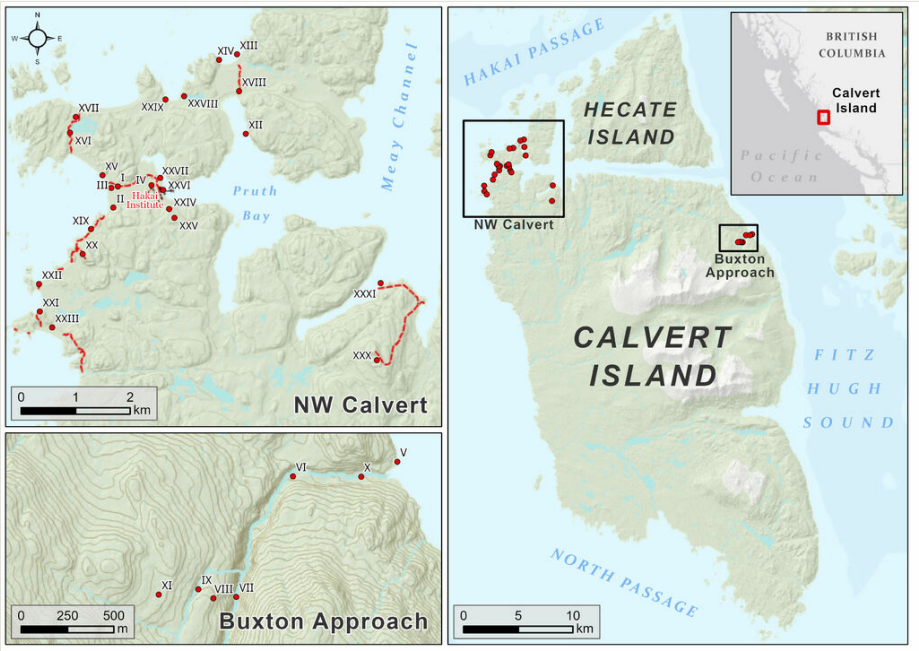

Figure 1. doi

Location of the sites surveyed for lichens and allied fungi on Calvert Island during the 2018 Hakai Terrestrial BioBlitz. Roman numerals correspond with those in the Table 1, where the habitat descriptions and coordinates are provided.

Northern Calvert Island is located within the very wet hypermaritime subzone of the Coastal Western Hemlock biogeoclimatic classification (CWHvh2; Meidinger and Pojar (1991)), which is characterised by cool summers (mean warmest month 13.9ºC), warm winters (mean coldest month 3.0ºC) and large amounts of precipitation (mean annual precipitation 2951 mm) (Meidinger and Pojar 1991). Rain is dominant and snowpack only persists at higher elevations (> 1000 m; Oliver et al. (2017)). The geological substrate of all the sampling sites is granodiorite bedrock (Roddick 1996). Soils overlying these substrates are usually < 1 m thick and have formed in sandy colluvium and patchy morainal deposits. Chemical weathering and the accumulation of organic matter created nutrient-poor Podzol and Folisol soils (International Union of Soil Sciences 2015). Excess soil water regulates

ecosystems on Calvert Island and high precipitation, abundant fog and low evapotranspiration causes anaerobic conditions in flat or low-lying areas (Banner et al. 2005). These conditions promote moss growth and reduce the decomposition of organic matter resulting in an abundance of wet soils, wetland ecosystems and forests. However, subtle variations in slope or drainage can result in significant differences to forest productivity and dense stands of productive rainforests occur in small pockets along coastal margins and river valley bottoms (Banner et al. 2005, Thompson et al. 2016). Elevations of the study sites ranged from 0 to 125 m above sea level. Detailed information on the dominant vegetation of collection sites is in Table 1.

Calvert Island is located on a sea-level hinge point that has experienced very modest sea level changes for more than 10,000 years (McLaren et al. 2014) which partly explains the long history of human occupation (McLaren et al. 2015), with corresponding impacts to the environment (Trant et al. 2016, Cox et al. 2019, Fisher et al. 2019). Calvert Island is remote and only accessible by boat or seaplane and the Hakai Institute's field station is located on Pruth Bay to the northwest of the Island (Fig. 1). There are no roads or vehicles on Calvert Island and it has never been logged or mined. A network of trails maintained by BC Parks originating at the Hakai Institute provide foot accessibility to the northwest and north regions of the Island.

Sampling and identification

Our survey of the lichens and allied fungi of Calvert Island occurred during the 2018 Hakai Terrestrial BioBlitz on 15-22 June. We surveyed 31 sites (Fig. 1, Table 1) following a floristic habitat sampling methodology (Newmaster et al. 2005), also referred to as an 'intelligent meander' (Selva 2003), because it provides the freedom to explore broadly and capture overall cryptogam diversity more effectively than representative plots. We surveyed as many ecosystems and mesohabitats (e.g. streams, rock outcrops) as possible in the limited timeframe of the bioblitz. We also attempted to assess as many microhabitats (e.g. snags and different tree species and rock types) as possible.

Table 1.

The latitude, longitude and habitat description of the 31 sites surveyed for lichens and allied fungi during the 2018 Hakai Terrestrial BioBlitz. Roman numerals correspond with those Fig. 1.

Site Number	Site Name	Coordinates	Site Description
I	Trail between the Hakai Institute Field Station and West Beach, near West Beach	51.65501, -128.13799	Mostly young second-growth mixed-wood forest with a dense canopy. Dominant trees include *Alnus rubra*, *Picea sitchensis*, *Thuja plicata* and *Tsuga heterophylla*.
II	South end of West Beach	51.65285, -128.13873	Coastal rocks/small cliffs and shoreline trees dominated by *Alnus rubra* and *Picea sitchensis*.
III	Central part of West Beach	51.65486, -128.13907	Shoreline stumps, driftwood and trees dominated by *Alnus rubra* and *Picea sitchensis*.

Site Number	Site Name	Coordinates	Site Description
IV	Trail between the Hakai Institute Field Station and West Beach, near field station	51.65514, -128.13243	Mostly young second-growth mixed-wood forest with a dense canopy. Dominant trees include *Alnus rubra*, *Picea sitchensis*, *Thuja plicata* and *Tsuga heterophylla*.
V	Mouth of river valley on east side of Calvert Island	51.62022, -127.93070	Coastal rocks/small cliffs and shoreline trees dominated by *Alnus rubra* and *Thuja plicata*.
VI	River valley on east side of Calvert Island, ca. 350 m west of the coast	51.61978, -127.93576	Sheltered river valley, large old-growth trees dominated by *Alnus rubra*, *Thuja plicata* and *Tsuga heterophylla*.
VII	River valley on east side of Calvert Island, ca. 750 m west of the coast	51.61615, -127.93851	Sheltered river valley, large old-growth trees dominated by *Alnus rubra*, *Thuja plicata* and *Tsuga heterophylla*.
VIII	River valley on east side of Calvert Island, ca. 700 m west of the coast	51.61611, -127.93962	Bog woodland, large trees dominated by *Thuja plicata* and *Tsuga*.
IX	River valley on east side of Calvert Island, ca. 750 m west of the coast	51.61638, -127.94035	Small stream valley with *Alnus*.
X	River valley on east side of Calvert Island, ca. 120 m west of the coast	51.61977, -127.93245	Sheltered river valley, large old-growth trees dominated by *Alnus rubra*, *Thuja plicata* and *Tsuga*.
XI	River valley on east side of Calvert Island, ca. 900 m west of the coast	51.61622, -127.94227	Exposed area, with small pools of standing water and scattered *Pinus contorta* subsp. *contorta*.
XII	East side of Goose Grass Bay	51.66040, -128.11688	Coastal rocks and shoreline trees dominated by *Picea sitchensis* and *Pinus contorta* subsp. *contorta*.
XIII	Central part of Wolf Beach	51.66854, -128.11832	Sand beach with shoreline trees dominated by *Alnus rubra* and *Picea sitchensis*.
XIV	West end of Wolf Beach	51.66797, -128.12128	Coastal rocks/cliffs with shoreline *Picea sitchensis*.
XV	Central area of West Beach, north of trailhead to the Hakai Institute Field Station	51.65616, -128.14052	Coast cliffs in the spray zone.
XVI	Trail between West Beach and North Beach	51.66051, -128.14587	Mature mixed-wood forest dominated by *Alnus rubra*, *Picea sitchensis*, *Thuja plicata* and *Tsuga heterophylla*.
XVII	North Beach	51.66213, -128.14492	Sand beach with shoreline trees dominated by *Alnus rubra* and *Picea sitchensis*.
XVIII	Trail between Goose Grass Bay and Wolf Beach	51.66476, -128.11798	Mature mixed-wood forest dominated by *Thuja plicata*.
XIX	Trail between West Beach and 2nd Beach	51.65065, -128.14241	Mature mixed-wood forest dominated by *Picea sitchensis*, *Thuja plicata* and *Tsuga heterophylla*.
XX	Lookout Point	51.64809, -128.14378	Exposed area, with small pools of standing water, rock outcrops and scattered *Pinus contorta* subsp. *contorta*.
XXI	4th Beach	51.64221, -128.15085	Sand beach with shoreline trees dominated by *Alnus rubra*, *Picea sitchensis* and *Tsuga heterophylla*.

Site Number	Site Name	Coordinates	Site Description
XXII	3rd Beach	51.64502, -128.15099	Shoreline trees dominated by *Alnus rubra* and *Picea sitchensis* and the forest adjacent the beach dominated by *Thuja plicata* and *Tsuga heterophylla*.
XXIII	7th Beach	51.64058, -128.14882	Coastal rocks and shoreline trees dominated by *Alnus rubra* and *Thuja plicata*.
XXIV	Trail between the Hakai Institute Field Station and Tsunami Hill	51.65271, -128.12951	Mature mixed-wood forest dominated by *Thuja plicata* and *Tsuga*.
XXV	Summit area of Tsunami Hill	51.65180, -128.12865	Exposed area with small pools of standing water, rock outcrops and scattered *Pinus contorta* subsp. *contorta*.
XXVI	Shoreline around the dock of the Hakai Institute Field Station	51.65466, -128.13051	Shoreline trees, dominant trees include *Alnus rubra* and *Thuja plicata*.
XXVII	Pruth Bay at the west side of the mouth of Pruth Lagoon	51.65589, -128.13098	Shoreline trees, dominant trees include *Alnus rubra* and *Thuja plicata*.
XXVIII	Forest between Little Wolf and Wolf	51.66425, -128.12706	Coastal western hemlock forest.
XXIX	Little Wolf Beach	51.66391, -128.13013	Open beach, forest margin.
XXX	Telus Towers	51.63722, -128.09525	Open blanket bog.
XXXI	Telus Towers shoreline	51.64512, -128.09463	Coastal rocks and shoreline driftwood.

We examined lichen morphology and chemical spot tests using stereo- and compound microscopes. Chemical spot tests were performed with paraphenylenediamine in ethyl alcohol, 50% nitric acid, sodium hypochlorite, 10–20% potassium hydroxide and Lugol's iodine (Brodo et al. 2001). We further examined chemistry using a longwave ultraviolet light chamber (365 nm) and thin-layer chromatography (TLC) in solvent systems A, B′ and C (Culberson and Kristinsson 1970, Orange et al. 2010). We captured images with a Leica DVM6 digital microscope. Maps were produced in ArcMap 10.5.1 (ESRI 2011). We deposited specimens at the Canadian Museum of Nature (CANL) and the Beaty Biodiversity Museum, University of British Columbia (UBC).

Molecular analysis

We subsampled dry lichen tissue (2–5 mm) from each sample using a stereomicroscope and sterilised fine-tipped tweezers while ensuring that there were no vegetative propagules (i.e. soredia or isidia) from other lichens and no lichenicolous fungi. The Canadian Centre for DNA Barcoding (CCDB) then conducted DNA extractions following in-house protocols (Ivanova et al. 2008, Ivanova et al. 2011). They ground lichen fragments into powder using stainless steel beads in a TissueLyser (Qiagen, USA) at 28 Hz for 60 seconds. The material then incubated in CTAB buffer at 65°C for 1 hour before DNA was extracted using

a semi-automated method employing glass fibre filtration (Ivanova et al. 2008, Fazekas et al. 2012). The final concentration of the eluted DNA was 20-40 ng/µl.

Fungal primers ITS-1F (Gardes and Bruns 1993) and ITS4 (White et al. 1990) were used for amplification of ITS1, 5.8S and ITS2 regions. PCR reactions had a total volume of 12.5 µl and included: 6.25 µl of 10% trehalose, 2.00 µl of ultrapure water, 1.25 µl 10× PCR Platinum Taq buffer [500 mM KCl, 200 mM Tris–HCl (pH 8.4)], 0.625 µl $MgCl_2$ (50 mM) (Invitrogen, Thermo Fisher Scientific), 0.125 µl of each primer (0.01 mM), 0.0625 µl of dNTP (10 mM), 0.3 U of Platinum DNA Polymerase (5 U/µl) (Invitrogen, Thermo Fisher Scientific) and 2.0 µl of DNA template (Kuzmina and Ivanova 2011). The thermocycle program consisted of 94°C for 2 min, 40 cycles of 94°C for 30 s, 50°C for 30 s and 72°C for 1 min, with a final extension at 72°C for 5 min. PCR products were visualised on a 2% agarose gel using an E-Gel96® Pre-cast Agarose Electrophoresis System (Invitrogen, Thermo Fisher Scientific). Bidirectional sequencing using ITS-1F and ITS4 primers was done using the BigDye® Terminator v.3.1 Cycle Sequencing Kit (Applied Biosystems, Thermo Fisher Scientific) on an ABI 3730xl Genetic Analyzer (Applied Biosystems, Thermo Fisher Scientific) following Ivanova and Grainger (2007). Bidirectional sequences were assembled in CodonCode 8.0.2 and manually edited.

In GenBank (Benson et al. 2013), we used the Standard Nucleotide Basic Local Alignment Search Tool (BLASTn) to compare the similarity of our sequences to public libraries. The results helped to confirm the identity of our specimens. We deposited all sequences in the Barcode of Life Database (BOLD; Ratnasingham and Hebert (2007)) and GenBank. Accession numbers are provided for both databases in the annotated species list.

List assembling

The annotated species list is arranged alphabetically by genus and species. Species authors are generally abbreviated following Brummitt and Powell (1996) or the 24th edition of the North American Lichen Checklist (Esslinger 2021). Any deviance from Esslinger's list represents the opinion of the authors. Specimens collected by McMullin are deposited at CANL and those collected by Schofield and Simon are deposited at UBC. Roman numerals correspond to collection sites (see Fig. 1 and Table 1). Numbers following 'BOLD' and 'GenBank' are database accession numbers.

Annotated checklist

Abrothallus parmeliarum (Sommerf.) Arnold

Material

a. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; habitat: Lichenicolous on *Parmelia squarrosa*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19665; occurrenceID: 312DD3A9-F8FA-5A32-96CE-AF2A19BF17B6

Parasite of: *Parmelia squarrosa*

Alectoria imshaugii Brodo & D. Hawksw.

Materials

a. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; habitat: Lignicolous on a conifer snag; catalogNumber: BOLD CALV191-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843339; institutionID: CANL; collectionID: McMullin 19665; occurrenceID: 5A5402E4-C4C5-5092-935B-25D60B23B777
b. locationID: XXIV; decimalLatitude: 51.65271; decimalLongitude: -128.12951; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV192-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843207; institutionID: CANL; collectionID: McMullin 19755; occurrenceID: 333B15C4-4E2B-5C99-AECC-81CA195E8B15
c. locationID: XVIII; decimalLatitude: 51.66476; decimalLongitude: -128.11798; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV193-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843240; institutionID: CANL; collectionID: McMullin 19786; occurrenceID: 4DF4A0EC-470B-5D2C-8F9A-441A228A8ABC
d. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Corticolous on *Thuja plicata*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19787; occurrenceID: EAF9A0BE-65C7-5477-81E0-A14C2C442789
e. locationID: XXII; decimalLatitude: 51.64502; decimalLongitude: -128.15099; habitat: Corticolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19860; occurrenceID: 06BDB2BA-9B03-5FFB-85A1-7C2162D56BC7

Notes: The discovery of additional coastal specimens of this typically interior species confirms its broader distribution first suggested by a single report from Haida Gwaii by Brodo and Hawksworth (1977). On Calvert Island, *A. imshaugii* is abundant.

Alectoria sarmentosa (Ach.) Ach.

Materials

a. locationID: IV; decimalLatitude: 51.65514; decimalLongitude: -128.13243; habitat: Corticolous on *Tsuga*; catalogNumber: BOLD CALV194-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843215; institutionID: CANL; collectionID: McMullin 19524; occurrenceID: 56AAA1C4-6387-5737-9093-CA9773F72C75
b. locationID: XXVII; decimalLatitude: 51.65589; decimalLongitude: -128.13098; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19775; occurrenceID: A9A4EBFC-C152-5CBB-A2ED-8C1E4110FFC3
c. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Corticolous on *Thuja plicata*; catalogNumber: BOLD CALV196-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843292; institutionID: CANL; collectionID: McMullin 19790; occurrenceID: B75EFA3A-8DA5-55BB-AE96-D649118D998C
d. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Corticolous on *Pinus contorta* ssp. *contorta*; recordedBy: R.T. McMullin; identificationRemarks: TLC: alectoronic and usnic acids; institutionID: CANL; collectionID: McMullin 19842; occurrenceID: FE0CB4EF-8B81-5E9D-B162-442B83E4D672
e. locationID: I; decimalLatitude: 51.65501; decimalLongitude: -128.13799; catalogNumber: BOLD PHAK289-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922978;

institutionID: UBC; collectionID: Simon 749; occurrenceID: C8205612-71E8-5ADD-93B2-59E8835B3879

Anisomeridium biforme (Borrer) R.C. Harris

Material

a. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Lignicolous on a snag; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19603; occurrenceID: 0F417F53-506B-5526-BFA7-D3309C4E5416

Arthonia arthonioides (Ach.) A.L. Sm.

Materials

a. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; habitat: Corticolous on *Thuja plicata*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19872; occurrenceID: 22194258-09CF-5739-888D-27BC9A293166
b. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; habitat: Lignicolous on a snag; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19873; occurrenceID: 626E13FB-0611-5D8B-BAC0-9D3784E7D9DA

Arthonia atra (Pers.) A. Schneid.

Material

a. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Corticolous on *Thuja plicata*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19580; occurrenceID: D5EF128A-233B-5070-AA32-96C0DDC16538

Arthonia ilicina Taylor

Materials

a. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19528; occurrenceID: 684E4E27-6CD6-552A-816C-ADD1CE72EE0F
b. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV199-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843334; institutionID: CANL; collectionID: McMullin 19602; occurrenceID: 0D4890A7-A857-5515-8888-5C9A57CC2ECF
c. locationID: I; decimalLatitude: 51.65501; decimalLongitude: -128.13799; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19720; occurrenceID: 43BF09DB-6530-5F4F-A1EC-968D021C6FAB
d. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 817; occurrenceID: A38700B5-AC47-57BE-BCE1-90488A289057

Arthonia norvegica (Coppins & Tønsberg) McCune

Material

a. locationID: IV; decimalLatitude: 51.65514; decimalLongitude: -128.13243; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19881; occurrenceID: DFD9555F-AAF5-5C2A-BB7C-9B7FB68DF8DB

Biatoropsis usnearum Räsänen

Material

a. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Lichenicolous on *Usnea fragilescens* on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19533; occurrenceID: 77FC78EC-8C42-50D4-B0EE-E5DD94184595

Parasite of: *Usnea fragilescens*

Notes: Non-lichenised fungus.

Brodoa oroarctica (Krog) Goward

Material

a. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Saxicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19581; occurrenceID: 6200AF09-C535-5985-B05E-D18A135B3151

Bryocaulon pseudosatoanum (Asah.) Kärnefelt

Material

a. locationID: XIV; decimalLatitude: 51.66797; decimalLongitude: -128.12128; habitat: Corticolous on a conifer; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19600; occurrenceID: 73A44E25-7CB0-5761-BED4-C9A3CACCBEBE

Bryoria alaskana Myllys & Goward

Material

a. locationID: XXVII; decimalLatitude: 51.65589; decimalLongitude: -128.13098; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV203-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843218; institutionID: CANL; collectionID: McMullin 19773; occurrenceID: CE0C373D-EDDA-50E3-B631-FE79A30167F0

Bryoria americana (Motyka) Holien

Materials

a. locationID: XVIII; decimalLatitude: 51.66476; decimalLongitude: -128.11798; habitat: Lignicolous; catalogNumber: BOLD CALV204-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843291; institutionID: CANL; collectionID: McMullin 19551; occurrenceID: DBE9AA60-DBDF-5F09-B717-1DC999B30A16

b. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; habitat: Lignicolous on a conifer snag; catalogNumber: BOLD CALV205-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843241; institutionID: CANL; collectionID: McMullin 19664; occurrenceID: 6B5D35DC-9759-54DF-94A7-F2B077C11206

c. locationID: XVIII; decimalLatitude: 51.66476; decimalLongitude: -128.11798; habitat: Corticolous on *Thuja plicata*; catalogNumber: BOLD CALV206-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843326; institutionID: CANL; collectionID: McMullin 19798; occurrenceID: 826498A2-BD07-52E7-9F9B-3B3614E05D37

d. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Corticolous on *Tsuga*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19857; occurrenceID: 4A66AE0E-3B06-5388-9AF5-046282207C98

e. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Corticolous on *Tsuga*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19875; occurrenceID: E2D97217-D669-5B97-8B09-7BAA30856115

Bryoria bicolor (Ehrh.) Brodo & D. Hawksw.

Materials

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Corticolous on *Pinus contorta* ssp. *contorta*; catalogNumber: BOLD CALV207-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843275; institutionID: CANL; collectionID: McMullin 19500; occurrenceID: FF7E723C-683E-5FD2-A0AF-DFEA6D674D33

b. locationID: XIV; decimalLatitude: 51.66797; decimalLongitude: -128.12128; habitat: Terricolous; catalogNumber: BOLD CALV208-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843300; identificationRemarks: Figure 2A; institutionID: CANL; collectionID: McMullin 19567; occurrenceID: 9F784AD3-7370-53AF-9EFD-B3F2506D8B77

Bryoria furcellata (Fr.) Brodo & D. Hawksw.

Material

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Corticolous on *Pinus contorta* ssp. *contorta*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19507; occurrenceID: E27AF3E0-DF16-5B73-908D-90E7EF374D9D

Bryoria fuscescens (Gyeln.) Brodo & D. Hawksw.

Materials

a. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; habitat: Lignicolous on a snag; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19669; occurrenceID: FF009412-F0B6-58AA-842A-E531F1CD1F42
b. locationID: XXII; decimalLatitude: 51.64502; decimalLongitude: -128.15099; habitat: Corticolous on *Thuja plicata*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19721; occurrenceID: D18558E8-9E69-58E8-8C0F-9C5BA9CB7BD3
c. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Corticolous on *Thuja plicata*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19792; occurrenceID: 9D3CE791-E1FE-5A7C-A379-318C372ACD22
d. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Corticolous on *Tsuga*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19849; occurrenceID: 7B41306F-984A-501E-9DC1-D13DE63F5DE5

Bryoria glabra (Motyka) Brodo & D. Hawksw.

Materials

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV209-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843331; institutionID: CANL; collectionID: McMullin 19592; occurrenceID: C53370AA-79D4-5154-A7B8-00C00F406007
b. locationID: XIV; decimalLatitude: 51.66797; decimalLongitude: -128.12128; habitat: Corticolous on a conifer; catalogNumber: BOLD CALV210-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843314; institutionID: CANL; collectionID: McMullin 19666; occurrenceID: 69ADFA09-1114-5BD0-978B-A1C56AE808D7
c. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; habitat: Lignicolous on a conifer snag; catalogNumber: BOLD CALV212-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843266; institutionID: CANL; collectionID: McMullin 19877; occurrenceID: 34EC512E-B668-565A-87D5-AA187CE400AF

Bryoria irwinii Myllys & Goward

Material

a. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; habitat: Lignicolous on a snag; catalogNumber: BOLD CALV213-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843278; institutionID: CANL; collectionID: McMullin 19574; occurrenceID: DB1F9106-2CC7-5E3E-A163-7CAAE769394A

Bryoria kockiana Velmala, Myllys & Goward

Material

a. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Corticolous on *Tsuga*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19593; occurrenceID: 3140FB0A-2CEF-5DCF-B46B-3468F2F862FC

Bryoria pseudofuscescens var. *pikei* (Brodo & D. Hawksw.) McCune

Materials

a. locationID: XXVII; decimalLatitude: 51.65589; decimalLongitude: -128.13098; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV215-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843367; institutionID: CANL; collectionID: McMullin 19781; occurrenceID: 9C18B499-9E6A-5152-A164-31589A1CB2FF
b. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Corticolous on *Tsuga*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19847; occurrenceID: 625E3880-50FF-5B2C-8F6C-0DE0673E14B8
c. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 783; occurrenceID: 991B8ECA-2317-5A3B-8040-77BE7016AF0B

Bryoria trichodes subsp. *trichodes* (Michx.) Brodo & D. Hawksw.

Material

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Corticolous on *Thuja plicata*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19616; occurrenceID: CDBFA30B-0F79-558E-81CB-DAFF401BABAF

Buellia muriformis A. Nordin & Tønsberg

Material

a. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Corticolous on a snag; catalogNumber: BOLD CALV217-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843358; institutionID: CANL; collectionID: McMullin 19735; occurrenceID: D55E99AE-6407-564B-900A-BB48E9D05AF2

Bunodophoron melanocarpum (Sw.) Wedin

Materials

a. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; habitat: Corticolous on the base of a conifer; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19562; occurrenceID: 7C241AD0-883B-5188-803B-D924A336C5D3
b. locationID: XXIV; decimalLatitude: 51.65271; decimalLongitude: -128.12951; habitat: Corticolous on the base of *Thuja plicata*; recordedBy: R.T. McMullin; identificationRemarks: Figure 2B; institutionID: CANL; collectionID: McMullin 19865; occurrenceID: 46557DE8-0111-55EE-A35C-D223F9A95973
c. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Corticolous on a conifer snag; catalogNumber: BOLD CALV223-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843366; institutionID: CANL; collectionID: McMullin 19866; occurrenceID: 47330294-E573-56B1-ADBE-3355BA578BB6
d. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; catalogNumber: BOLD PHAK324-20; recordedBy: A. Simon; otherCatalogNumbers:

GenBank OQ922933; institutionID: UBC; collectionID: Simon 815; occurrenceID: 7C75BFAE-31F8-54B9-AAEB-16F9D462357E

Calicium lenticulare Ach.

Materials

a. locationID: VIII; decimalLatitude: 51.61611; decimalLongitude: -127.93962; habitat: Lignicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19611; occurrenceID: 1E6BE4F4-5FCF-51E9-9FEC-FC9B826F7C02
b. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; habitat: Lignicolous on a snag; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19621; occurrenceID: BEA3A5A8-9A56-573C-B8BD-92E23D24735A
c. locationID: VIII; decimalLatitude: 51.61611; decimalLongitude: -127.93962; habitat: Lignicolous on a snag; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19638; occurrenceID: D4F4F6D4-1D45-52AA-8A47-4A632FACF095
d. locationID: VIII; decimalLatitude: 51.61611; decimalLongitude: -127.93962; habitat: Corticolous on *Thuja plicata*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19697; occurrenceID: 50E85110-6827-58B3-8D4D-C1AA61DF1D21
e. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Lignicolous on *Thuja plicata*; catalogNumber: BOLD CALV220-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843318; institutionID: CANL; collectionID: McMullin 19737; occurrenceID: FBE283CF-E1B8-55B6-9503-45CCF8E4C89D
f. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Lignicolous on *Thuja plicata*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19744; occurrenceID: 47A04A02-9281-52E7-A614-7776E6DF25EA
g. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Lignicolous on a stump; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19748; occurrenceID: 55BD2150-D976-5D41-8B84-61192BE2ABCA
h. locationID: XXIV; decimalLatitude: 51.65271; decimalLongitude: -128.12951; habitat: Corticolous on a conifer; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19862; occurrenceID: 8B05A843-460E-5CB6-9AEA-C06D6F275DEB
i. locationID: XXII; decimalLatitude: 51.64502; decimalLongitude: -128.15099; habitat: Corticolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19880; occurrenceID: 85C56748-E490-52CF-BC33-80D1F724FA9B

Caloplaca litoricola Brodo

Material

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Saxicolous; recordedBy: R.T. McMullin; identificationRemarks: Figure 2C; institutionID: CANL; collectionID: McMullin 19883; occurrenceID: 7E5C5138-C6EE-55FA-B494-820C087223FF

Caloplaca obesimarginata Søchting

Materials

a. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; identificationRemarks: TLC: methyl parietinate; institutionID: CANL; collectionID: McMullin 19736; occurrenceID: 36176A40-8FB3-5E78-A593-A644CA7AF424

b. locationID: XXII; decimalLatitude: 51.64502; decimalLongitude: -128.15099; habitat: Corticolous on *Picea sitchensis*; recordedBy: R.T. McMullin; identificationRemarks: TLC: methyl parietinate; institutionID: CANL; collectionID: McMullin 19852; occurrenceID: 1EAB3113-E9A7-5C8D-9DDB-23E47F6EF549

Caloplaca oregona H. Magn.

Material

a. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 839; occurrenceID: 618BF012-8749-5620-A30E-4242725DD7CB

Cetraria aculeata (Schreb.) Fr.

Material

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Terricolous; catalogNumber: BOLD CALV222-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843302; institutionID: CANL; collectionID: McMullin 19515; occurrenceID: 5A393EA8-2051-5E4F-BFFF-800B7400431C

Chaenotheca brunneola (Ach.) Müll. Arg.

Materials

a. locationID: VIII; decimalLatitude: 51.61611; decimalLongitude: -127.93962; habitat: Lignicolous on *Thuja plicata*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19612; occurrenceID: D93C64C1-7194-5E71-9DBA-4A9AA649EA75

b. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; habitat: Lignicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19619; occurrenceID: A5F622BA-84FD-53D9-8C51-7CC5F3F1C60D

c. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; habitat: Lignicolous on snag; catalogNumber: BOLD CALV153-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843252; institutionID: CANL; collectionID: McMullin 19635; occurrenceID: 818BAAA7-972A-581D-A028-8E139E292F64

d. locationID: XXIV; decimalLatitude: 51.65271; decimalLongitude: -128.12951; habitat: Lignicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19858; occurrenceID: 526EDC51-2965-5260-A21E-D8D56B915046

e. locationID: XVIII; decimalLatitude: 51.66476; decimalLongitude: -128.11798; habitat: Lignicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19859; occurrenceID: 99BE8E96-1476-5375-B592-4B1804558450

Symbiotic with: *Dictyochloropsis*

Chaenotheca furfuracea (L.) Tibell

Materials

a. locationID: X; decimalLatitude: 51.61977; decimalLongitude: -127.93245; habitat: Terricolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19620; occurrenceID: CBA5D378-07C5-5916-9596-67B908399635
b. locationID: X; decimalLatitude: 51.61977; decimalLongitude: -127.93245; habitat: Terricolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19677; occurrenceID: 711F45F3-B0D9-5C9E-BF8E-1830C8668AEA

Chaenotheca stemonea (Ach.) Müll. Arg.

Materials

a. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Corticolous on base of *Thuja plicata*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19537; occurrenceID: E213CA41-5011-5189-8D9C-23782E11D08B
b. locationID: X; decimalLatitude: 51.61977; decimalLongitude: -127.93245; habitat: Corticolous on *Thuja plicata*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19864; occurrenceID: DB0376E4-800A-50EA-B08E-F6B4653B15B0

Symbiotic with: *Stichococcus*

Chaenotheca trichialis (Ach.) Th. Fr.

Material

a. locationID: XXIV; decimalLatitude: 51.65271; decimalLongitude: -128.12951; habitat: Lignicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19863; occurrenceID: C2D4ACEF-DDBE-5816-BAA5-619B85FCCEBE

Symbiotic with: *Stichococcus*

Chaenothecopsis debilis (Turner & Borrer ex Sm.) Tibell

Material

a. locationID: VIII; decimalLatitude: 51.61611; decimalLongitude: -127.93962; habitat: Lignicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19591; occurrenceID: F7713568-3E01-5CF2-ACFF-4F62F5AA5505

Notes: Non-lichenised fungus.

Chaenothecopsis lecanactidis Tibell

Material

a. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; habitat: Lichenicolous on *Lecanactis abietina*; recordedBy: R.T. McMullin; identificationRemarks: Figure 2D; institutionID: CANL; collectionID: McMullin 19628; occurrenceID: 8ABFFB63-1F56-5B8B-B5BA-1DB07AF0BAD9

Parasite of: *Lecanactis abietina*

Notes: Non-lichenised fungus.

Chaenothecopsis nigripunctata Rikkinen

Material

a. locationID: VIII; decimalLatitude: 51.61611; decimalLongitude: -127.93962; habitat: Resinicolous on *Tsuga*; recordedBy: R.T. McMullin; identificationRemarks: Figure 2E; institutionID: CANL; collectionID: McMullin 19712; occurrenceID: 581A3CDD-0D45-55E7-BB41-E3585E4803E2

Notes: Non-lichenised fungus.

Chaenothecopsis pusilla (Ach.) A.F.W. Schmidt

Materials

a. locationID: VII; decimalLatitude: 51.61615; decimalLongitude: -127.93851; habitat: Lignicolous on *Thuja plicata*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19641; occurrenceID: 08C5280A-C777-5421-95DF-997020E108C3
b. locationID: VIII; decimalLatitude: 51.61611; decimalLongitude: -127.93962; habitat: Lignicolous on a snag; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19874; occurrenceID: FFACAF3A-0162-506C-9E8A-C4B67221331D

Notes: Non-lichenised fungus.

Chaenothecopsis sp.

Materials

a. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; habitat: Lichenicolous on *Arthonia arthonioides* on a snag; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19559; occurrenceID: D87A8245-022D-527B-A518-B5FEB959B689
b. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; habitat: Lichenicolous on *Arthonia arthonioides* on *Thuja plicata*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19615; occurrenceID: 94F47B7D-8AE6-52DA-9E81-4BDBD26BE2EA

c. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Lichenicolous on *Arthonia arthonioides*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19746; occurrenceID: 90505922-4E29-5474-8E98-14D0D8673EEA

Parasite of: *Arthonia arthonioides*

Notes: Non-lichenised fungus. Apothecia black, epruinose, 0.4–0.9 mm tall, capitulum lenticular to subspherical, excipulum well developed, hypothecium brown. Asci 32.5–37.5 µm long (n = 10), ascospores uniseriate. Ascospores medium brown, 2-celled, 6.0–9.0 x 2.5–3 µm. Stalk and excipulum K− and not swelling in K. Appears to be a novel taxon.

Chrysothrix candelaris (L.) J.R. Laundon

Materials

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Corticolous on *Picea sitchensis*; recordedBy: R.T. McMullin; identificationRemarks: TLC: calycin and zeorin; institutionID: CANL; collectionID: McMullin 19832; occurrenceID: 3D898DB4-FBE4-5C14-A0F1-B2C0BAC94289

b. locationID: IV; decimalLatitude: 51.65514; decimalLongitude: -128.13243; habitat: Corticolous on *Thuja plicata*; recordedBy: R.T. McMullin; identificationRemarks: TLC: calycin and zeorin; institutionID: CANL; collectionID: McMullin 19833; occurrenceID: 83E6C241-2754-591A-9061-B017DB303BA5

c. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Corticolous on *Picea sitchensis*; recordedBy: R.T. McMullin; identificationRemarks: TLC: calycin and zeorin; institutionID: CANL; collectionID: McMullin 19837; occurrenceID: CD5414EE-2271-56F3-A920-76CF26D36DCE

d. locationID: XVIII; decimalLatitude: 51.66476; decimalLongitude: -128.11798; habitat: Corticolous on *Thuja plicata*; recordedBy: R.T. McMullin; identificationRemarks: TLC: calycin and zeorin; institutionID: CANL; collectionID: McMullin 19838; occurrenceID: F6187858-0C5A-5F14-AB69-EF165D07D120

e. locationID: XXVI; decimalLatitude: 51.65466; decimalLongitude: -128.13051; habitat: Corticolous on *Picea sitchensis*; recordedBy: R.T. McMullin; identificationRemarks: TLC: calycin and zeorin; institutionID: CANL; collectionID: McMullin 19839; occurrenceID: B690015D-9E26-557E-A167-E21437B57F14

f. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Corticolous on *Picea sitchensis*; recordedBy: R.T. McMullin; identificationRemarks: TLC: calycin and zeorin; institutionID: CANL; collectionID: McMullin 19840; occurrenceID: CF8BF8EB-3F5B-52B1-B05B-3E1349B50B2C

g. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; catalogNumber: BOLD PHAK323-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922986; institutionID: UBC; collectionID: Simon 780; occurrenceID: E8F63137-82A5-538F-91D6-0C15BAF7FB72

h. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 785; occurrenceID: 3931FCA1-0CF8-51C1-A605-F6E7CA72D7F2

Cladonia arbuscula (Wallr.) Flot.

Material

a. locationID: VIII; decimalLatitude: 51.61611; decimalLongitude: -127.93962; habitat: Terricolous; catalogNumber: BOLD CALV231-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843222; identificationRemarks: TLC: fumarprotocetraric and usnic acids; institutionID: CANL; collectionID: McMullin 19598; occurrenceID: 1D5E68C1-35C7-5AB0-B882-E6185A37052C

Cladonia bellidiflora (Ach.) Schaer.

Materials

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Terricolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19509; occurrenceID: CAB4C729-4EA2-5E93-9D3B-679343E80AF6

b. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Terricolous; catalogNumber: BOLD CALV232-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843323; institutionID: CANL; collectionID: McMullin 19714; occurrenceID: 24269BD3-0E1F-5242-866B-FA9E1EB362E7

c. locationID: IX; decimalLatitude: 51.61638; decimalLongitude: -127.94035; habitat: Terricolous; catalogNumber: BOLD CALV234-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843196; institutionID: CANL; collectionID: McMullin 19715; occurrenceID: 60B4E7A4-5814-5C20-9756-DC4698950B26

d. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Corticolous on *Picea sitchensis*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19738; occurrenceID: 4E65A208-5C25-5B95-A736-685B3087B3B2

e. locationID: XXX; decimalLatitude: 51.63722; decimalLongitude: -128.09525; catalogNumber: BOLD PHAK344-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922990; institutionID: UBC; collectionID: Simon 766; occurrenceID: D95532F3-928D-555E-AC5C-799456274BDA

f. locationID: IX; decimalLatitude: 51.61638; decimalLongitude: -127.94035; catalogNumber: BOLD PHAK364-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922948; institutionID: UBC; collectionID: Simon 823; occurrenceID: 85E3775F-0F3C-51EF-B4FF-6676655FC707

Notes: All specimens are the thamnolic acid chemotype.

Cladonia chlorophaea (Flörke ex Sommerf.) Spreng.

Material

a. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; habitat: Corticolous; recordedBy: R.T. McMullin; identificationRemarks: TLC: fumarprotocetraric acid; institutionID: CANL; collectionID: McMullin 19841; occurrenceID: B4B4B5A5-A025-5A60-BEEE-5D419A68B5E1

Cladonia ciliata f. *flavicans* (Flörke) Ahti & DePriest (syn. Cladonia ciliata var. tenuis (Flörke) Ahti)

Material

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Terricolous; recordedBy: R.T. McMullin; identificationRemarks: TLC: fumarprotocetraric and usnic acids; institutionID: CANL; collectionID: McMullin 19545; occurrenceID: 34F2BACC-D649-54B1-8DB8-CB5BCC155448

Cladonia cornuta subsp. *cornuta* (L.) Hoffm.

Material

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Terricolous; catalogNumber: BOLD CALV238-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843265; institutionID: CANL; collectionID: McMullin 19569; occurrenceID: 06AD18B6-47F0-5739-A94A-EBB6AC7ABE99

Cladonia crispata var. *cetrariiformis* (Delise) Vain.

Material

a. locationID: XXX; decimalLatitude: 51.63722; decimalLongitude: -128.09525; catalogNumber: BOLD PHAK293-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922951; institutionID: UBC; collectionID: Simon 767; occurrenceID: 4C49AB78-D7C2-5CAD-91CB-8D3C08EC0961

Cladonia crispata var. *crispata* (Ach.) Flot.

Material

a. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; catalogNumber: BOLD PHAK300-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922956; institutionID: UBC; collectionID: Simon 786; occurrenceID: 34E3DE94-3073-51B2-900E-596BF093FD6F

Cladonia furcata (Huds.) Schrad.

Material

a. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; habitat: Terricolous; catalogNumber: BOLD CALV239-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843327; institutionID: CANL; collectionID: McMullin 19797; occurrenceID: C5F50F49-13ED-5F23-9261-894CE82F6E5E

Cladonia gracilis subsp. *vulnerata* Ahti

Materials

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Terricolous; catalogNumber: BOLD CALV240-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843311; institutionID: CANL; collectionID: McMullin 19517; occurrenceID: F6638CDA-0B6B-5237-8100-E59383E23D8F
b. locationID: XXV; decimalLatitude: 51.65180; decimalLongitude: -128.12865; habitat: Terricolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19532; occurrenceID: C9EC0B3B-445A-54CF-97A4-AC0D0CF90875

Cladonia grayi G. Merr. ex Sandst.

Material

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Terricolous; catalogNumber: BOLD CALV242-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843335; identificationRemarks: TLC: fumarprotocetraric and grayanic acids; institutionID: CANL; collectionID: McMullin 19843; occurrenceID: 9F0C1D32-5787-5E28-AD19-6388B128A7FA

Cladonia ochrochlora Flörke

Materials

a. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Terricolous; catalogNumber: BOLD CALV243-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843346; institutionID: CANL; collectionID: McMullin 19568; occurrenceID: 1F22622F-B85B-5AC6-8FD2-210040B935C6
b. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Corticolous; recordedBy: R.T. McMullin; identificationRemarks: TLC: fumarprotocetraric acid; institutionID: CANL; collectionID: McMullin 19705; occurrenceID: 9083DE39-F349-5DE8-BA6C-1C2C496BE11E

Cladonia pleurota (Flörke) Schaer.

Material

a. locationID: XIV; decimalLatitude: 51.66797; decimalLongitude: -128.12128; habitat: Terricolous; catalogNumber: BOLD CALV245-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843315; identificationRemarks: TLC: usnic acid and zeorin; institutionID: CANL; collectionID: McMullin 19670; occurrenceID: 63E1FBD9-5485-562F-A7E9-3B2D310F5744

Cladonia portentosa subsp. *pacifica* (Ahti) Ahti

Materials

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Terricolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19520; occurrenceID: 305E0DAB-0F59-580F-8162-58D44710A553
b. locationID: XI; decimalLatitude: 51.61622; decimalLongitude: -127.94227; habitat: Terricolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19599; occurrenceID: 71F787DD-8261-5D79-8E5D-C92B6F397399
c. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; habitat: Terricolous; catalogNumber: BOLD CALV246-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843347; institutionID: CANL; collectionID: McMullin 19772; occurrenceID: 16243E51-5894-527A-A474-4BB572085DE5
d. locationID: XXV; decimalLatitude: 51.65180; decimalLongitude: -128.12865; habitat: Terricolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19868; occurrenceID: 24541784-95BA-5E77-A637-9B608D553E6D
e. locationID: XXV; decimalLatitude: 51.65180; decimalLongitude: -128.12865; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 763; occurrenceID: EAFBB802-7EDD-533D-99E1-0AD47542FC11
f. locationID: XXII; decimalLatitude: 51.64502; decimalLongitude: -128.15099; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 806; occurrenceID: 18AE2246-7B47-5743-BFCD-E0CB572A87FA
g. locationID: IX; decimalLatitude: 51.61638; decimalLongitude: -127.94035; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 821; occurrenceID: 6CE70ABF-BA99-5A17-AF7B-B80AD61B4DB9

Cladonia rangiferina (L.) F.H. Wigg.

Materials

a. locationID: VIII; decimalLatitude: 51.61611; decimalLongitude: -127.93962; habitat: Terricolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19625; occurrenceID: 30EB7E57-3612-5590-969F-F1FE76CE9E99
b. locationID: XXV; decimalLatitude: 51.65180; decimalLongitude: -128.12865; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 764; occurrenceID: 6D66A960-2AA0-5245-B85D-C92AB770126F
c. locationID: XI; decimalLatitude: 51.61622; decimalLongitude: -127.94227; catalogNumber: BOLD PHAK365-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922974; institutionID: UBC; collectionID: Simon 822; occurrenceID: 70962FEC-D4B4-5C1F-B853-CB4798CE4773

Cladonia scabriuscula (Delise) Nyl.

Material

a. locationID: XXVIII; decimalLatitude: 51.66425; decimalLongitude: -128.12706; catalogNumber: BOLD PHAK339-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922989; institutionID: UBC; collectionID: Simon 750; occurrenceID: 59AA7BD8-1EDA-555E-910B-25C4E099086E

Cladonia squamosa var. *squamosa* Hoffm.

Materials

a. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Terricolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19539; occurrenceID: 1AF8B95A-713D-536F-B7BB-89D3A9074996
b. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; habitat: Terricolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19762; occurrenceID: C243C8EA-D984-523F-83C7-EAA900438F88
c. locationID: XXVI; decimalLatitude: 51.65466; decimalLongitude: -128.13051; habitat: Corticolous on the base of a *Picea sitchensis*; catalogNumber: BOLD CALV251-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843305; institutionID: CANL; collectionID: McMullin 19765; occurrenceID: A358A7D0-ECA4-5CFC-AEC1-93256D95A8A2

Notes: All specimens are the squamatic acid chemotype.

Cladonia straminea (Sommerf.) Flörke

Materials

a. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Terricolous; catalogNumber: BOLD CALV253-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843354; identificationRemarks: TLC: didymic, squamatic, and usnic acids; institutionID: CANL; collectionID: McMullin 19709; occurrenceID: 8F7B4F64-7248-5E8B-AB86-D74AF790BE9C
b. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Terricolous; recordedBy: R.T. McMullin; identificationRemarks: TLC: didymic, squamatic, and usnic acids; institutionID: CANL; collectionID: McMullin 19809; occurrenceID: 0E6D759B-E481-51A2-8034-C7B598CF1D35
c. locationID: XXV; decimalLatitude: 51.65180; decimalLongitude: -128.12865; habitat: Terricolous; catalogNumber: BOLD CALV254-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843225; identificationRemarks: TLC: didymic, squamatic, and usnic acids; institutionID: CANL; collectionID: McMullin 19844; occurrenceID: 425DCA5F-ED01-5683-89E6-6C24A3AB8B6B
d. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Terricolous; catalogNumber: BOLD CALV252-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843229; identificationRemarks: TLC: didymic, squamatic, and usnic acids; institutionID: CANL; collectionID: McMullin 19845; occurrenceID: 1DAC8CDF-7817-53CB-AC19-4B4BA2F67E99

Cladonia umbricola Tønsberg & Ahti

Material

a. locationID: Safety Cove; habitat: Terricolous; recordedBy: Schofield; institutionID: UBC; collectionID: Schofield 408262; occurrenceID: 89CA8D9A-C96B-5CDD-A5CD-61611E069D90

Notes: Collected on Calvert Island prior to our survey, but we did not locate it.

Cladonia uncialis subsp. *uncialis* (L.) F.H. Wigg.

Materials

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Terricolous; catalogNumber: BOLD CALV255-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843227; institutionID: CANL; collectionID: McMullin 19558; occurrenceID: 9139BD89-6F2E-5C05-9D01-D39327BA8095

b. locationID: XI; decimalLatitude: 51.61622; decimalLongitude: -127.94227; habitat: Terricolous; catalogNumber: BOLD CALV256-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843270; institutionID: CANL; collectionID: McMullin 19589; occurrenceID: 9029D600-0FB5-526B-A025-C9309E05A639

c. locationID: XXV; decimalLatitude: 51.65180; decimalLongitude: -128.12865; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 765; occurrenceID: 8F0C7C81-E119-5014-AD74-6A3D963CBE44

Cladonia wainioi Savicz

Materials

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Terricolous; catalogNumber: BOLD CALV257-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843364; institutionID: CANL; collectionID: McMullin 19518; occurrenceID: 6D59EC98-D8F0-51C3-98B9-10D512983D71

b. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Terricolous; catalogNumber: BOLD CALV258-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843257; institutionID: CANL; collectionID: McMullin 19557; occurrenceID: F5062931-6CCC-50C9-AE05-F41F3DA2F28C

Cliostomum leprosum (Räsänen) Holien & Tønsberg

Material

a. locationID: VIII; decimalLatitude: 51.61611; decimalLongitude: -127.93962; habitat: Corticolous on *Thuja plicata*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19710; occurrenceID: 2EFB36CF-809C-513B-A71E-00E779B69BC6

Coccotrema maritimum Brodo

Materials

a. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; habitat: Saxicolous; catalogNumber: BOLD CALV259-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843289; identificationRemarks: Figure 2F; institutionID: CANL; collectionID: McMullin 19750; occurrenceID: D4EFC6FA-7D49-5090-AD24-E461E046B782

b. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; catalogNumber: BOLD PHAK315-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922992; institutionID: UBC; collectionID: Simon 751; occurrenceID: 77C46E5D-262C-52D8-AF23-FFCB33A605B9
c. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 824; occurrenceID: 82145624-A18D-5E47-B774-0F1ABA1F1205

Coccotrema pocillarium (C.E. Cumm.) Brodo

Materials

a. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV260-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843230; institutionID: CANL; collectionID: McMullin 19571; occurrenceID: FF664ABD-2CDF-5304-B825-D5F31AAF8997
b. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Corticolous on a conifer snag; catalogNumber: BOLD CALV261-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843247; institutionID: CANL; collectionID: McMullin 19623; occurrenceID: 69E520A5-E184-5930-8F91-C1B4E7EE8639
c. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Corticolous on a snag; catalogNumber: BOLD CALV262-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843332; identificationRemarks: TLC: stictic acid; institutionID: CANL; collectionID: McMullin 19733; occurrenceID: ED8F91BC-2753-5AF1-A6F1-C53D23F96A71
d. locationID: XIV; decimalLatitude: 51.66797; decimalLongitude: -128.12128; catalogNumber: BOLD PHAK331-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922977; institutionID: UBC; collectionID: Simon 787; occurrenceID: 6AC95A34-D624-554B-817C-124186DB5462
e. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 807; occurrenceID: 45ACEB54-8737-5BDB-A001-D8AA61BC3784
f. locationID: XXIII; decimalLatitude: 51.64058; decimalLongitude: -128.14882; catalogNumber: BOLD PHAK332-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922964; institutionID: UBC; collectionID: Simon 841; occurrenceID: 1F476120-F050-579A-833A-05DF835050F7
g. locationID: XXIII; decimalLatitude: 51.64058; decimalLongitude: -128.14882; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 842; occurrenceID: 3E309E09-37C1-5826-A681-DF8B1786EFD4

Collema subflaccidum Degel.

Material

a. locationID: XXIII; decimalLatitude: 51.64058; decimalLongitude: -128.14882; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 843; occurrenceID: 4629BF70-9E89-5912-8B19-C95CF51720B8

Collemopsidium foveolatum (A.L. Sm.) F. Mohr.

Materials

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Calcicolous on a barnacle; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19679; occurrenceID: 34B44369-1DCE-56CC-B63C-BC92B1A154EE
b. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 825; occurrenceID: EE91DCBA-9250-587E-AB39-863DA19015CF

Ephebe lanata (L.) Vain.

Material

a. locationID: Keith Anchorage Area, Kwakshua Channel; habitat: Saxicolous; recordedBy: Schofield; institutionID: UBC; collectionID: Schofield 27007; occurrenceID: 87853255-4715-5971-94AB-297FB5FCC1E3

Notes: Collected on Calvert Island prior to our survey, but we did not locate it.

Felipes leucopellaeus (Ach.) Frisch & G. Thor

Material

a. locationID: XXVI; decimalLatitude: 51.65466; decimalLongitude: -128.13051; habitat: Corticolous on *Thuja plicata*; catalogNumber: BOLD CALV264-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843307; identificationRemarks: TLC: no substance detected; institutionID: CANL; collectionID: McMullin 19779; occurrenceID: 2EA92798-E66C-5570-8F4C-C038FDD00869

Fuscopannaria pacifica P.M. Jørg.

Materials

a. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV268-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843365; identificationRemarks: TLC: atranorin absent; institutionID: CANL; collectionID: McMullin 19578; occurrenceID: FD006A69-978A-560B-97A6-901F077A9203
b. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Saxicolous; catalogNumber: BOLD CALV180-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843273; institutionID: CANL; collectionID: McMullin 19652; occurrenceID: B77814C6-5F97-5E56-BD67-3DDAFB9E58C8
c. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Saxicolous; catalogNumber: BOLD CALV271-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843250; institutionID: CANL; collectionID: McMullin 19685; occurrenceID: 67DA3783-C1C2-5099-B307-B8BB1BE601CC

d. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 752; occurrenceID: DEE891CC-1CA4-5D82-8C60-E925E8EDA13F
e. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; catalogNumber: BOLD PHAK356-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922966; institutionID: UBC; collectionID: Simon 826; occurrenceID: 602C7FCC-3CC6-5B68-A7B0-7F4E771BF80B

Graphis elegans (Borrer ex Sm.) Ach.

Material

a. locationID: IV; decimalLatitude: 51.65514; decimalLongitude: -128.13243; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV162-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843338; identificationRemarks: TLC: norstictic acid; institutionID: CANL; collectionID: McMullin 19882; occurrenceID: A92DF64F-7127-57BC-A4D5-23E9AEDBF588

Herteliana alaskensis (Nyl.) S. Ekman

Material

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Saxicolous; catalogNumber: BOLD CALV159-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843210; institutionID: CANL; collectionID: McMullin 19608; occurrenceID: F11C6D5A-D582-5A55-8034-355FCF5CE7CC

Hertelidea botryosa (Fr.) Printzen & Kantvilas

Material

a. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Saxicolous; recordedBy: R.T. McMullin; identificationRemarks: TLC: perlatolic acid; institutionID: CANL; collectionID: McMullin 19788; occurrenceID: 154D1DDA-0EB9-53E3-9385-77FD0F954B6C

Hydropunctaria maura (Wahlenb.) C. Keller, Gueidan & Thüs

Material

a. locationID: XIV; decimalLatitude: 51.66797; decimalLongitude: -128.12128; catalogNumber: BOLD PHAK327-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922994; institutionID: UBC; collectionID: Simon 781; occurrenceID: 833DEA04-BDA1-554E-9A6E-D29550EB94AA

Hypogymnia apinnata Goward & McCune

Materials

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Corticolous on *Pinus contorta* ssp. *contorta*; catalogNumber: BOLD CALV273-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843343; institutionID: CANL; collectionID: McMullin 19514; occurrenceID: 8FF22C06-B94A-5A1F-9181-C2E5B4F7EA50

b. locationID: XXIII; decimalLatitude: 51.64058; decimalLongitude: -128.14882; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV285-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843286; institutionID: CANL; collectionID: McMullin 19588; occurrenceID: 438A303D-D28B-58B7-96BD-29403815F74D

c. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; habitat: Corticolous on *Picea sitchensis*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19618; occurrenceID: 68D6B54D-6F0A-567F-8784-2706378F28FB

d. locationID: XXVII; decimalLatitude: 51.65589; decimalLongitude: -128.13098; habitat: Corticolous on a snag; catalogNumber: BOLD CALV160-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843313; institutionID: CANL; collectionID: McMullin 19799; occurrenceID: 25440590-2C20-5D5E-B51E-81A08E264A81

e. locationID: XXIII; decimalLatitude: 51.64058; decimalLongitude: -128.14882; catalogNumber: BOLD PHAK371-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922950; institutionID: UBC; collectionID: Simon 845; occurrenceID: 96C4AB68-F54A-5C27-9025-7B1A77E566DA

Hypogymnia duplicata (Ach.) Rass.

Materials

a. locationID: XIV; decimalLatitude: 51.66797; decimalLongitude: -128.12128; habitat: Corticolous on a conifer; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19582; occurrenceID: 09156575-A0B3-56C9-B4B0-909A96C4B0EF

b. locationID: XIV; decimalLatitude: 51.66797; decimalLongitude: -128.12128; habitat: Corticolous on a conifer; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19610; occurrenceID: ACA93DC6-91E7-5AFD-BF8B-070247658A6D

c. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Corticolous on a snag; catalogNumber: BOLD CALV274-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843296; institutionID: CANL; collectionID: McMullin 19723; occurrenceID: AA223E6C-944F-50C6-A174-BA38148415CD

d. locationID: XXIV; decimalLatitude: 51.65271; decimalLongitude: -128.12951; habitat: Corticolous on *Thuja plicata*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19743; occurrenceID: B599A549-65C3-5D80-BFCF-E2C9BFB5C510

e. locationID: XVIII; decimalLatitude: 51.66476; decimalLongitude: -128.11798; habitat: Corticolous on *Thuja plicata*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19769; occurrenceID: 25A2C609-A536-5F25-9B27-E616E3A0906B

Hypogymnia enteromorpha (Ach.) Nyl.

Materials

a. locationID: XI; decimalLatitude: 51.61622; decimalLongitude: -127.94227; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV277-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843217; institutionID: CANL; collectionID: McMullin 19631; occurrenceID: 2A6D771C-61B6-56FB-88D9-16A7773C1DBB
b. locationID: XXIX; decimalLatitude: 51.65271; decimalLongitude: -128.12951; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 753; occurrenceID: 75AC6E8E-5976-5175-BA27-39433AE2415B

Hypogymnia hultenii (Degel.) Krog

Materials

a. locationID: XVIII; decimalLatitude: 51.66476; decimalLongitude: -128.11798; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV278-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843345; institutionID: CANL; collectionID: McMullin 19576; occurrenceID: 615A1ADE-C8C9-5634-AACD-C6E0BC6AC6A7
b. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV279-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843255; institutionID: CANL; collectionID: McMullin 19713; occurrenceID: 5DBC611F-9F50-5731-AA40-E539566859A1
c. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV150-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843309; institutionID: CANL; collectionID: McMullin 19751; occurrenceID: 77939DAF-81DE-5D71-A172-52AAC0EEE20D
d. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; catalogNumber: BOLD PHAK320-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922961; institutionID: UBC; collectionID: Simon 805; occurrenceID: FDDDD5DD-C321-5874-B693-EC1160E00A76
e. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; catalogNumber: BOLD PHAK360-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922993; institutionID: UBC; collectionID: Simon 840; occurrenceID: D6A9307B-1995-5DA9-B512-C6A318A5A0DE

Hypogymnia cf. imshaugii Krog

Materials

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Corticolous on *Pinus contorta* ssp. *contorta*; catalogNumber: BOLD CALV280-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843213; institutionID: CANL; collectionID: McMullin 19513; occurrenceID: 50472DAB-C6ED-58EE-B3CD-113449870A78
b. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Corticolous on *Pinus contorta* ssp. *contorta*; catalogNumber: BOLD CALV281-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843244; institutionID:

CANL; collectionID: McMullin 19637; occurrenceID: F09945D0-CDD7-5939-BACF-3801294A5E61

Hypogymnia lophyrea (Ach.) Krog

Materials

a. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV282-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843306; institutionID: CANL; collectionID: McMullin 19597; occurrenceID: 08C79C6E-B5D8-5605-941C-CD0979A64BCF
b. locationID: XVIII; decimalLatitude: 51.66476; decimalLongitude: -128.11798; habitat: Corticolous on *Picea sitchensis*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19690; occurrenceID: 4322D907-E3C1-5377-9459-175318D61082
c. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV284-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843337; identificationRemarks: Figure 3A; institutionID: CANL; collectionID: McMullin 19770; occurrenceID: 52BD0688-70F7-5AD5-938A-F2EFFC93E23A
d. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 784; occurrenceID: 0C3C1AE1-4425-53FF-8747-DCBE050BFD37

Hypogymnia physodes (L.) Nyl.

Material

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Corticolous on a snag; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19504; occurrenceID: 886AD329-0B16-506D-B529-DB78D770F20D

Hypogymnia vittata (Ach.) Parrique

Material

a. locationID: On the slopes of Mt. Buxton; recordedBy: Schofield; institutionID: UBC; collectionID: Schofield 27996a; occurrenceID: 3E092520-D632-5DD7-87AE-653891DC0474

Notes: Collected on Calvert Island prior to our survey, but we did not locate it.

Icmadophila ericetorum (L.) Zahlbr.

Materials

a. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Lignicolous on a stump; catalogNumber: BOLD CALV001-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843269; institutionID: CANL; collectionID: McMullin 19747; occurrenceID: 246957CE-8DCE-5FE9-924B-06CC86D11772

b. locationID: XIV; decimalLatitude: 51.66797; decimalLongitude: -128.12128; catalogNumber: BOLD PHAK341-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922953; institutionID: UBC; collectionID: Simon 788; occurrenceID: C63949D1-FFEF-56E7-BC89-4CBA94A13829

Kaernefeltia californica (Tuck.) A. Thell & Goward

Material

a. locationID: XXIII; decimalLatitude: 51.64058; decimalLongitude: -128.14882; habitat: Corticolous on a conifer snag; catalogNumber: BOLD CALV002-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843342; institutionID: CANL; collectionID: McMullin 19692; occurrenceID: 18853D71-CDA5-5071-B56D-5B1B464DC3F8

Lecanactis abietina (Ach.) Körb.

Material

a. locationID: VIII; decimalLatitude: 51.61611; decimalLongitude: -127.93962; habitat: Lignicolous on *Thuja plicata*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19660; occurrenceID: F0447C1F-3DDB-56E5-84ED-6F5A880C641A

Lecania hydrophobica T. Sprib. & Fryday

Materials

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Saxicolous; recordedBy: R.T. McMullin; identificationRemarks: TLC: atranorin, gangaleoidin, and norgangaleoidin; institutionID: CANL; collectionID: McMullin 19639; occurrenceID: D438C6C5-DBB1-5EEE-80D5-2A33BF6B87AE

b. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; habitat: Saxicolous; recordedBy: R.T. McMullin; identificationRemarks: TLC: atranorin, gangaleoidin, and norgangaleoidin; institutionID: CANL; collectionID: McMullin 19774; occurrenceID: 774074D2-0B59-5D95-97D5-F7F00F4132D3

Lecanora atrosulphurea (Wahlenb.) Ach.

Material

a. locationID: XIV; decimalLatitude: 51.66797; decimalLongitude: -128.12128; habitat: Saxicolous; recordedBy: R.T. McMullin; identificationRemarks: TLC: thiophanic and usnic acids, zeorin, and unknown fatty acids; institutionID: CANL; collectionID: McMullin 19689; occurrenceID: D6E847AD-0AD5-58BB-8694-0BC0D3E827D5

Lecanora cinereofusca H. Magn.

Materials

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19649; occurrenceID: 5268648D-7229-5AAD-9DE9-6FCBDF53710F
b. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 827; occurrenceID: 94652EEE-634C-5FC6-AB83-0BEB89C931CD

Notes: Epihymenium with pannarin.

Lecanora poliophaea (Wahlenb.) Ach.

Material

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; catalogNumber: BOLD PHAK379-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922965; institutionID: UBC; collectionID: Simon 820; occurrenceID: 252C82F0-DFA7-5364-A2F2-A43C395C0E41

Lecanora symmicta (Ach.) Ach.

Material

a. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Lignicolous on a log; catalogNumber: BOLD CALV006-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843220; institutionID: CANL; collectionID: McMullin 19752; occurrenceID: 85B136E9-8CC9-54E3-9A26-81B8F8ED31E6

Lecanora xylophila Hue

Materials

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Saxicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19627; occurrenceID: C1273A93-3CBB-54A8-B0F9-CD6B590EF992
b. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Lignicolous on a log; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19646; occurrenceID: 6BB7FDC4-1F5B-581A-A9B8-C1E932EBA357
c. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Lignicolous on a log; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19777; occurrenceID: 484C9AD5-1380-52EB-9BFA-71C2D8D1E034
d. locationID: XXXI; decimalLatitude: 51.64512; decimalLongitude: -128.09463; catalogNumber: BOLD PHAK338-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922959; institutionID: UBC; collectionID: Simon 768; occurrenceID: A38933B7-124E-5427-A012-E53CC03BD08C

Lepra amara (Ach.) Hafellner

Materials

a. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19526; occurrenceID: 2BF83F69-C0FB-5202-8A5B-746BEF8F5203
b. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Corticolous on a snag; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19682; occurrenceID: F5081B85-8963-50F3-8855-F36E4A702271
c. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Corticolous on a deciduous tree; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19879; occurrenceID: 294F1FE1-6B07-5433-B58F-6C678AD2F323
d. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 813; occurrenceID: 3A269BCE-81CB-526C-8DA5-B3957B238B34

Notes: Soralia with picrolichenic acid.

Lepra borealis (Erichsen) I. Schmitt, B.P. Hodk. & Lumbsch

Materials

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Lignicolous; recordedBy: R.T. McMullin; identificationRemarks: TLC: fumarprotocetraric and protocetraric acids; institutionID: CANL; collectionID: McMullin 19647; occurrenceID: B9B9D907-7F70-5080-87E8-F4008BF5AB08
b. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; identificationRemarks: TLC: fumarprotocetraric and protocetraric acids; institutionID: CANL; collectionID: McMullin 19704; occurrenceID: 9D4E1B91-AD66-53B9-A9B6-0B4C0714F3D4

Lepra subvelata (G.K. Merr.) T. Sprib.

Materials

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Lignicolous; recordedBy: R.T. McMullin; identificationRemarks: TLC: nephrosteranic acid; institutionID: CANL; collectionID: McMullin 19624; occurrenceID: 0B89078F-E4DC-5D83-BDE5-B92931C0BBA4
b. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Lignicolous on a snag; recordedBy: R.T. McMullin; identificationRemarks: TLC: nephrosteranic acid; institutionID: CANL; collectionID: McMullin 19630; occurrenceID: 13ACBEDC-46E5-5E4A-A2A5-567B42B27EA9
c. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Corticolous on *Pinus contorta* ssp. *contorta*; recordedBy: R.T. McMullin; identificationRemarks: TLC: nephrosteranic acid; institutionID: CANL; collectionID: McMullin 19645; occurrenceID: 7F653207-D9F6-539E-BDB6-2C5A7B0C6B31

d. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Lignicolous on a snag; recordedBy: R.T. McMullin; identificationRemarks: TLC: nephrosteranic acid; institutionID: CANL; collectionID: McMullin 19851; occurrenceID: D7BA0327-FD5D-5A2E-B500-2C3CEA88F2DE
e. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; catalogNumber: BOLD PHAK359-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922939; institutionID: UBC; collectionID: Simon 835; occurrenceID: 66E2D24A-DE18-5A5C-8E6E-7675A8529E91
f. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 836; occurrenceID: 6998A5B5-2D43-578A-BB3A-3C2EED88A4E0

Notes: Spribille et al. (2020) point out the distinctions of this rarely reported, but probably common coastal species from *Lepra ophthalmiza* (Nyl.) Hafellner.

Lepraria brodoi Lendemer & Tønsberg

Materials

a. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Corticolous on *Tsuga*; recordedBy: R.T. McMullin; identificationRemarks: TLC: alectorialic acid was the major substance detected, minor substances were not always clear, and no psoromic acid was detected.; institutionID: CANL; collectionID: McMullin 19805; occurrenceID: B4494135-B77E-5503-8979-42FD73F4B0D9
b. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; habitat: Bryicolous on *Tsuga*; recordedBy: R.T. McMullin; identificationRemarks: TLC: alectorialic acid was the major substance detected, minor substances were not always clear, and no psoromic acid was detected.; institutionID: CANL; collectionID: McMullin 19812; occurrenceID: 294822CC-7C5A-57B6-97D2-359E83AF6FEF
c. locationID: XXIV; decimalLatitude: 51.65271; decimalLongitude: -128.12951; habitat: Corticolous on a conifer snag; recordedBy: R.T. McMullin; identificationRemarks: TLC: alectorialic acid was the major substance detected, minor substances were not always clear, and no psoromic acid was detected.; institutionID: CANL; collectionID: McMullin 19813; occurrenceID: F2C9AC47-DD1B-5907-B745-EAEBE17A3EDB
d. locationID: VII; decimalLatitude: 51.61615; decimalLongitude: -127.93851; habitat: Corticolous on the base of *Tsuga*; recordedBy: R.T. McMullin; identificationRemarks: TLC: alectorialic acid was the major substance detected, minor substances were not always clear, and no psoromic acid was detected.; institutionID: CANL; collectionID: McMullin 19817; occurrenceID: C0915F00-FC7F-5E0F-9BC2-1354B6A1E964
e. locationID: X; decimalLatitude: 51.61977; decimalLongitude: -127.93245; habitat: Saxicolous on a cliff; recordedBy: R.T. McMullin; identificationRemarks: TLC: alectorialic acid was the major substance detected, minor substances were not always clear, and no psoromic acid was detected.; institutionID: CANL; collectionID: McMullin 19818; occurrenceID: 2141B7F9-9B75-5FAB-9911-A4A7C9294D8D
f. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Terricolous; catalogNumber: BOLD CALV176-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843285; identificationRemarks: TLC: alectorialic acid was the major substance detected, minor substances were not always clear, and no psoromic acid was detected.; institutionID: CANL; collectionID: McMullin 19820; occurrenceID: D35CB757-6DD2-5A19-B628-5A5D84D557DA

g. locationID: VII; decimalLatitude: 51.61615; decimalLongitude: -127.93851; habitat: Corticolous on the base of *Tsuga*; recordedBy: R.T. McMullin; identificationRemarks: TLC: alectorialic acid was the major substance detected, minor substances were not always clear, and no psoromic acid was detected.; institutionID: CANL; collectionID: McMullin 19821; occurrenceID: 27C44044-4C67-5B09-A4C6-97816514DA5B

Lepraria finkii (de Lesl.) R.C. Harris

Materials

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Terricolous; catalogNumber: BOLD CALV018-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843351; identificationRemarks: TLC: atranorin, stictic acid, and zeorin; institutionID: CANL; collectionID: McMullin 19824; occurrenceID: 25B47FCF-85F9-5A98-A85D-690C749A46CF

b. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Terricolous; catalogNumber: BOLD CALV019-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843341; identificationRemarks: TLC: atranorin, stictic acid, and zeorin; institutionID: CANL; collectionID: McMullin 19825; occurrenceID: 40E6020D-4C92-5CB2-9BA3-9B85B216BC45

Lepraria jackii Tønsberg

Material

a. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Terricolous; catalogNumber: BOLD CALV020-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843245; identificationRemarks: TLC: atranorin, jackinic acid, and roccellic/angardianic acid; institutionID: CANL; collectionID: McMullin 19834; occurrenceID: 790AC607-8E2F-5E1F-BBA9-FBC4BBAB94B9

Lepraria membranacea (Dicks.) Vain.

Material

a. locationID: VII; decimalLatitude: 51.61615; decimalLongitude: -127.93851; habitat: Corticolous on a conifer snag; catalogNumber: BOLD CALV184-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843312; identificationRemarks: TLC: unknown substances at RF 1 & 7; institutionID: CANL; collectionID: McMullin 19815; occurrenceID: 2144AE05-996E-5AF0-98F1-841618D85BA6

Lepraria neglecta (Nyl.) Erichsen

Material

a. locationID: XV; decimalLatitude: 51.65616; decimalLongitude: -128.14052; habitat: Saxicolous and terricolous; recordedBy: R.T. McMullin; identificationRemarks: TLC: fumarprotocetraric, and roccellic/angardianic acids; no atranorin; institutionID: CANL; collectionID: McMullin 19816; occurrenceID: 5A4FF5B8-F5AF-5240-BE15-FD9480073496

Lepraria nivalis J.R. Laundon

Material

a. locationID: VIII; decimalLatitude: 51.61611; decimalLongitude: -127.93962; habitat: Corticolous on *Thuja plicata*; catalogNumber: BOLD CALV023-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843321; identificationRemarks: TLC: atranorin and protocetraric acid; institutionID: CANL; collectionID: McMullin 19827; occurrenceID: 8A886F9D-29BE-5A0E-90FA-8FC09B5E48D6

Lepraria pacifica Lendemer

Materials

a. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; identificationRemarks: TLC: divaricatic acid and zeorin; institutionID: CANL; collectionID: McMullin 19811; occurrenceID: 8607B28E-E3B6-5FA0-9422-502DBAC3AFA5

b. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Corticolous on a stump; recordedBy: R.T. McMullin; identificationRemarks: TLC: divaricatic acid and zeorin; institutionID: CANL; collectionID: McMullin 19814; occurrenceID: 1FCCC5C3-1EE5-50F7-AB34-00A02F2588A5

c. locationID: IV; decimalLatitude: 51.65514; decimalLongitude: -128.13243; habitat: Corticolous on *Thuja plicata*; catalogNumber: BOLD CALV025-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843360; identificationRemarks: TLC: divaricatic acid and zeorin; institutionID: CANL; collectionID: McMullin 19823; occurrenceID: 8DB40252-9866-5C9D-B63C-10850B548DCA

d. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Corticolous on *Thuja plicata*; recordedBy: R.T. McMullin; identificationRemarks: TLC: divaricatic acid and zeorin; institutionID: CANL; collectionID: McMullin 19826; occurrenceID: FF349D63-CCA2-548C-A161-F56E8AEA8664

Lepraria torii Pérez-Ortega & T. Sprib.

Materials

a. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Terricolous; catalogNumber: BOLD CALV026-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843277; identificationRemarks: TLC: fumarprotocetraric and roccellic/angardianic acids; institutionID: CANL; collectionID: McMullin 19810; occurrenceID: 94BBDAB2-2DFC-586A-97FD-10B0AAF10DF2

b. locationID: VII; decimalLatitude: 51.61615; decimalLongitude: -127.93851; habitat: Corticolous on the base of a snag; catalogNumber: BOLD CALV027-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843199; identificationRemarks: TLC: fumarprotocetraric and roccellic/angardianic acids; institutionID: CANL; collectionID: McMullin 19835; occurrenceID: 7EE14A08-B3A5-5597-AD9C-11C64736327E

c. locationID: IV; decimalLatitude: 51.65514; decimalLongitude: -128.13243; habitat: Corticolous on a conifer snag; catalogNumber: BOLD CALV028-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843237; identificationRemarks: TLC:

fumarprotocetraric and roccellic/angardianic acids; institutionID: CANL; collectionID: McMullin 19836; occurrenceID: 6236897F-5D53-5A96-87B3-9B0BB31D4986

Lobaria anomala (Brodo & Ahti) T. Sprib. & McCune

Materials

a. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV032-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843253; institutionID: CANL; collectionID: McMullin 19541; occurrenceID: 38D827D3-72C3-59E5-A63F-D0BE94A53880

b. locationID: XVII; decimalLatitude: 51.66213; decimalLongitude: -128.14492; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV033-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843232; identificationRemarks: Figure 3B; institutionID: CANL; collectionID: McMullin 19563; occurrenceID: D91DA74C-22D7-58F8-8B7C-7793AE5F9ECA

c. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV034-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843294; institutionID: CANL; collectionID: McMullin 19695; occurrenceID: 56CC278D-355A-571E-8512-CB9A953084BA

Lobaria anthraspis (Ach.) T. Sprib. & McCune

Materials

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Corticolous; catalogNumber: BOLD CALV035-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843259; institutionID: CANL; collectionID: McMullin 19604; occurrenceID: B43038FD-119D-5D65-970F-DB1EE8537631

b. locationID: XVII; decimalLatitude: 51.66213; decimalLongitude: -128.14492; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV036-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843216; institutionID: CANL; collectionID: McMullin 19607; occurrenceID: 3A65CE59-C28E-5CA2-A764-5D7E20435B5B

c. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV037-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843206; identificationRemarks: Figure 3C; institutionID: CANL; collectionID: McMullin 19674; occurrenceID: 96BA659A-D673-553D-B175-000A159C9862

d. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Corticolous on *Picea sitchensis*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19778; occurrenceID: 64710ACE-9CB9-5D6C-A82E-2EDF657750DC

e. locationID: XVII; decimalLatitude: 51.66213; decimalLongitude: -128.14492; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19867; occurrenceID: 286F4E79-68D1-5EA1-9269-487BF7D223FB

f. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 789; occurrenceID: 154090BA-9AE0-5116-A785-54CD5B4D391B

g. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; catalogNumber: BOLD PHAK328-20; recordedBy: A. Simon; otherCatalogNumbers:

GenBank OQ922955; institutionID: UBC; collectionID: Simon 790; occurrenceID: B1F87AFF-280F-59C1-887B-4B7AFEEEBBF4

Lobaria linita (Ach.) Rabenh.

Material

a. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; habitat: Corticolous on *Tsuga*; catalogNumber: BOLD CALV038-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843340; identificationRemarks: Figure 3D; institutionID: CANL; collectionID: McMullin 19543; occurrenceID: 1EC64B98-6210-55DC-9278-2E28ABD1E5C6

Lobaria oregana (Tuck.) Müll. Arg.

Materials

a. locationID: X; decimalLatitude: 51.61977; decimalLongitude: -127.93245; habitat: Corticolous on *Tsuga*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19634; occurrenceID: D4C7ABE9-D2FD-5E42-A376-0F1873278687
b. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Corticolous on *Tsuga*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19749; occurrenceID: 92388F94-00ED-500A-AA1F-8EA7861BA5B0
c. locationID: XXVIII; decimalLatitude: 51.66425; decimalLongitude: -128.12706; catalogNumber: BOLD PHAK288-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922984; institutionID: UBC; collectionID: Simon 754; occurrenceID: 4CFCD705-69E3-55BA-95BF-38ED4852CA44

Lobaria pulmonaria (L.) Hoffm.

Materials

a. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; habitat: Corticolous on *Picea sitchensis*; recordedBy: R.T. McMullin; identificationRemarks: Figure 3E; institutionID: CANL; collectionID: McMullin 19656; occurrenceID: 5BC8ED45-8D61-5AFE-8B9C-BC1F62B4CA18
b. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV043-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843228; institutionID: CANL; collectionID: McMullin 19726; occurrenceID: 7118D5C4-1921-508B-8E3D-60662988997A
c. locationID: I; decimalLatitude: 51.65501; decimalLongitude: -128.13799; catalogNumber: BOLD PHAK302-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922949; institutionID: UBC; collectionID: Simon 808; occurrenceID: 5EB5CE7B-8B34-50B1-8751-8B0430416F52
d. locationID: XXIII; decimalLatitude: 51.64058; decimalLongitude: -128.14882; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 847; occurrenceID: 4E05BE43-AD1C-54B0-A601-421FDEB874C9

Lobarina scrobiculata (Scop.) Nyl. ex Cromb.

Materials

a. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19542; occurrenceID: B4817CCD-976E-5D81-B252-850FC14CE670

b. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; catalogNumber: BOLD PHAK336-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922970; institutionID: UBC; collectionID: Simon 809; occurrenceID: B7DB147F-FD70-5F53-A280-D26768DD84C2

Loxosporopsis corallifera Brodo, Henssen & Imshaug

Materials

a. locationID: VIII; decimalLatitude: 51.61611; decimalLongitude: -127.93962; habitat: Corticolous on *Thuja plicata*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19661; occurrenceID: FC98A58A-DA94-5795-9A58-8754D2ED0ACE

b. locationID: IX; decimalLatitude: 51.61638; decimalLongitude: -127.94035; habitat: Corticolous on conifer snag; catalogNumber: BOLD CALV046-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843272; institutionID: CANL; collectionID: McMullin 19676; occurrenceID: B12E5C79-C692-54AB-835D-77805E36B7C9

c. locationID: XXVI; decimalLatitude: 51.65466; decimalLongitude: -128.13051; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV045-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843204; institutionID: CANL; collectionID: McMullin 19780; occurrenceID: 815CB21A-4D72-56E8-929F-DF6EEE12FDD2

d. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Corticolous on *Thuja plicata*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19808; occurrenceID: F65A1752-7F0E-5447-B3DB-01E849E76535

e. locationID: XVIII; decimalLatitude: 51.66476; decimalLongitude: -128.11798; habitat: Lignicolous; catalogNumber: BOLD CALV147-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843267; institutionID: CANL; collectionID: McMullin 19861; occurrenceID: 7B8C1F9F-AF81-5614-B915-63E47CB591B1

Melanelia hepatizon (Ach.) A. Thell

Material

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Saxicolous on a rock; catalogNumber: BOLD CALV047-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843262; institutionID: CANL; collectionID: McMullin 19503; occurrenceID: E8709658-CF0B-589F-BC26-914A9281CBC0

Menegazzia terebrata (Hoffm.) A. Massal.

Material

a. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 791; occurrenceID: 83613D2F-273D-557C-8A01-019D1CE9E8C9

Micarea micrococca (Körb.) Gams ex Coppins

Material

a. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; habitat: Lignicolous; recordedBy: R.T. McMullin; identificationRemarks: TLC: methoxymicareic acid; institutionID: CANL; collectionID: McMullin 19782; occurrenceID: A9E62B9B-8B7B-54D5-95A3-AB7F8C0DE6C2

Micarea prasina Fr.

Material

a. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Corticolous on a snag; recordedBy: R.T. McMullin; identificationRemarks: TLC: micareic acid; institutionID: CANL; collectionID: McMullin 19789; occurrenceID: F01F62FB-296C-5409-8213-B2B9C28E226C

Microcalicium disseminatum (Ach.) Vain.

Materials

a. locationID: VIII; decimalLatitude: 51.61611; decimalLongitude: -127.93962; habitat: Lignicolous on a snag; catalogNumber: BOLD CALV174-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843254; institutionID: CANL; collectionID: McMullin 19617; occurrenceID: E6B6193F-2F15-5381-8307-0981A2B08246
b. locationID: VIII; decimalLatitude: 51.61611; decimalLongitude: -127.93962; habitat: Lignicolous on a snag; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19653; occurrenceID: DDA35AAD-DDBD-58E1-88D5-8C06F889E11A
c. locationID: VIII; decimalLatitude: 51.61611; decimalLongitude: -127.93962; habitat: Lignicolous on a snag; catalogNumber: BOLD CALV172-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843248; institutionID: CANL; collectionID: McMullin 19856; occurrenceID: D14440A9-A9AC-58D0-938A-AEC85B38A06E

Notes: Non-lichenised fungus.

Mycoblastus affinis (Schaer.) T. Schauer

Materials

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV050-20; recordedBy: R.T.

McMullin; otherCatalogNumbers: GenBank OQ843224; identificationRemarks: TLC: atranorin and planaic acid; institutionID: CANL; collectionID: McMullin 19573; occurrenceID: 11EEF2A3-FBF5-5BE6-874C-1E0CB5F44B29

b. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Lignicolous on a stump; recordedBy: R.T. McMullin; identificationRemarks: TLC: atranorin and planaic acid; institutionID: CANL; collectionID: McMullin 19725; occurrenceID: A1C96C40-E1D9-56FC-A24E-C65BBFA62A4E

c. locationID: XXII; decimalLatitude: 51.64502; decimalLongitude: -128.15099; habitat: Corticolous on *Picea sitchensis*; recordedBy: R.T. McMullin; identificationRemarks: TLC: atranorin and planaic acid; institutionID: CANL; collectionID: McMullin 19729; occurrenceID: F1B58D9D-BF3D-5F1E-9853-230D5F8A9EC9

d. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; catalogNumber: BOLD PHAK348-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922957; institutionID: UBC; collectionID: Simon 792; occurrenceID: EA6F3125-FFE7-50FB-8728-C8CADC4B915D

Mycoblastus caesius (Coppins & P. James) Tønsberg

Materials

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Corticolous on *Pinus contorta* ssp. *contorta*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19516; occurrenceID: 3325F05E-6A78-5054-9D8E-758231D4A758

b. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV053-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843308; institutionID: CANL; collectionID: McMullin 19585; occurrenceID: AA7F8D42-A170-5353-8DEC-CA67EDB0F13C

c. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Lignicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19673; occurrenceID: 79B4303F-3FA2-5E6B-A865-EBAF633B9940

d. locationID: XI; decimalLatitude: 51.61622; decimalLongitude: -127.94227; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19701; occurrenceID: 66F9F58E-F6EE-5622-B21C-535C5CBD99DD

e. locationID: IV; decimalLatitude: 51.65514; decimalLongitude: -128.13243; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19884; occurrenceID: 4BC2E017-7546-533D-9681-E561ABA1B319

Mycoblastus sanguinarius (L.) Norman

Materials

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Corticolous on *Pinus contorta* ssp. *contorta*; catalogNumber: BOLD CALV057-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843261; institutionID: CANL; collectionID: McMullin 19510; occurrenceID: 04C917ED-AAC4-5A45-A1BB-A9727E5CC066

b. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Corticolous and lignicolous on a conifer snag; catalogNumber: BOLD CALV171-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843219;

identificationRemarks: TLC: atranorin; institutionID: CANL; collectionID: McMullin 19675; occurrenceID: E6113E1A-F0DE-5879-A8DF-41A87FD38005

c. locationID: XXIII; decimalLatitude: 51.64058; decimalLongitude: -128.14882; habitat: Lignicolous on a conifer snag; catalogNumber: BOLD CALV055-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843223; institutionID: CANL; collectionID: McMullin 19691; occurrenceID: 1BD37A4A-9CA3-51E2-A250-CE81D255B409

d. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Lignicolous on a snag; catalogNumber: BOLD CALV056-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843263; institutionID: CANL; collectionID: McMullin 19741; occurrenceID: A1EA8120-A5F1-5E12-B1F9-F752C7A1B627

Nephroma helveticum subsp. *sipeanum* (Gyeln.) Goward & Ahti

Materials

a. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV185-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843288; institutionID: CANL; collectionID: McMullin 19601; occurrenceID: B6BAEB56-AC14-593D-B7C3-27E6C7A3E567

b. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV058-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843211; institutionID: CANL; collectionID: McMullin 19696; occurrenceID: 16CC286A-CEA0-54B8-841B-B7963220E815

c. locationID: XVII; decimalLatitude: 51.66213; decimalLongitude: -128.14492; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV061-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843281; institutionID: CANL; collectionID: McMullin 19727; occurrenceID: 8D9B0705-0619-5140-8859-85D1D5C4F5C0

d. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19850; occurrenceID: 1D547A22-A48B-5B9C-A683-37AE51969D14

Notes: Our specimens were somewhat intermediate between subsp. *helveticum* and subsp. *sipeanum*. We have assigned subsp. *sipeanum* since it appears to be the dominant taxon in the region.

Nephroma laevigatum Ach.

Materials

a. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV062-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843328; institutionID: CANL; collectionID: McMullin 19594; occurrenceID: DFD83A1A-FAAE-5274-961D-0F9C38DA1080

b. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV063-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843209; institutionID: CANL; collectionID: McMullin 19732; occurrenceID: 95F69E9A-4307-5EB0-9A2D-AC5D59BB1BDB

c. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; catalogNumber: BOLD PHAK380-20; recordedBy: A. Simon; otherCatalogNumbers:

GenBank OQ922946; institutionID: UBC; collectionID: Simon 810; occurrenceID: 7419E7BD-BDE7-5F18-A716-9DAD030D860E

Nephroma parile (Ach.) Ach.

Materials

a. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV064-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843231; institutionID: CANL; collectionID: McMullin 19502; occurrenceID: F176FFFD-560E-5C9E-ADF9-8B01DDB18995

b. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; habitat: Bryicolous on *Alnus rubra*; catalogNumber: BOLD CALV065-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843274; institutionID: CANL; collectionID: McMullin 19575; occurrenceID: 4200F7D9-F1C5-54AB-9AAF-E1C40CE76371

Nephroma resupinatum (L.) Ach.

Materials

a. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV066-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843287; institutionID: CANL; collectionID: McMullin 19553; occurrenceID: 1EF8F8FD-3054-533E-8C9F-54C9FAE3CB07

b. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; catalogNumber: BOLD PHAK354-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922983; institutionID: UBC; collectionID: Simon 848; occurrenceID: 9245EBED-CD61-57FB-A3B0-FBC8F624ADCC

Normandina pulchella (Borrer) Nyl.

Materials

a. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Lichenicolous on *Fuscopannaria* on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19554; occurrenceID: A26DEFEF-CB59-5452-964B-F46013027051

b. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; habitat: Bryicolous on *Alnus rubra*; recordedBy: R.T. McMullin; identificationRemarks: Figure 3F; institutionID: CANL; collectionID: McMullin 19718; occurrenceID: 485F0FCF-7624-5309-B73B-A3EEFE0E60B8

c. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; habitat: Lichenicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19761; occurrenceID: FE243E91-AD43-5400-923F-288347272897

Ochrolechia frigida (Sw.) Lynge

Materials

a. locationID: XIV; decimalLatitude: 51.66797; decimalLongitude: -128.12128; habitat: Terricolous; recordedBy: R.T. McMullin; identificationRemarks: TLC: gyrophoric acid; institutionID: CANL; collectionID: McMullin 19806; occurrenceID: D6A80105-C731-575B-B175-F0114F3A613A

b. locationID: XI; decimalLatitude: 51.61622; decimalLongitude: -127.94227; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 829; occurrenceID: 6F4248DD-2322-5075-B767-1B5C049B15CF

Ochrolechia juvenalis Brodo

Material

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Lignicolous on *Pinus contorta* ssp. *contorta*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19828; occurrenceID: CDDC4CAE-58EC-58F2-A5F0-FA0ADE4423BB

Ochrolechia mahluensis Räsänen

Material

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Bryicolous; recordedBy: R.T. McMullin; identificationRemarks: TLC: gyrophoric acid, no fatty acids; institutionID: CANL; collectionID: McMullin 19807; occurrenceID: F399720E-E542-51D0-BBBB-504F92E8FACF

Ochrolechia oregonensis H. Magn.

Materials

a. locationID: XXVI; decimalLatitude: 51.65466; decimalLongitude: -128.13051; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV072-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843356; institutionID: CANL; collectionID: McMullin 19766; occurrenceID: 4E246810-2D9A-5C5C-B667-E89AFB700A4D

b. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; habitat: Corticolous on a conifer; catalogNumber: BOLD CALV073-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843355; institutionID: CANL; collectionID: McMullin 19829; occurrenceID: 9EEB44B5-1DB9-5A8C-B5CC-CE8A4C7935B5

c. locationID: VII; decimalLatitude: 51.61615; decimalLongitude: -127.93851; habitat: Corticolous on a conifer snag; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19830; occurrenceID: 981A54DC-23FF-54E2-977F-0CA4D383A530

d. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Lignicolous on a snag; catalogNumber: BOLD CALV074-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843243; institutionID: CANL; collectionID: McMullin 19831; occurrenceID: CE1C4380-EAAE-5B54-A0AD-CFE6B0F7428A

e. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; catalogNumber: BOLD PHAK301-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922942; institutionID: UBC; collectionID: Simon 793; occurrenceID: 5DD9E8B9-F3F3-5BB6-B855-7D79404A7761

Ochrolechia subathallina H. Magn.

Material

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; catalogNumber: BOLD PHAK367-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922944; institutionID: UBC; collectionID: Simon 828; occurrenceID: B685BBFE-92F3-5110-9732-0B25F97C8B05

Opegrapha sphaerophoricola Isbrand & Alstrup

Material

a. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Lichenicolous on *Sphaerophorus tuckermanii*; recordedBy: R.T. McMullin; identificationRemarks: Figure 4A; institutionID: CANL; collectionID: McMullin 19508; occurrenceID: EDD494BE-5A0B-59BD-B2CB-F4D7F11F1EBA

Parasite of: *Sphaerophorus tuckermanii*

Notes: Non-lichenised fungus.

Parmelia saxatilis (L.) Ach.

Materials

a. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Terricolous; catalogNumber: BOLD CALV076-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843242; institutionID: CANL; collectionID: McMullin 19706; occurrenceID: B796A5F3-AB4D-54E8-AE40-B0BAC6076839

b. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; habitat: Saxicolous; catalogNumber: BOLD CALV077-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843212; institutionID: CANL; collectionID: McMullin 19764; occurrenceID: 9797F779-3B4D-51EF-9091-C6E8D7E7ACBE

c. locationID: XXX; decimalLatitude: 51.63722; decimalLongitude: -128.09525; catalogNumber: BOLD PHAK330-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922981; institutionID: UBC; collectionID: Simon 770; occurrenceID: 5557354F-8B48-58BE-A8C7-D15203EF7CF8

d. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 794; occurrenceID: BCA65FB9-CCF3-5F77-B4E1-1C46E94E7E88

e. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; catalogNumber: BOLD PHAK296-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922969; institutionID: UBC; collectionID: Simon 795; occurrenceID: 5C0DCB6D-3F5D-55AD-AFF4-BAC97C44422F

f. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 811; occurrenceID: F08CAB54-A96F-58AA-B129-E271DA7D08A6
g. locationID: XIV; decimalLatitude: 51.66797; decimalLongitude: -128.12128; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 812; occurrenceID: 8A76EE48-EF84-5AB9-92C0-677922F61BB9

Parmelia squarrosa Hale

Materials

a. locationID: XVII; decimalLatitude: 51.66213; decimalLongitude: -128.14492; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 755; occurrenceID: B448DB8F-55D9-5742-BAEC-1B8DC5AA8012
b. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 854; occurrenceID: E225A68A-5536-5700-9239-2341E2AA7B0A

Parmelia sulcata Taylor

Materials

a. locationID: XI; decimalLatitude: 51.61622; decimalLongitude: -127.94227; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV080-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843234; institutionID: CANL; collectionID: McMullin 19654; occurrenceID: AFE29DEB-9F32-5F72-BCF8-9DEFF034DB01
b. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV081-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843198; institutionID: CANL; collectionID: McMullin 19702; occurrenceID: E929096D-407E-50E7-8AE1-C457FDD9177D
c. locationID: XI; decimalLatitude: 51.61622; decimalLongitude: -127.94227; catalogNumber: BOLD PHAK369-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922952; institutionID: UBC; collectionID: Simon 830; occurrenceID: BB9E80B1-6576-52B8-BB5C-D81A6472BA0E

Parmeliopsis hyperopta (Ach.) Arnold

Materials

a. locationID: IX; decimalLatitude: 51.61638; decimalLongitude: -127.94035; habitat: Lignicolous on a snag; catalogNumber: BOLD CALV082-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843299; institutionID: CANL; collectionID: McMullin 19678; occurrenceID: B8851B01-5653-5D72-A779-A9E15116072D
b. locationID: IX; decimalLatitude: 51.61638; decimalLongitude: -127.94035; catalogNumber: BOLD PHAK366-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922934; institutionID: UBC; collectionID: Simon 831; occurrenceID: 3C4FF613-A98D-5F8C-90B8-3D9FCF8BF43B

Peltigera britannica (Gyeln.) Holt.-Hartw. & Tønsberg

Materials

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Terricolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19648; occurrenceID: 4ABC469B-7428-52D0-B5B5-8F7D4F6EE1F3
b. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; habitat: Bryicolous; catalogNumber: BOLD CALV084-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843353; institutionID: CANL; collectionID: McMullin 19657; occurrenceID: 00FAC3C1-21CD-59E3-862B-29458BDCA5C2
c. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Terricolous; catalogNumber: BOLD CALV085-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843284; institutionID: CANL; collectionID: McMullin 19742; occurrenceID: 39C0F557-AADB-52BA-84F5-496A76544A35
d. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; catalogNumber: BOLD PHAK340-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922945; institutionID: UBC; collectionID: Simon 756; occurrenceID: F27B63DC-2BC5-5E13-8848-25FA9BC85CF0

Peltigera collina (Ach.) Schrad.

Materials

a. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV086-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843282; institutionID: CANL; collectionID: McMullin 19605; occurrenceID: E8C2B173-84CB-5BED-95FC-B76039FB459F
b. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 796; occurrenceID: 23415AFE-4B14-55EB-9118-C1D32B09C227

Peltigera membranacea (Ach.) Nyl.

Materials

a. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Terricolous; catalogNumber: BOLD CALV087-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843260; institutionID: CANL; collectionID: McMullin 19536; occurrenceID: 63853F3D-99C5-57EF-A34B-AA740F16E83C
b. locationID: I; decimalLatitude: 51.65501; decimalLongitude: -128.13799; habitat: Lignicolous on a stump; catalogNumber: BOLD CALV088-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843214; institutionID: CANL; collectionID: McMullin 19740; occurrenceID: 24A79817-44C1-58AC-898B-05E409323F1A
c. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; catalogNumber: BOLD PHAK347-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922940; institutionID: UBC; collectionID: Simon 798; occurrenceID: 60A68791-167E-5B8F-AF52-FB62AC2443FE

Peltigera nigriventris Magain, Goward, Miadl. & Sérus.

Materials

a. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Terricolous; catalogNumber: BOLD CALV089-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843238; institutionID: CANL; collectionID: McMullin 19505; occurrenceID: FD857C76-D260-5549-8450-0AB2DF0818D9
b. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Terricolous; catalogNumber: BOLD CALV090-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843249; institutionID: CANL; collectionID: McMullin 19527; occurrenceID: 4C0AFA40-3247-5D66-B9F2-2AE51FEA90D3
c. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; habitat: Terricolous; catalogNumber: BOLD CALV091-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843324; institutionID: CANL; collectionID: McMullin 19662; occurrenceID: 4B192EAF-E585-5917-959E-157C901063CD

Peltigera pacifica Vitik.

Material

a. locationID: X; decimalLatitude: 51.61977; decimalLongitude: -127.93245; habitat: Terricolous; catalogNumber: BOLD CALV092-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843319; institutionID: CANL; collectionID: McMullin 19626; occurrenceID: 69C1681E-7DAF-5710-8BDE-1DCED36B0558

Peltigera scabrosa Th. Fr.

Materials

a. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Terricolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19552; occurrenceID: CD9878C8-F77F-5E89-A0D6-F26E84EE175C
b. locationID: XVII; decimalLatitude: 51.66213; decimalLongitude: -128.14492; habitat: Terricolous; catalogNumber: BOLD CALV161-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843233; institutionID: CANL; collectionID: McMullin 19730; occurrenceID: A38ED9FF-52E8-5999-B570-BB7A3CD50474
c. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; catalogNumber: BOLD PHAK325-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922988; institutionID: UBC; collectionID: Simon 797; occurrenceID: C3EE719D-CF72-57C3-BC24-93AC06228E88
d. locationID: X; decimalLatitude: 51.61977; decimalLongitude: -127.93245; catalogNumber: BOLD PHAK378-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922938; institutionID: UBC; collectionID: Simon 833; occurrenceID: F1A959BB-63D7-5C18-9B5B-0B8403CA1554

Peltigera vitikainenii Magain, Miadl., Goward & Sérus.

Material

a. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; habitat: Terricolous on a rock; catalogNumber: BOLD CALV167-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843304; institutionID: CANL; collectionID: McMullin 19753; occurrenceID: 23CD97F0-9130-5067-A5E5-BB697E4945B4

Pertusaria sp.

Materials

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19584; occurrenceID: 18130673-DF4D-5253-BC72-7B77193CB15A

b. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19876; occurrenceID: AA778450-CBE7-5300-A7C9-AD1509AB932A

Notes: These specimens were not developed enough for species level identification.

Phaeocalicium compressulum (Nyl. ex Vain.) A.F.W. Schmidt

Materials

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19642; occurrenceID: 3BFE38ED-4E41-538D-8D0A-115305ABBEAA

b. locationID: IX; decimalLatitude: 51.61638; decimalLongitude: -127.94035; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV095-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843226; institutionID: CANL; collectionID: McMullin 19659; occurrenceID: 551AAE36-6666-55A8-919D-411B67EC853B

c. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV104-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843295; institutionID: CANL; collectionID: McMullin 19708; occurrenceID: D6616230-5D06-5568-B278-639C8212F60D

d. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19871; occurrenceID: 3CB27AFD-BA62-53D1-A804-746A96277B3F

Notes: Non-lichenised fungus.

Physcia adscendens (Fr.) H. Olivier

Material

a. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Saxicolous; catalogNumber: BOLD CALV106-20; recordedBy: R.T. McMullin;

otherCatalogNumbers: GenBank OQ843363; institutionID: CANL; collectionID: McMullin 19521; occurrenceID: 6532E83F-3EF1-5EC4-BB47-229F35426D60

Physcia caesia (Hoffm.) Hampe ex Fürnr.

Material

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Saxicolous; catalogNumber: BOLD CALV105-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843203; institutionID: CANL; collectionID: McMullin 19683; occurrenceID: 25DA9697-D967-5399-9395-A1442C736C62

Pilophorus acicularis (Ach.) Th. Fr.

Materials

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Saxicolous; catalogNumber: BOLD CALV107-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843349; institutionID: CANL; collectionID: McMullin 19632; occurrenceID: 7BB86EEF-0007-5714-8795-7B6AC37EDD4B

b. locationID: VII; decimalLatitude: 51.61615; decimalLongitude: -127.93851; habitat: Saxicolous; catalogNumber: BOLD CALV108-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843208; institutionID: CANL; collectionID: McMullin 19643; occurrenceID: AA3DE571-0B9E-5351-9D82-046657339547

c. locationID: X; decimalLatitude: 51.61977; decimalLongitude: -127.93245; catalogNumber: BOLD PHAK362-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922962; institutionID: UBC; collectionID: Simon 837; occurrenceID: 35B54FA3-F60A-5FE5-AF76-601DFA457D23

Pilophorus clavatus Th. Fr.

Material

a. locationID: VII; decimalLatitude: 51.61615; decimalLongitude: -127.93851; habitat: Saxicolous; catalogNumber: BOLD CALV109-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843322; institutionID: CANL; collectionID: McMullin 19658; occurrenceID: 3BE0892C-1655-52B0-AEEA-F98227D212A5

Placopsis lambii Hertel & V. Wirth

Materials

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Saxicolous; recordedBy: R.T. McMullin; identificationRemarks: Figure 4B. TLC: 5-0-methylhiasic and gyrophoric acids; institutionID: CANL; collectionID: McMullin 19667; occurrenceID: AE20719B-EB51-50AF-8B58-C1C0469E62ED

b. locationID: IX; decimalLatitude: 51.61638; decimalLongitude: -127.94035; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 838; occurrenceID: B3F6B3A2-58E8-5337-A19A-8456AE2D30EB

Platismatia glauca (L.) W.L. Culb. & C.F. Culb.

Materials

a. locationID: XI; decimalLatitude: 51.61622; decimalLongitude: -127.94227; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19609; occurrenceID: 2E994D22-859B-5B6C-B6C9-FD386064F531

b. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; catalogNumber: BOLD PHAK316-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922976; institutionID: UBC; collectionID: Simon 799; occurrenceID: BDB1E005-8095-5046-AE6E-EA3E33404437

Platismatia herrei (Imshaug) W.L. Culb. & C.F. Culb.

Materials

a. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19550; occurrenceID: 782093DD-2C56-5ED3-91A5-FE184E1672B7

b. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Corticolous on *Pinus contorta* ssp. *contorta*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19566; occurrenceID: C1B7ECE1-933A-5667-A101-398DDE265F9A

c. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Corticolous on *Picea sitchensis*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19595; occurrenceID: 58EC83DA-178A-5DFF-B54E-368A8E04BBA9

d. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Corticolous on *Pinus contorta* ssp. *contorta*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19707; occurrenceID: 774B35CE-6393-55E8-8D1B-4EAA8FDBA48C

e. locationID: XXIX; decimalLatitude: 51.65271; decimalLongitude: -128.12951; catalogNumber: BOLD PHAK304-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922991; institutionID: UBC; collectionID: Simon 758; occurrenceID: B1F51667-043B-5A1B-81F5-8379E1B31B25

Platismatia lacunosa (Ach.) W.L. Culb. & C.F. Culb.

Materials

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Saxicolous; catalogNumber: BOLD CALV111-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843239; institutionID: CANL; collectionID: McMullin 19564; occurrenceID: 16500457-E401-5366-BC71-9C37D543CD31

b. locationID: XXVIII; decimalLatitude: 51.66425; decimalLongitude: -128.12706; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 759; occurrenceID: 80FEA0FD-5E38-5BF4-B6BE-641ADF7ECCF4

Platismatia norvegica (Lynge) W.L. Culb. & C.F. Culb.

Materials

a. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19570; occurrenceID: 37706F42-484D-5F35-9754-7023F625D624
b. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Corticolous on *Picea sitchensis*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19655; occurrenceID: 26FA83F1-5AAD-59D4-B46F-D07015A640B8
c. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Corticolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19681; occurrenceID: F63EF47B-722A-5A74-9C65-749FB322506D

Plectocarpon sp.

Material

a. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; habitat: Lichenicolous on *Lobaria linita* on *Tsuga*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19535; occurrenceID: A24A2792-5B3F-57D3-91DD-C7CF979CF3FA

Parasite of: *Lobaria linita*

Notes: Non-lichenised fungus. This specimen's morphology and host correspond with *Plectocarpon* (Ertz et al. 2005), but no ascospores were seen to confirm its identity.

Polycauliona flavogranulosa (Arup) Arup, Frödén & Søchting

Material

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; catalogNumber: BOLD PHAK353-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922967; institutionID: UBC; collectionID: Simon 818; occurrenceID: A36882B0-D90D-5CB0-9707-C1C52B105CD2

Polycauliona sp.

Materials

a. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Saxicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19650; occurrenceID: B6ED6743-9B56-5C36-9B9A-90CD92240CD1
b. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Saxicolous; recordedBy: R.T. McMullin; identificationRemarks: Figure 4C; institutionID: CANL; collectionID: McMullin 19716; occurrenceID: D9A25924-C6A2-51B7-9F4F-6E0D2DAC988C

Notes: This taxon appears to be consistent with *Polycauliona* sp. S39572 in Spribille et al. (2020). Its bright orange thallus and elongated lobes are morphologically distinct and its habitat in the supralittoral zone is ecologically distinct. Appears to be a novel taxon.

Porina pacifica Brodo

Material

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Saxicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19672; occurrenceID: 582EEE15-8EC6-5F4E-91CC-FA32F67D3B7A

Protomicarea limosa (Ach.) Hafellner

Material

a. locationID: X; decimalLatitude: 51.61977; decimalLongitude: -127.93245; habitat: Bryicolous on rock; catalogNumber: BOLD CALV187-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843251; identificationRemarks: Figure 4D. TLC: no substance detected; institutionID: CANL; collectionID: McMullin 19698; occurrenceID: 61DBD3B9-61DE-5799-84FC-6C3015D1A988

Protopannaria pezizoides (Weber) P.M. Jørg. & S. Ekman

Material

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Saxicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19668; occurrenceID: 8AACC14C-3CCD-592A-A0FD-877AD6E97A0F

Pseudephebe pubescens (L.) M. Choisy

Materials

a. locationID: Tundra on Mt. Buxton; recordedBy: Schofield; institutionID: UBC; collectionID: Schofield 28005; occurrenceID: 14E8277C-D0FB-5142-8566-9B9C1D0575BE
b. locationID: Tundra on Mt. Buxton; recordedBy: Schofield; institutionID: UBC; collectionID: Schofield 28009; occurrenceID: 66864BAD-C6F3-5C4F-A70F-F370082ABAAB

Notes: Collected on Calvert Island prior to our survey, but we did not locate it.

Pseudocyphellaria citrina (Gyeln.) Lücking, Moncada & S. Stenroos

Materials

a. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV114-20; recordedBy: R.T.

McMullin; otherCatalogNumbers: GenBank OQ843361; institutionID: CANL; collectionID: McMullin 19547; occurrenceID: 231A893A-9A9A-5806-AA53-D14489A527F4

b. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; catalogNumber: BOLD PHAK322-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922979; institutionID: UBC; collectionID: Simon 814; occurrenceID: 0D19EE1E-BCE8-575C-A158-40C8F059A4EC

Pseudocyphellaria hawaiiensis H. Magn.

Material

a. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; catalogNumber: BOLD PHAK314-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922975; institutionID: UBC; collectionID: Simon 800; occurrenceID: 5D150507-F97F-55E0-920F-01D394CFC11D

Pseudocyphellaria rainierensis Imshaug

Material

a. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV039-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843297; identificationRemarks: Figure 4E; institutionID: CANL; collectionID: McMullin 19606; occurrenceID: D9721117-53AA-53C6-B5AC-47003EE24930

Notes: Federally listed as Special Concern on the Species at Risk Act (Government of Canada 2023).

Psoroma hypnorum (Vahl) Gray

Material

a. locationID: XXVI; decimalLatitude: 51.65466; decimalLongitude: -128.13051; habitat: Corticolous on the base of *Picea sitchensis*; catalogNumber: BOLD CALV115-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843330; identificationRemarks: Figure 4F; institutionID: CANL; collectionID: McMullin 19719; occurrenceID: FB6AEADD-B8D5-5B61-A74B-B9B591A826C2

Pyrenula occidentalis (R.C. Harris) R.C. Harris

Materials

a. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19548; occurrenceID: 7BFA14D1-29A5-57A9-A6F5-F4566C7F01A6

b. locationID: X; decimalLatitude: 51.61977; decimalLongitude: -127.93245; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19699; occurrenceID: 46BB48E6-F593-5F62-9A63-28A778BA49F7

Raesaenenia huuskonenii (Räsänen) D. Hawksw., Boluda & H. Lindgr.

Material

a. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Lichenicolous on *Bryoria kockiana* on *Tsuga*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19878; occurrenceID: 6806267B-DADE-5085-9E9E-64E364D47517

Parasite of: *Bryoria kockiana*

Notes: Non-lichenised fungus.

Ramalina farinacea (L.) Ach.

Materials

a. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV118-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843256; institutionID: CANL; collectionID: McMullin 19549; occurrenceID: 271CE6DC-C428-5E7F-BCF7-1A0E88778179

b. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV119-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843310; institutionID: CANL; collectionID: McMullin 19756; occurrenceID: C1D6D694-19CA-5BA8-8838-C25720471FCF

c. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; catalogNumber: BOLD PHAK368-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922943; institutionID: UBC; collectionID: Simon 850; occurrenceID: 97F57BD5-BFF1-5432-AB13-3563B8F864A0

Ramalina menziesii Taylor

Materials

a. locationID: XXIII; decimalLatitude: 51.64058; decimalLongitude: -128.14882; habitat: Corticolous on a conifer snag; catalogNumber: BOLD CALV120-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843298; institutionID: CANL; collectionID: McMullin 19693; occurrenceID: 0AC810A7-7770-5741-AEDB-1D3138AB4367

b. locationID: XXIII; decimalLatitude: 51.64058; decimalLongitude: -128.14882; catalogNumber: BOLD PHAK377-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922987; institutionID: UBC; collectionID: Simon 851; occurrenceID: 044A73F0-E668-55C7-97F7-3A23057749CF

Ramalina roesleri (Hochst. ex Schaer.) Hue

Materials

a. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Corticolous on *Picea sitchensis*; recordedBy: R.T. McMullin; institutionID: CANL;

collectionID: McMullin 19754; occurrenceID: 986B0C95-96C4-531C-9F06-4870DB29D832

b. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; habitat: Corticolous on *Picea sitchensis*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19767; occurrenceID: 746D417D-F039-50AF-9610-47E1FDA2347D

c. locationID: XIV; decimalLatitude: 51.66797; decimalLongitude: -128.12128; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 801; occurrenceID: 3247863C-B223-5529-B7DE-4F547121497B

d. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; catalogNumber: BOLD PHAK361-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922968; institutionID: UBC; collectionID: Simon 852; occurrenceID: 6281FBD7-B01D-5EC9-A6C9-CB7EF5877509

Rhizocarpon anaperum (Vain.) Vain.

Material

a. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; habitat: Saxicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19758; occurrenceID: AC216E7D-9FF8-5C48-883F-068BCDBE5811

Rhizocarpon riparium Räsänen

Material

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Saxicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19534; occurrenceID: 350A14D1-FAD9-5944-8810-E43D7F13540A

Rinodina macrospora Sheard

Material

a. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 846; occurrenceID: F67BB738-180C-57B5-BC08-46D0C1B8195A

Sarea difformis (Fr.) Fr.

Materials

a. locationID: I; decimalLatitude: 51.65501; decimalLongitude: -128.13799; habitat: Resinicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19801; occurrenceID: 883A980B-9DE3-5E5B-993F-77282553D7F5

b. locationID: VI; decimalLatitude: 51.61978; decimalLongitude: -127.93576; habitat: Resinicolous on *Picea* resin; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19803; occurrenceID: DC7B9614-C6DE-5604-B416-FE682111614B

Notes: Non-lichenised fungi. Purple pigment in hymenium KOH+ blue.

Scytinium gelatinosum (With.) Otálora, P.M. Jørg. & Wedin

Material

a. locationID: XV; decimalLatitude: 51.65616; decimalLongitude: -128.14052; habitat: Terricolous on a rock; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19711; occurrenceID: F91645EE-3793-5CEC-B11F-0FC491D53D41

Scytinium tenuissimum (Dicks.) Otálora, P.M. Jørg. & Wedin

Material

a. locationID: VI; decimalLatitude: 51.61978; decimalLongitude: -127.93576; habitat: Terricolous on a rock; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19686; occurrenceID: 14F1AF56-3AAE-5321-A691-C3AFF4501BA0

Siphula ceratites (Wahlenb.) Fr.

Materials

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Terricolous; catalogNumber: BOLD CALV156-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843320; institutionID: CANL; collectionID: McMullin 19544; occurrenceID: FA0D3119-DDBA-5AA2-A731-A9C6971B8298

b. locationID: XI; decimalLatitude: 51.61622; decimalLongitude: -127.94227; habitat: Terricolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19636; occurrenceID: D456B116-32EF-51D4-BED7-9B1B46DF26D8

c. locationID: XXV; decimalLatitude: 51.65180; decimalLongitude: -128.12865; habitat: Terricolous; recordedBy: R.T. McMullin; identificationRemarks: Figure 5A; institutionID: CANL; collectionID: McMullin 19869; occurrenceID: 9471FC6A-9AB6-5E36-95B7-6BB166342E5C

d. locationID: XXV; decimalLatitude: 51.65180; decimalLongitude: -128.12865; catalogNumber: BOLD PHAK291-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922958; institutionID: UBC; collectionID: Simon 771; occurrenceID: 4D82BEA8-E3E6-5DA2-AF0C-2F2E30F189C9

Sphaerophorus fragilis (L.) Pers.

Material

a. locationID: XXX; decimalLatitude: 51.63722; decimalLongitude: -128.09525; catalogNumber: BOLD PHAK306-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922982; institutionID: UBC; collectionID: Simon 772; occurrenceID: CC5A6FF1-7D96-56DC-AA03-4D82B86C3E51

Sphaerophorus tuckermanii Räsänen

Materials

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Corticolous on *Pinus contorta* ssp. *contorta*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19511; occurrenceID: 5C2F5C20-A99F-515D-9768-3BF9B18EC809
b. locationID: IV; decimalLatitude: 51.65514; decimalLongitude: -128.13243; habitat: Corticolous on *Tsuga*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19525; occurrenceID: 05172828-8B5B-520F-AFE9-E3CF4F017250
c. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; habitat: Corticolous on a snag; recordedBy: R.T. McMullin; identificationRemarks: Figure 5B; institutionID: CANL; collectionID: McMullin 19613; occurrenceID: E24C1C91-E2E3-544A-B889-9EA6401455A7
d. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19684; occurrenceID: 0AF53CD6-91DC-553F-9AB1-70735D4FAA40
e. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; habitat: Terricolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19760; occurrenceID: 7121BFD6-8538-510F-B0A9-5C55024A35D1
f. locationID: XVIII; decimalLatitude: 51.66476; decimalLongitude: -128.11798; habitat: Corticolous on *Picea sitchensis*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19768; occurrenceID: 281D746D-A825-5B4E-A0F3-3B77320AD8F2
g. locationID: XXIX; decimalLatitude: 51.65271; decimalLongitude: -128.12951; catalogNumber: BOLD PHAK297-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922936; institutionID: UBC; collectionID: Simon 760; occurrenceID: 72C14FE7-6DB9-5399-B197-53D259BFFD4C

Spilonema maritimum T. Sprib. & Fryday

Material

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Saxicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19717; occurrenceID: B0BF2961-3BF2-58BE-9ACE-87548E4DCD2C

Notes: This newly-described species (Spribille et al. 2020) was previously known from British Columbia (e.g. Benton et al. (1977), Noble et al. (1987), Brodo and Sloan (2005)), but reported as *S. revertens* Nyl. The latter species, however, prefers interior habitats that are mainly dry and forms small cushions, lacks marginal lobes and is often associated with *Psorula rufonigra* (Tuck.) Gotth. Schneid. (Brodo et al. 2001). *Spilonema maritimum* is a common maritime lichen growing on coastal rocks in the middle supralittoral zone (Brodo and Sloan 2005).

Steineropsis laceratula (Hue) T. Sprib. & S. Ekman

Materials

a. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV265-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843290; identificationRemarks: TLC: atranorin; institutionID: CANL; collectionID: McMullin 19546; occurrenceID: B9F8BE89-C01B-58BF-9A4A-A47F9B697F0D

b. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV270-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843336; institutionID: CANL; collectionID: McMullin 19556; occurrenceID: E3500A82-640C-5117-A40C-9A52CC4ADE2D

c. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; habitat: Saxicolous; catalogNumber: BOLD CALV267-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843221; identificationRemarks: TLC: atranorin; institutionID: CANL; collectionID: McMullin 19771; occurrenceID: 1A4ACA3F-6794-52DC-B524-9F007B0F373E

d. locationID: XXII; decimalLatitude: 51.64502; decimalLongitude: -128.15099; habitat: Corticolous on *Thuja plicata*; catalogNumber: BOLD CALV266-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843264; identificationRemarks: TLC: atranorin; institutionID: CANL; collectionID: McMullin 19784; occurrenceID: 54A93869-E7DA-5B6B-A49F-71C53556A356

e. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; habitat: Saxicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19853; occurrenceID: BB81E642-5C2A-5C42-974D-51BEAC1D7DA0

f. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; catalogNumber: BOLD PHAK298-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922954; institutionID: UBC; collectionID: Simon 803; occurrenceID: DD5FC20A-69A0-5709-9094-D35CC2F4F853

g. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; catalogNumber: BOLD PHAK321-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922972; institutionID: UBC; collectionID: Simon 844; occurrenceID: E13C7780-0D8D-55C4-8EC1-AA041FC3A3BC

h. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; catalogNumber: BOLD PHAK358-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922947; institutionID: UBC; collectionID: Simon 849; occurrenceID: 4A7D5F2B-D841-5478-A2A2-C8F725512CD9

Stenocybe pullatula (Ach.) Stein

Material

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV126-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843280; institutionID: CANL; collectionID: McMullin 19590; occurrenceID: AD71B46E-D095-53BF-99F2-AFDD3AD8DD06

Notes: Non-lichenised fungus.

Stereocaulon sterile (Savicz) I.M. Lamb ex Krog

Materials

a. locationID: XXIII; decimalLatitude: 51.64058; decimalLongitude: -128.14882; habitat: Saxicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19694; occurrenceID: 9E9B1237-4334-5AD5-AF5D-E2533B271F90
b. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; habitat: Saxicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19759; occurrenceID: 0E42FD98-C0C0-597B-AE72-595564EFD856
c. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 761; occurrenceID: FA98A3A2-4E97-5D83-AC10-B90F491846F9
d. locationID: XXX; decimalLatitude: 51.63722; decimalLongitude: -128.09525; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 778; occurrenceID: 2B91CD60-07C2-50B7-A329-C7438A1B0E8A

Stereocaulon vesuvianum Pers.

Material

a. locationID: XXX; decimalLatitude: 51.63722; decimalLongitude: -128.09525; catalogNumber: BOLD PHAK305-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922980; institutionID: UBC; collectionID: Simon 773; occurrenceID: 01FF93D5-EC1C-5D06-8706-B48C9C2F3545

Thelotrema lepadinum (Ach.) Ach.

Materials

a. locationID: IV; decimalLatitude: 51.65514; decimalLongitude: -128.13243; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV163-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843350; institutionID: CANL; collectionID: McMullin 19523; occurrenceID: 2AF158D6-EF84-543B-953B-51B5CBEC916C
b. locationID: XVI; decimalLatitude: 51.66051; decimalLongitude: -128.14587; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19579; occurrenceID: 6232B8C2-BF5C-594C-853E-CA4FC2DE291F
c. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; habitat: Corticolous on *Alnus rubra*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19596; occurrenceID: AD3911C1-D441-587B-AA4E-07D71E84AB29

Trapelia corticola Coppins & P. James

Material

a. locationID: IV; decimalLatitude: 51.65514; decimalLongitude: -128.13243; habitat: Corticolous on *Tsuga*; catalogNumber: BOLD CALV131-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843352; institutionID: CANL; collectionID: McMullin 19522; occurrenceID: E53AA03D-9210-55F5-8E61-E3D5F8C664DF

Notes: With gyrophoric acid.

Trapeliopsis sp.

Materials

a. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Corticolous; catalogNumber: BOLD CALV132-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843205; institutionID: CANL; collectionID: McMullin 19538; occurrenceID: D37F8927-49EB-57F8-9698-9A7CF73A9E0C
b. locationID: I; decimalLatitude: 51.65501; decimalLongitude: -128.13799; habitat: Corticolous; catalogNumber: BOLD CALV133-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843301; institutionID: CANL; collectionID: McMullin 19739; occurrenceID: F54CA003-0065-53C0-B61F-EF1757796E10

Notes: Thallus thin, green, granulose. Soredia fine to granular, in soralia or becoming confluent, pale green (paler than thallus). Apothecia absent. Resembles *Trapeliopsis viridescens* (Schrad.) Coppins & P. James. Appears to be a novel taxon.

Tuckermanopsis chlorophylla (Willd.) Hale

Materials

a. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Corticolous on *Pinus contorta* ssp. *contorta*; catalogNumber: BOLD CALV134-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843279; institutionID: CANL; collectionID: McMullin 19577; occurrenceID: 2530E08E-552D-5662-AD4A-9BD058CE4EEB
b. locationID: X; decimalLatitude: 51.61977; decimalLongitude: -127.93245; catalogNumber: BOLD PHAK373-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922960; institutionID: UBC; collectionID: Simon 819; occurrenceID: 56F75EA4-A110-5972-B546-9C2BE10DC701
c. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; catalogNumber: BOLD PHAK370-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922985; institutionID: UBC; collectionID: Simon 853; occurrenceID: 7B7C259D-2E8A-5325-A08B-9C75F7EA5C05

Umbilicaria angulata Tuck.

Materials

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Saxicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19565; occurrenceID: 4E38BDF2-9898-53FA-B2A9-D9BC1899338B
b. locationID: XIV; decimalLatitude: 51.66797; decimalLongitude: -128.12128; habitat: Saxicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19583; occurrenceID: E53260D5-C5E3-544B-8D43-318C998819D9

Umbilicaria deusta (L.) Baumg.

Material

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Saxicolous; catalogNumber: BOLD CALV137-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843283; identificationRemarks: Figure 5C; institutionID: CANL; collectionID: McMullin 19519; occurrenceID: 7C14843C-8CA5-5DDD-8E28-6B64E8853239

Umbilicaria hyperborea (Ach.) Hoffm.

Material

a. locationID: Tundra on Mt. Buxton; recordedBy: Schofield; institutionID: UBC; collectionID: Schofield 27996; occurrenceID: 20A9AE7F-78B1-5E89-AA1F-8566D298CDEC

Notes: Collected on Calvert Island prior to our survey, but we did not locate it.

Umbilicaria polyphylla (L.) Baumg.

Materials

a. locationID: XX; decimalLatitude: 51.64809; decimalLongitude: -128.14378; habitat: Saxicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19506; occurrenceID: B8BD8AC1-C6E0-5DC8-959E-AF6F7E2BD217
b. locationID: XXX; decimalLatitude: 51.63722; decimalLongitude: -128.09525; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 777; occurrenceID: FCC39F7A-970A-541F-9EB3-34667CF5BC9F

Umbilicaria polyrrhiza (L.) Fr.

Materials

a. locationID: XXX; decimalLatitude: 51.63722; decimalLongitude: -128.09525; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 774; occurrenceID: 8C42DC30-D616-55F1-BEEC-FF6E5354F6C7
b. locationID: XXX; decimalLatitude: 51.63722; decimalLongitude: -128.09525; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 776; occurrenceID: 83E2B4DA-5125-54BA-A879-2107AF456DB3

Umbilicaria torrefacta (Lightf.) Schrad.

Material

a. locationID: XXX; decimalLatitude: 51.63722; decimalLongitude: -128.09525; catalogNumber: BOLD PHAK292-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922941; institutionID: UBC; collectionID: Simon 775; occurrenceID: 23103B1A-359A-5E39-BCCB-08736FF2D3B9

Usnea cornuta Körb.

Materials

a. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Corticolous on *Pinus contorta* ssp. *contorta*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19688; occurrenceID: FFEFDE98-DC5A-55EE-914D-E4BF9753F5E9
b. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Corticolous on *Thuja plicata*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19794; occurrenceID: F09685C2-7677-56FF-8F6C-C1F8F04275DA
c. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 782; occurrenceID: 1ABA4DD4-39E1-51C5-93D9-5691EC50BE7E
d. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; catalogNumber: BOLD PHAK286-20; recordedBy: A. Simon; otherCatalogNumbers: GenBank OQ922973; institutionID: UBC; collectionID: Simon 802; occurrenceID: 78828C96-9C03-5FD9-890B-600D75913D18
e. locationID: XXIII; decimalLatitude: 51.64058; decimalLongitude: -128.14882; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 855; occurrenceID: 14694334-AD1B-5299-AF5F-5E897CCDE0DC

Usnea dasopoga (Ach.) Nyl.

Materials

a. locationID: XII; decimalLatitude: 51.66040; decimalLongitude: -128.11688; habitat: Corticolous on *Pinus contorta* ssp. *contorta*; catalogNumber: BOLD CALV140-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843362; institutionID: CANL; collectionID: McMullin 19633; occurrenceID: BA15D382-1C10-54D4-84D2-4E860CB328C9
b. locationID: XXI; decimalLatitude: 51.64221; decimalLongitude: -128.15085; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 816; occurrenceID: DA6F94CC-E0C6-52E9-A0DF-E236E72DCB82

Usnea fragilescens Hav. ex Lynge

Material

a. locationID: XIX; decimalLatitude: 51.65065; decimalLongitude: -128.14241; habitat: Corticolous on *Thuja plicata*; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19791; occurrenceID: 47B5158A-3B76-59B3-A6E7-1B86368F4D5F

Usnea longissima Ach.

Materials

a. locationID: IV; decimalLatitude: 51.65514; decimalLongitude: -128.13243; habitat: Corticolous on *Tsuga*; catalogNumber: BOLD CALV141-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843197; identificationRemarks: Figure 5D;

institutionID: CANL; collectionID: McMullin 19540; occurrenceID: 63CFF75A-30D3-5CD7-A428-74A810A9A8AC

b. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Corticolous on *Picea sitchensis*; catalogNumber: BOLD CALV142-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843348; institutionID: CANL; collectionID: McMullin 19572; occurrenceID: 54FDA17F-422A-5676-B531-509CE59450AE

c. locationID: XXVII; decimalLatitude: 51.65589; decimalLongitude: -128.13098; habitat: Corticolous on *Alnus rubra*; catalogNumber: BOLD CALV143-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843293; institutionID: CANL; collectionID: McMullin 19870; occurrenceID: 757745CC-4C8E-5E03-A5D9-982D1A7FDDA8

d. locationID: XXVIII; decimalLatitude: 51.66425; decimalLongitude: -128.12706; recordedBy: A. Simon; institutionID: UBC; collectionID: Simon 762; occurrenceID: C52AB2EA-A488-5C56-BA7C-40BEACF1D1C4

Verrucaria schofieldii Brodo

Materials

a. locationID: V; decimalLatitude: 51.62022; decimalLongitude: -127.93070; habitat: Saxicolous; catalogNumber: BOLD CALV179-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843200; institutionID: CANL; collectionID: McMullin 19703; occurrenceID: 901E2BC0-8F75-5151-A195-16E7C7E1D06D

b. locationID: II; decimalLatitude: 51.65285; decimalLongitude: -128.13873; habitat: Saxicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19783; occurrenceID: 67BF0B1F-6C3B-5CD6-8739-4CD26E8546DD

Xylographa opegraphella Nyl.

Material

a. locationID: XIII; decimalLatitude: 51.66854; decimalLongitude: -128.11832; habitat: Lignicolous on a stump; catalogNumber: BOLD CALV186-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843357; identificationRemarks: TLC: stictic acid, trace of norstictic acid; institutionID: CANL; collectionID: McMullin 19644; occurrenceID: 6575C922-AF0C-5F14-987A-B01F742622FD

Xylographa sp.

Materials

a. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Lignicolous on a log; catalogNumber: BOLD CALV097-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843333; identificationRemarks: TLC: stictic acid; institutionID: CANL; collectionID: McMullin 19529; occurrenceID: 8F65EC89-B71D-54F0-92FA-0D2FE1DA64E2

b. locationID: III; decimalLatitude: 51.65486; decimalLongitude: -128.13907; habitat: Lignicolous on a log; catalogNumber: BOLD CALV145-20; recordedBy: R.T. McMullin; otherCatalogNumbers: GenBank OQ843344; institutionID: CANL; collectionID: McMullin 19776; occurrenceID: 936DA526-B39E-597C-AD94-393916F85822

Notes: Thallus immersed, creating a whitish stain. Apothecia brown, margins paler than the disc, initially somewhat circular, becoming elongated, unbranched, tapering at both ends, 0.2–0.6 mm × 0.1–0.15 mm. Ascospores 8 per ascus, simple, hyaline, 10–12.5 µm × 6–7.5 µm. Appears to be a novel taxon.

Zythia resinae (Ehrenb.) P. Karst

Materials

a. locationID: I; decimalLatitude: 51.65501; decimalLongitude: -128.13799; habitat: Resinicolous; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19800; occurrenceID: 0962F030-0AA6-5E37-9C51-08AE8FA75179

b. locationID: VI; decimalLatitude: 51.61978; decimalLongitude: -127.93576; habitat: Resinicolous on *Picea* resin; recordedBy: R.T. McMullin; institutionID: CANL; collectionID: McMullin 19802; occurrenceID: 19E1F991-9647-540D-9783-2C85A13FDA47

Notes: Non-lichenised fungus.

Analysis

We identified 189 species in 85 genera of lichens and allied fungi from 449 specimens collected during our survey on Calvert Island. These include 71 (38%) microlichens (crustose species), 102 (54%) macrolichens (51 foliose and 51 fruticose) and 16 (8%) non-lichenised allied fungi. Cyanobacteria are the primary photobiont in 22 (13%) lichen species, while an additional 13 (8%) produce cephalodia and are, therefore, a tripartite symbiosis. In the remaining 138 lichen species (80%), the primary photobiont is green algae. Calicioids are represented by 16 (8%) species (including *Bunodophoron* and *Sphaerophorus*), half of which are non-lichenised. We generated ITS sequences from 215 specimens representing 121 species.

We collected three species for the first time from British Columbia, *Bryoria furcellata*, *Chaenothecopsis lecanactidis* and *C. nigripunctata*, which were reported in a previous publication (McMullin 2019). One species is listed as Special Concern on the federal Species at Risk Act, *Pseudocyphellaria rainierensis* (Government of Canada 2023). We also report four species that are rarely collected in British Columbia: *Opegrapha sphaerophoricola*, which is only known from one previous collection in the Province (*Goward 91-692*, UBC); *Protomicarea limosa*, which is reported here for the first time in the Province, even though there is a previous collection from Haida Gwaii (*Brodo 17848*, CANL); *Raesaenenia huuskonenii*, which is known from a single previous collection in the Province (*Revel 19*, UBC); and *Sarea difformis*, which is also known from a single previous collection (*Björk 20137*, UBC), but ours appears to be the first report from the Province (Allen and McMullin 2021). Five species were previously collected on Calvert Island that we did not find, all collected by Wilfred Schofield: *Cladonia umbricola*, *Ephebe lanata*, *Hypogymnia vittata*, *Pseudephebe pubescens* and *Umbilicaria hyperborea* (see the annotated list for the collector numbers and location of these specimens).

We provide images of 22 of the lichens that we collected on Calvert Island: *Bryoria bicolor*, *Bunodophoron melanocarpum*, *Caloplaca litoricola*, *Chaenothecopsis lecanactidis*, *C. nigripunctata*, *Coccotrema maritimum* (Fig. 2), *Hypogymnia lophyrea*, *Lobaria anomala*, *L. anthraspis*, *L. linita*, *L. pulmonaria*, *Normandina pulchella* (Fig. 3), *Opegrapha sphaerophoricola*, *Placopsis lambii*, *Polycauliona* sp., *Protomicarea limosa*, *Pseudocyphellaria rainierensis*, *Psoroma hypnorum* (Fig. 4), *Siphula ceratites*, *Sphaerophorus tuckermanii*, *Umbilicaria deusta* and *Usnea longissima* (Fig. 5).

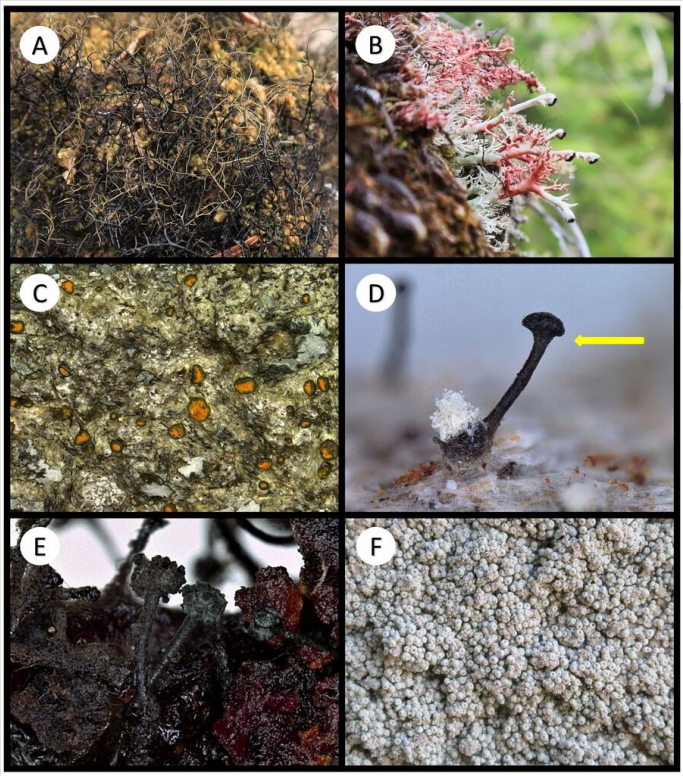

Figure 2. doi

Lichens of Calvert Island. **A.** *Bryoria bicolor*, *McMullin 19567* (CANL). **B.** *Bunodophoron melanocarpum*, *McMullin 19865* (CANL). **C.** *Caloplaca litoricola*, *McMullin 19883* (CANL). **D.** *Chaenothecopsis lecanactidis* on a pycnidium of *Lecanactis abietina*, *McMullin 19628* (CANL). **E.** *Chaenothecopsis nigripunctata* on *Thuja* resin, *McMullin 19712* (CANL). **F.** *Coccotrema maritimum*, *McMullin 19750* (CANL).

Discussion

We show that bioblitzes are a valuable tool for the rapid appraisal of biodiversity in understudied remote regions like the Central Coast of British Columbia. During our limited time on Calvert Island with only two of us (RTM and AS) collecting specimens, we uncovered 189 species, the vast majority of which had never been reported from Calvert

Island. Eight of the species we discovered are either new to British Columbia or are rarely collected in the Province. Some of those rare species (i.e. *Chaenothecopsis lecanactidis*, *C. nigripunctata*, *Opegrapha sphaerophoricola*, *Protomicarea limosa*, *Raesaenenia huuskonenii* and *Sarea difformis*) are small and inconspicuous and could simply be overlooked or they might truly be rare species in the region. Four species appear to be novel taxa (*Chaenothecopsis* sp., *Polycauliona* sp., *Trapeliopsis* sp. and *Xylographa* sp.), but additional study is required to describe them. Our results combined with previous collections bring the total number of lichens and allied fungi known on Calvert Island to 194. However, only a small portion of the Island was surveyed and we expect that there are many more species to be discovered, particularly because there are ecosystems and habitats that were not surveyed; for example, around waterfalls or over 300 m (elevation on Calvert Island reaches over 1000 m). The absence of genera (e.g. *Amydalaria*, *Dermatocarpon*, *Leptogium*) that are known from the region also suggests that additional species are likely to be present on the Island.

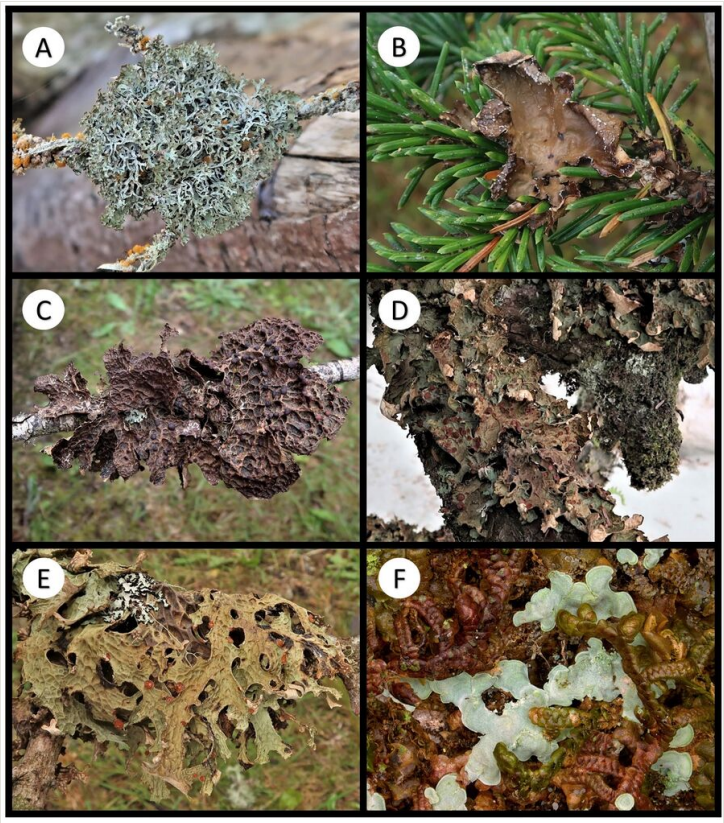

Figure 3. doi

Lichens of Calvert Island. **A.** *Hypogymnia lophyrea*, *McMullin 19770* (CANL). **B.** *Lobaria anomala*, *McMullin 19563* (CANL). **C.** *Lobaria anthraspis*, *McMullin 19674* (CANL). **D.** *Lobaria linita*, *McMullin 19543* (CANL). **E.** *Lobaria pulmonaria*, *McMullin 19656* (CANL). **F.** *Normandina pulchella*, *McMullin 19718* (CANL).

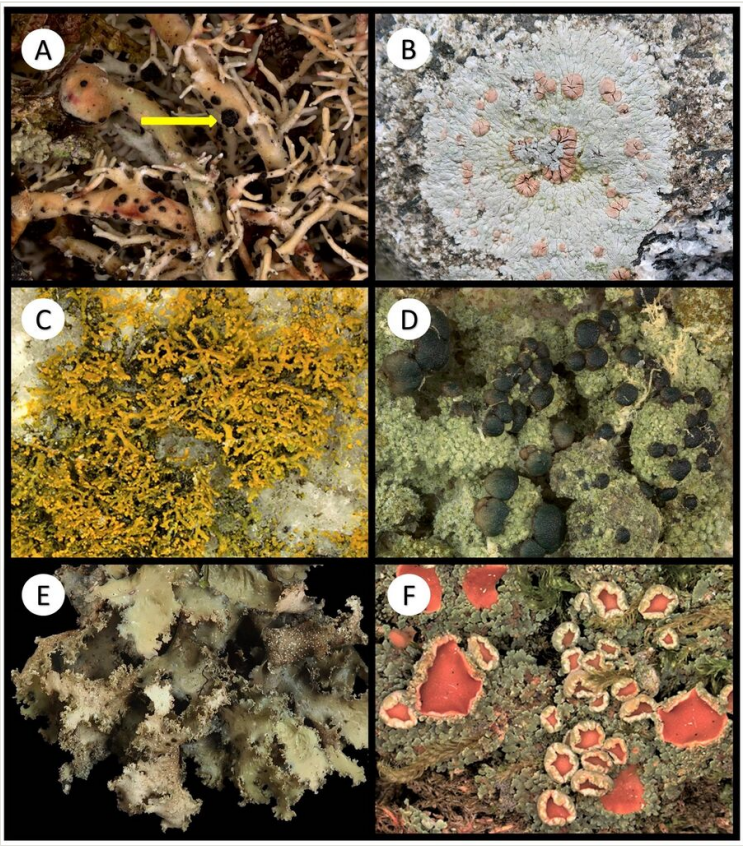

Figure 4. doi

Lichens of Calvert Island. **A.** *Opegrapha sphaerophoricola* on *Sphaerophorus tuckermanii*, *McMullin 19508* (CANL). **B.** *Placopsis lambii*, *McMullin 19667* (CANL). **C.** *Polycauliona* sp., McMullin *19716* (CANL). **D.** *Protomicarea limosa*, *McMullin 19698* (CANL). **E.** *Pseudocyphellaria rainierensis*, *McMullin 19606* (CANL). **F.** *Psoroma hypnorum*, *McMullin 19719* (CANL).

The nearest detailed lichen biodiversity research in the broader coastal region of British Columbia includes a study in the Gulf Islands and southern part of Vancouver Island in the coastal douglas-fir dry subzone, where 448 lichens were reported (Noble 1982) and an intensive survey of Haida Gwaii, where over 600 lichens are known (I.M. Brodo, unpublished data). These two studies were conducted over many years, covered much larger areas and included a broader range of ecosystems. For example, mountains on Haida Gwaii are above the tree-line, so there are many arctic-alpine lichens present (Thomson 1984, Thomson 1997), but none of the areas that we surveyed on Calvert Island had such conditions. Nevertheless, we did find two arctic-alpine species on exposed coastal rocks (*Brodoa oroarctica* and *Sphaerophorus fragilis*). Noble's study to the south of Calvert Island has a different climate and ecosystems (e.g. *Quercus garryana* savannahs), which have different lichen communities (Noble 1982).

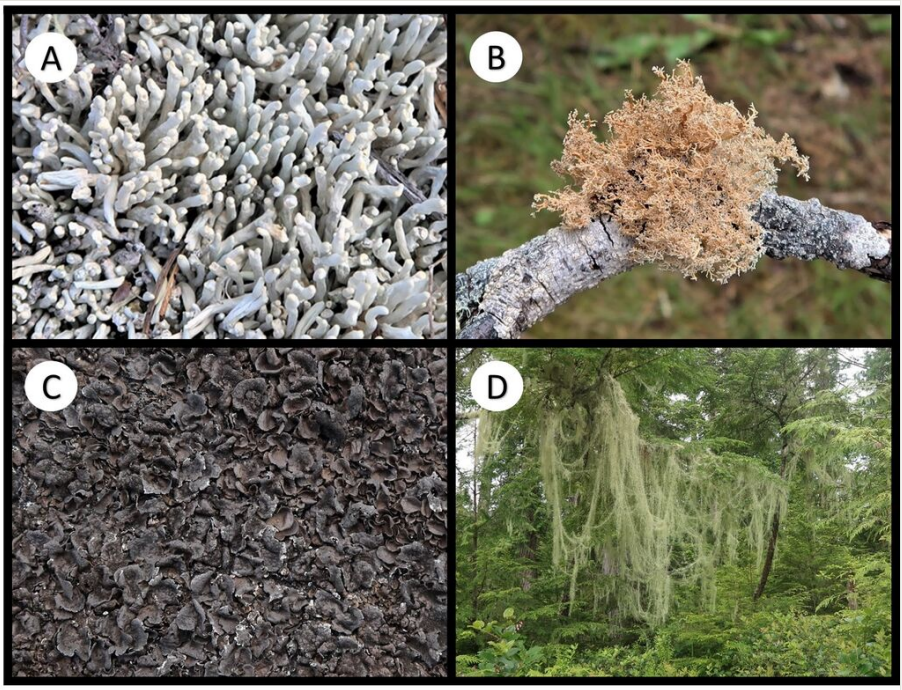

Figure 5. doi

Lichens of Calvert Island. **A.** *Siphula ceratites*, *McMullin 19869* (CANL). **B.** *Sphaerophorus tuckermanii*, *McMullin 19613* (CANL). **C.** *Umbilicaria deusta*, *McMullin 19519* (CANL). **D.** *Usnea longissima*, *McMullin 19540* (CANL).

Our results include several indicators of old intact forest ecosystems. Selva (2003) developed a calicioid index of ecological continuity that correlates the number of calicioids in an area with the continuity of the forest (i.e. the amount of time that the forest has existed without major disturbance). In the index, the presence of 16 or more calicioid species is considered an indication of an “ancient” forest with a long history of continuity – and we found 16 calicioid species on Calvert Island. Goward and Arsenault (2018) also show that calicioid numbers positively correspond with stand age in the humid inland forests of British Columbia. We found *Pseudocyphellaria rainierensis* on Calvert Island as well, which is known to be restricted to old-growth forests in the British Columbia coastal region (COSEWIC 2010, Environment and Climate Change Canada 2017). Goward (1994) also developed a list of old-growth dependent lichens for inland rainforests of British Columbia. Many of the species he lists are on Calvert Island (i.e. *Hypogymnia enteromorpha*, *H. hultenii*, *H. vittata*, *Lobaria oregana*, *Platismatia herrei*, *P. norvegica*, *Pseudocyphellaria citrina* and *P. hawaiiensis* [as *P. crocata*] and *Sphaerophorus tuckermanii*). These lichens show the conservation importance of the intact forests on Calvert Island for old-growth dependent biodiversity.

Bioblitzes are quintessential components of large-scale biodiversity surveys and knowledge acquisition mechanisms. In addition to generating valuable biodiversity data,

bioblitzes can contribute to appreciation and curiosity amongst the public for specific groups of lesser-known organisms such as lichens. Unfortunately, lichen identification can be notoriously difficult for beginners; not only is there a wide range of specific vocabulary to learn, but reliable identification often requires microscopy and/or advanced chemical analyses (e.g. thin layer chromatography). Consequently, professional lichenologists are needed to lead these specialised bioblitzes and to publish corresponding annotated checklists for conservation and decision-making purposes. In the case of the 2018 Hakai Terrestrial BioBlitz, the DNA sequences generated required us to further review some specimens which did not fit the reference data for the initially-identified species. We argue that DNA barcoding increases the value of expert-led bioblitzes by facilitating consistent identification of chemically and morphologically overlapping taxa.

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References

- Adamo P, Violante P (2000) Weathering of rocks and neogenesis of minerals associated with lichen activity. Applied Clay Science 16: 229-256. https://doi.org/10.1016/S0169-1317(99)00056-3
- Allen JL, McMullin RT (2021) Lichens and allied fungi of the North Fork Nooksack River Valley, Whatcom County, Washington: Important biodiversity in a high-use area. Western North American Naturalist 81: 503-517.
- Allen JL, Lendemer JC (2022) A call to reconceptualize lichen symbioses. Trends in Ecology and Evolution 37: 582-589. https://doi.org/10.1016/j.tree.2022.03.004
- Anderson F, Brunt J, Cameron R, Caverhill B, Clapp D, Clapp H, Coulthard B, Hart S, Helmer L, Hubley S, Hurlburt D,, Imlay T, Jameson R, Kidd P, Laroque C, Marotte R, Marshall K, Mitchell SC, Neily T, Nickerson K, O'Neill N, Phillips B, Pross C, Proulx G, Proulx L, Reardon C, Todd J, Towers J (2012) Bioblitz of the Lake Rossignol Wilderness Area. Proceedings of the Nova Scotian Institute of Science 47: 33-57.

- Banner A, LePage P, Moran J, de Groot A (Eds) (2005) The HyP^3 Project: pattern, process and productivity in hypermaritime20/02/2023 forests of coastal British Columbia – A synthesis of 7-year results. https://tinyurl.com/2zdufz6f. Accessed on: 2024-1-17.
- Bell-Doyon P, Selva SB, McMullin RT (2021) Calicioid fungi and lichens from an unprotected intact boreal forest ecosystem in Québec. Ecoscience 28: 127-136. https://doi.org/10.1080/11956860.2021.1885804
- Bell-Doyon P (2023) Checklist of lichens and associated fungi from Mingan Archipelago National Park Reserve, Québec, Canada. Northeastern Naturalist 30: 304-328.
- Belnap J, Gillette DA (1998) Vulnerability of desert biological soil crusts to wind erosion: the influences of crust development, soil texture, and disturbance. Journal of Arid Environments 39: 133-142. https://doi.org/10.1006/jare.1998.0388
- Benson DA, Cavanaugh M, Clark K, Karsch-Mizrachi I, Lipman DJ, Ostell J, Sayers EW (2013) GenBank. Nucleic Acids Research 41: D36-D42. https://doi.org/10.1093/nar/gki063
- Benton F, Brodo IM, Richardson DH (1977) Lichens of Bamfield Maritime Station, Vancouver Island, British Columbia. Canadian Field-Naturalist 91: 305-309.
- Brodo IM, Hawksworth LD (1977) *Alectoria* and allied genera in North America. Oper Botanica 42: 1-164.
- Brodo IM (1993) The crustose lichens of the Queen Charlotte Islands, British Columbia: observations on some new or interesting species. American Journal of Botany 80 (6:suppl.): 18.
- Brodo IM (1995) Lichens and lichenicolous fungi of the Queen Charlotte Islands, British Columbia, Canada. 1. Introduction and new records for B.C., Canada and North America. Mycotaxon 56: 135-173.
- Brodo IM, Ahti T (1996) Lichens and lichenicolous fungi of the Queen Charlotte Islands, British Columbia, Canada. 2. The Cladoniaceae. Canadian Journal of Botany 74: 1147-1180. https://doi.org/10.1139/b96-139
- Brodo IM, Santesson R (1997) Lichens of the Queen Charlotte Islands, British Columbia, Canada. 3. Marine species of *Verrucaria* (Verrucariaceae, Ascomycotina). Journal of the Hattori Botanical Laboratory 82: 27-37.
- Brodo IM, Wirth V (1998) The lichens and lichenicolous fungi of the Queen Charlotte Islands, British Columbia, Canada. 4. The genus *Fuscidea* (Fuscideaceae). In: Glenn MG, Harris RC, Dirig R, Cole MS (Eds) Lichenographia Thomsoniana: North American Lichenology in Honor of John W. Thomson. Mycotaxon, 149-161 pp.
- Brodo IM, Sharnoff SD, Sharnoff S (2001) Lichens of North America. Yale University Press, New Haven, CT, USA, 795 pp.
- Brodo IM, Sloan N (2005) Lichen zonation on coastal rocks in Gwaii Haanas National Park Reserve, Haida Gwaii (Queen Charlotte Islands), British Columbia. Canadian Field-Naturalist 118: 405-424. https://doi.org/10.22621/cfn.v118i3.11
- Brummitt RK, Powell CE (1996) Authors of Plant Names. Royal Botanical Gardens, Kew, UK, 732 pp.
- Censky EJ (2001) BioBlitz Organization Guide. Connecticut State Museum of Natural History. https://tinyurl.com/mnu6hxe6. Accessed on: 2024-1-17.
- COSEWIC (2010) Assessment and status report on the Oldgrowth Specklebelly *Pseudocyphellaria rainiensis* in Canada. https://tinyurl.com/bdhfrwcd. Accessed on: 2024-1-17.

- Cox KD, Gerwing TG, Macdonald T, Hessing-Lewis M, Millard-Martin B, Command RJ, Juanes F, Dudas SE (2019) Infaunal community responses to ancient clam gardens. ICES Journal of Marine Science 76: 2362-2373. https://doi.org/10.1093/icesjms/fsz153
- Culberson CF, Kristinsson H- (1970) A standardized method for the identification of lichen products. Journal of Chromatography 46: 85-93. https://doi.org/10.1016/S0021-9673(00)83967-9
- Eldridge DJ, Leys JF (2003) Exploring some relationships between biological soil crusts, soil aggregation and wind erosion. Journal of Arid Environments 53: 457-466. https://doi.org/10.1006/jare.2002.1068
- Environment and Climate Change Canada (2017) Management plan for the Oldgrowth Specklebelly lichen (*Pseudocyphellaria rainierensis*) in CanadaManagement plan for the Oldgrowth Specklebelly lichen (*Pseudocyphellaria rainierensis*) in Canada. https://tinyurl.com/2c8b2aey. Accessed on: 2024-1-17.
- Ertz D, Christnach C, Wedin M, Diederich P (2005) A world monograph of the genus *Plectocarpon* (Roccellaceae, Arthoniales). Bibliotheca Lichenologica 91: 1-155.
- ESRI (2011) ArcGIS Desktop. 10. Environmental Systems Research Institute. Redlands, CA, USA.
- Esslinger TL (2021) A cumulative checklist for the lichen-forming, lichenicolous and allied fungi of the continental United States and Canada, version 24. Opuscula Philolichenum 20: 100-394.
- Fazekas AJ, Kuzmina ML, Newmaster SG, Hollingsworth PM (2012) DNA barcoding methods for land plants. In: Kress WJ, Erickson DL (Eds) DNA Barcodes: Methods and Protocols. Humana Press, Totowa, NJ, USA, 223-252 pp. https://doi.org/10.1007/978-1-61779-591-6_11
- Fisher JA, Shackelford N, Hocking MD, Trant AJ, Starzomski BM (2019) Indigenous peoples' habitation history drives present-day forest biodiversity in British Columbia's coastal temperate rainforest. People and Nature 1: 103-114. https://doi.org/10.1002/pan3.16
- Gardes M, Bruns TD (1993) ITS primers with enhanced specificity of basidiomycetes: application to the identification of mycorrhizae and rusts. Molecular Ecology 2: 113-118. https://doi.org/10.1111/j.1365-294x.1993.tb00005.x
- Government of British Columbia (2023) Hakai Lúxvbálís Conservancy. https://bcparks.ca/hakai-luxvbalis-conservancy/. Accessed on: 2024-1-17.
- Government of Canada (2023) Species at risk public registry. https://tinyurl.com/2p8adrku. Accessed on: 2024-1-17.
- Goward T (1994) Notes on old-growth-dependant epiphytic macrolichens in inland British Columbia, Canada. Acta Botanica Fennica 150: 31-38.
- Goward T, McCune B, Meidinger D (1994) The lichens of British Columbia: Illustrated keys. Part 1: Foliose and squamulose species. British Columbia Ministry of Forests, Victoria, British Columbia. Special Report Series, 8:1–181. URL: https://www.for.gov.bc.ca/hfd/pubs/Docs/Srs/Srs08.pdf
- Goward T (1999) The lichens of British Columbia: Illustrated keys. Part 2: Fruticose species. British Columbia Ministry of Forests, Victoria, British Columbia. Special Report Series. 319 pp. URL: https://www.for.gov.bc.ca/hfd/pubs/Docs/Srs/Srs09.pdf
- Goward T, Arsenault A (2018) Calicioid diversity in humid inland British Columbia may increase into the 5th century after stand initiation. The Lichenologist 50: 555-569. https://doi.org/10.1017/S0024282918000324

- Grimm M, Grube M, Schiefelbein U, Zühlke D, Bernhardt J, Riedel K (2021) The lichens' microbiota, still a mystery? Frontiers in Microbiology 12: 623839. https://doi.org/10.3389/fmicb.2021.623839
- Hakai Institute (2023) Hakai – Science on the Coastal Margin. https://hakai.org/. Accessed on: 2024-1-17.
- Hansell MH (1996) The function of lichen flakes and white spider cocoons on the outer surface of birds' nests. Journal of Natural History 30: 303-311. https://doi.org/10.1080/00222939600771181
- Hawksworth DL, Rose F (1970) Qualitative scale for estimating sulphur dioxide air pollution in England and Wales using epiphytic lichens. Nature 227: 145-148. https://doi.org/10.1038/227145a0
- Hoffman KM, Gavin DG, Starzomski BM (2016) Seven hundred years of human-driven and climate-influenced fire activity in a British Columbia coastal temperate rainforest. Royal Society Open Science 3: 160608. https://doi.org/10.1098/rsos.160608
- Hoffman KM, Lertzman KP, Starzomski BM (2017) Ecological legacies of anthropogenic burning in a British Columbia coastal temperate rain forest. Journal of Biogeography 44: 2903-2915. https://doi.org/10.1111/jbi.13096
- iNaturalist (2022) Bioblitz Guide. https://inaturalist.ca/pages/bioblitz+guide. Accessed on: 2024-1-17.
- International Union of Soil Sciences (2015) World Reference Base for Soil Resources, International soil classification system for naming soils and creating legends for soil map. https://www.fao.org/3/i3794en/I3794en.pdf. Accessed on: 2024-1-17.
- Ivanova NV, Grainger CM (2007) Canadian Centre for DNA Barcoding (CCDB) Protocols, Sequencing. http://tinyurl.com/57bp7b9f. Accessed on: 2024-1-17.
- Ivanova NV, Fazekas AJ, Hebert PD (2008) Semi-automated, membrane-based protocol for DNA isolation from plants. Plant Molecular Biology Reporter 26: 186-198. https://doi.org/10.1007/s11105-008-0029-4
- Ivanova NV, Kuzmina M, Fazekas A (2011) CCDB Protocols, glass fiber plate DNA extraction protocol. http://tinyurl.com/38t5dhvy. Accessed on: 2024-1-17.
- Knops J, Nash T,, Boucher V, Schlesinger W (1991) Mineral cycling and epiphytic lichens: implications at the ecosystem level. The Lichenologist 23: 1-13. https://doi.org/10.1017/S0024282991000452
- Kuzmina M, Ivanova NV (2011) CCDB Protocols, PCR amplification for plants and fungi. http://tinyurl.com/bdekvfs3. Accessed on: 2024-1-17.
- Malíček J, Zdeněk P, Vondrák J, Kostovčík M, Lenzová V, Hofmeister J (2019) Lichens in old-growth and managed mountain spruce forests in the Czech Republic: assessment of biodiversity, functional traits and bioindicators. Biodiversity and Conservation 28: 3497-3528. https://doi.org/10.1007/s10531-019-01834-4
- McCune B, Geiser L (2009) Macrolichens of the Pacific Northwest. 2. Oregon State University Press, Corvallis, Oregon, 464 pp. https://doi.org/10.1353/book83965
- McCune B (2017a) Microlichens of the Pacific Northwest. Volume 1: Key to the Genera. Wild Blueberry Media, Corvallis, Oregon, iv + 215 pp.
- McCune B (2017b) Microlichens of the Pacific Northwest. Volume 2: Keys to the Species. Wild Blueberry Media, Corvallis, Oregon, iv + 755 pp.
- McLaren D, Fedje D, Hay MB, Mackie Q, Walker IJ, Shugar DH, Eamer JB, Lian OB, Neudorf C (2014) A post-glacial sea level hinge on the central Pacific coast of Canada.

Quaternary Science Reviews 97: 148-169. https://doi.org/10.1016/j.quascirev.2014.05.023.

- McLaren D, Rahemtulla F, White GE, Fedje DW (2015) Prerogatives, sea level, and the strength of persistent places: archaeological evidence for long-term occupation of the central coast of British Columbia. The British Columbian Quarterly 187: 155-191. https://doi.org/10.14288/bcs.v0i187.186161
- McLaren D, Fedje D, Dyck A, Mackie Q, Gauvreau A, Cohen J (2018) Terminal Pleistocene epoch human footprints from the Pacific coast of Canada. PLOS ONE 13: e0193522. https://doi.org/10.1371/journal.pone.0193522
- McMullin RT, Bennett LL, Bjorgan OJ, Bourque DA, Burke CJ, Clarke MA, Gutgesell MK, Krawiec PL, Malyon R, Mantione A, Piotrowski AT, Tam NY, Van Natto AC, Wiersma YF, Newmaster SG (2016) Relationships between air pollution, population density, and lichen diversity in the Niagara Escarpment World Biosphere Reserve. The Lichenologist 48: 593-605. https://doi.org/10.1017/S0024282916000402
- McMullin RT, Ure D, Smith M, Clapp H, Wiersma YF (2017a) Ten years of monitoring air quality and ecological integrity using field-identifiable lichens at Kejimkujik National Park and National Historic Site in Nova Scotia, Canada. Ecological Indicators 81: 214-221. https://doi.org/10.1016/j.ecolind.2017.05.069
- McMullin RT, Gagnon J, Anderson F, Buck WR, Clayden SR, Dorin BC, Fryday A, Guccion JG, Harris RC, Hinds J, Isabel C, Ladd D, Lay E, Lendemer JC, Maloles JR, Roy C, Waters DP (2017b) One hundred new provincial, national, and continental lichen and allied fungi records from Parc National de la Gaspésie, Québec, Canada. Northeastern Naturalist 24: 446-466. https://doi.org/10.1656/045.024.0405
- McMullin RT, Drotos K, Ireland D, Dorval H (2018) Diversity and conservation status of lichens and allied fungi in the Greater Toronto Area: results from four years of the Ontario BioBlitz. Canadian Field Naturalist 132: 394-406. https://doi.org/10.22621/cfn.v132i4.1997
- McMullin RT (2019) New and interesting Canadian lichens and allied fungi II: reports from British Columbia, New Brunswick, Nova Scotia, Nunavut, Prince Edward Island, Ontario, and Quebec. Opuscula Philolichenum 18: 396-419.
- Meidinger DV, Pojar J (1991) Ecosystems of British Columbia. https://www.for.gov.bc.ca/hfd/pubs/Docs/Srs/Srs06.htm. Accessed on: 2024-1-17.
- Miller JE, Villella J, Stone D, Hardman A (2020) Using lichen communities as indicators of forest stand age and conservation value. Forest Ecology and Management 475: 118436. https://doi.org/10.1016/j.foreco.2020.118436
- Miranda-González R, McCune B, Moldenke AR (2023) Lichens as material for Lepidoptera's housing: a molecular approach to a widespread and highly selective interaction. Fungal Ecology 61: 101195. https://doi.org/10.1016/j.funeco.2022.101195
- Newmaster SG, Belland RJ, Arsenault A, Vitt DH, Stephens TR (2005) The ones we left behind: comparing plot sampling and floristic habitat sampling for estimating bryophyte diversity. Diversity and Distributions 11: 57-72. https://doi.org/10.1111/j.1366-9516.2005.00123.x
- Noble WJ (1982) The Lichens of the Coastal Douglas-Fir Dry Subzone of British Columbia. Reprinted in 2017 with nomenclatural updates by Michael Haldeman. Monographs in North American Lichenology 3: 1-260.
- Noble WJ, Ahti T, Otto GF, Brodo IM (1987) A second checklist and bibliography of the lichens and allied fungi of British Columbia. Syllogeus 61: 1-95.

- Oliver AA, Tank SE, Giesbrecht I, Korver MC, Floyd WC, Sanborn P, Bulmer C, Lertzman KP (2017) A global hotspot for dissolved organic carbon in hypermaritime watersheds of coastal British Columbia. Biogeosciences 14: 3743-3762. https://doi.org/10.5194/bg-14-3743-2017
- Orange A, James PW, White FJ (2010) Microchemical Methods for the Identification of Lichens. 2. British Lichen Society, London, 102 pp.
- Pettersson RB, Ball JP, Renhorn KE, Esseen PA, Sjöberg K (1995) Invertebrate communities in boreal forest canopies as influenced by forestry and lichens with implications for passerine birds. Biological Conservation 74: 57-63. https://doi.org/10.1016/0006-3207(95)00015-V
- Pike L (1978) The importance of epiphytic lichens in mineral cycling. The Bryologist 81: 247-257. https://doi.org/10.2307/3242186
- Ratnasingham S, Hebert PD (2007) BOLD: the Barcode of Life Data system (www.barcodinglife.org). Molecular Ecology Notes 7: 355-364. https://doi.org/10.1111/j.1471-8286.2007.01678.x
- Richardson DH (1988) Understanding the pollution sensitivity of lichens. Botanical Journal of the Linnean Society 96: 31-43. https://doi.org/10.1111/j.1095-8339.1988.tb00625.x
- Roddick JA (1996) Queens Sounds (102P) British Columbia: Geological Survey of Canada, Open File 3278, scale 1:250,000. https://tinyurl.com/2a8k8dda. Accessed on: 2024-1-17.
- Sanders WB (2024) The disadvantages of current proposals to redefine lichens. New Phytologist 241: 969-971. https://doi.org/10.1111/nph.19321
- Selva SB (2003) Using calicioid lichens and fungi to assess ecological continuity in the Acadian Forest ecoregion of the Canadian Maritimes. The Forestry Chronicle 79: 550-558. https://doi.org/10.5558/tfc79550-3
- Spribille T, Fryday AM, Pérez-Ortega S, Svensson M, Tønsberg T, Ekman S, Holien H, Resl P, Schneider K, Stabentheiner E, Thüs H, Vondrák J, Sharman L (2020) Lichens and associated fungi from Glacier Bay National Park, Alaska. The Lichenologist 52: 61-181. https://doi.org/10.1017/S0024282920000079
- Spribille T, Resl P, Stanton DE, Tagirdzhanova G (2022) Evolutionary biology of lichen symbioses. New Phytologist 234: 1566-1582. https://doi.org/10.1111/nph.18048
- Telfer AC, Young MR, Quinn J, Perez K, Sobel CN, Sones JE, Levesque-Beaudin V, Derbyshire R, Fernandez-Triana J, Rougerie R, Thevanayagam A, Boskovic A, Borisenko AV, Cadel A, Brown A, Pages A, Castillo AH, Nicolai A, Mockford BM, Bukowski B, Wilson B, Trojahn B, Lacroix CA, Brimblecombe C, Hay C, Ho C, Steinke C, Warne CP, Garrido Cortes C, Engelking D, Wright D, Lijtmaer DA, Gascoigne D, Hernandez Martich D, Morningstar D, Neumann D, Steinke D, DeBruin DD, Dobias D, Sears E, Richard E, Damstra E, Zakharov EV, Laberge F, Collins GE, Blagoev GA, Grainge G, Ansell G, Meredith G, Hogg I, McKeown J, Topan J, Bracey J, Guenther J, Sills-Gilligan J, Addesi J, Persi J, Layton KK, D'Souza K, Dorji K, Grundy K, Nghidinwa K, Ronnenberg K, Lee KM, Xie L, Lu L, Penev L, Gonzalez M, Rosati ME, Kekkonen M, Kuzmina M, Iskandar M, Mutanen M, Fatahi M, Pentinsaari M, Bauman M, Nikolova N, Ivanova NV, Jones N, Weerasuriya N, Monkhouse N, Lavinia PD, Jannetta P, Hanisch PE, McMullin RT, Ojeda Flores R, Mouttet R, Vender R, Labbee RN, Forsyth R, Lauder R, Dickson R, Kroft R, Miller SE, MacDonald S, Panthi S, Pedersen S, Sobek-Swant S, Naik S, Lipinskaya T, Eagalle T, Deca&euml T, ns TK, Braukmann T, Woodcock T,

Roslin T, Zammit T, Campbell V, Dinca V, Peneva V, Hebert PD, deWaard JR (2015) Biodiversity inventories in high gear: DNA barcoding facilitates a rapid biotic survey of a temperate nature reserve. Biodiversity Data Journal 30: e6313. https://doi.org/10.3897/BDJ.3.e6313

- Thompson SD, Nelson TA, Giesbrecht I, Frazer G, Saunders SC (2016) Data-driven regionalization of forested and non-forested ecosystems in coastal British Columbia with LiDAR and RapidEye imagery. Applied Geography 69: 35-50. https://doi.org/10.1016/j.apgeog.2016.02.002
- Thomson JW (1984) America Arctic Lichens 1. The Macrolichens. Columbia University Press, New York, 504 pp.
- Thomson JW (1997) America Arctic Lichens 2. The Microlichens. University of Wisconsin Press, Madison, Wisconsin, 675 pp.
- Tibell L (1992) Crustose lichens as indicators of forest continuity in boreal coniferous forests. Nordic Journal of Botany 12: 427-450. https://doi.org/10.1111/j.1756-1051.1992.tb01325.x
- Trant AJ, Nijland W, Hoffman KM, Mathews DL, McLaren D, Nelson TA, Starzomski BM (2016) Intertidal resource use over millennia enhances forest productivity. Nature Communications 7: 12491. https://doi.org/10.1038/ncomms12491
- Webber QM, Ferraro KM, Hendrix JG, Vander Wal R (2022) What do caribou eat? A review of the literature on caribou diet. Canadian Journal of Zoology 100: 197-207. https://doi.org/10.1139/cjz-2021-0162
- White TJ, Bruns T, Lee S, Taylor JW (1990) Amplification and direct sequencing of fungal ribosomal RNA genes for phylogenetics. In: Innis MA, Gelfand DH, Sninsky JJ, White TJ (Eds) PCR protocols: a guide to methods and applications. Academic Press, New York, 315-322 pp. https://doi.org/10.1016/B978-0-12-372180-8.50042-1
- Wiersma YF, McMullin RT (2022) Are calicioids useful indicators of boreal forest continuity or condition? Biodiversity and Conservation 31: 1647-1664. https://doi.org/10.1007/s10531-022-02418-5