NORTHWEST LICHENOLOGISTS

2024 Newsletter

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Upcoming NWL Events

NWL Annual Meeting

Annual general meeting (May 20-24, 2024, Spokane, Washington. **Registration for the meeting is through the Northwest Scientific Association website:** https://www.northwestscience.org/Annual-Meeting. The meeting has talks, a workshop, and one or more field trips. See photos from past meetings. For information on giving a talk or poster and for the general schedule, see the NWSA link above.

Schedule: TBA.

Support for students and lichen enthusiasts. This year we offer up to 6, $100 awards to help students and non-student lichen enthusiasts with financial need and who are presenting either a talk or a poster. You must also be registered with NWSA for the meeting to receive the award. Have your abstract ready before you apply for the award. For joint authorship, each person applying for a travel award should submit the title and the abstract, making it clear who they are presenting with, regardless of whether the presentation is a talk or poster. The $100 award is to be divided among all applicants for the **one** poster/presentation. Apply here. Deadline April 26.

Please also check for opportunities with your college or university -- most of those have small grants for student travel to meetings.

Field trips: We hope to have at least two field trips near Spokane. A schedule and summary of lichen activities for the meeting will be posted here.

Workshop: TBA

Lodging: On your own or at the conference hotel.

Further meeting details will appear here as they become available. This year's local host and organizer is Jessi Allen at Eastern Washington University.

Future years: We are eager to have YOU help to organize the lichen part of the annual meeting. The meeting is arranged on a year-by-year basis, depending on the location of the NWSA meeting. This usually happens in mid to late March. The annual meeting typically has four components: talks that present ongoing or completed research (we try to keep this as casual and informal as possible); a workshop on a particular topic, genus, or area; field trips to some local spots of interest; and evening socializing, usually at a local restaurant.

Recent NWL Events

Foray at Cave Junction, OR
By Teresa Bird

This past October, NWL and the Rogue River Siskiyou National Forest jointly hosted a foray in the Wild Rivers Ranger District. The Siskiyou Field Institute graciously provided the lodging and lab space for a reduced price to support the event. The sites visited included Day's Gulch, French Flat, and an old cemetery in the woods, as well as a secret spot with a plethora of *Sulcaria badia*! Day's Gulch was a good demonstration of a characteristic lichen community for a serpentine Jeffery Pine savanna (with Darlingtonia!), but also turned out to have a few surprises including some low-elevation *Cetraria sphaerosporella*, and another small *Cetraria* collected by Bruce that he believes to be the eastern species *Cetraria aurescens*. French Flat turned out to be a great site with a variety of genera for all interests. One find of note was *Cladonia concinna*, collected by Wild Rivers botany technician Molly Metok, a first for Josephine County. As always, the time back in the lab was invaluable for participants to key out species and learn from each other. Thanks to all who participated and helped put this event together!

All photos: Teresa Bird

News and Projects from NW Lichenologists at Home and Abroad

What is Your Favorite Lichen?
From Bruce McCune
January 2024

Anyone who has signed up with NW Lichenologists has been asked this question, "What is your favorite lichen?". This is our feeble attempt to resist signups by robots. Ever wonder about the answers? As secretary of NW Lichenologists, I have access to them and thought I should share them with you. Here they are!

Taking the current membership of NWL, here is a summary of the answers. The list has been cleaned up and simplified somewhat. If a person said more than one species or genus I took the first one. I removed any ambiguous common names and replaced specific common names with either a genus or species. I removed any fictitious names and harmonized any synonyms. I removed offhand remarks, except that I kept the two funniest (can you find them?). I left in one non-lichenized fungus as an honorary lichen (can you find it?).

The top vote getters are not too surprising. *Cladonia* and *Usnea* are way up there. Note that ease of identification doesn't have a lot to do with how cute they are.

Ramalina menziesii was hands-down the favorite single species, with *Usnea longissima* coming in second.

Some species will be obscure to NW Lichenologists, for example, *Badimia elegans* and *Leptogium phyllocarpum*. If you don't know this one, you are in for a pleasant surprise. See: https://www.inaturalist.org/taxa/223473-Leptogium-phyllocarpum

Others demonstrated crustose lichen savvy within the Pacific NW, for example, *Chaenothecopsis tsugae, Coccotrema maritimum, Fellhanera bouteillei, Lecanora phryganitis, Lithographa tesserata, Ophioparma rubricosa*, and *Rhizocarpon cookeanum*. The global reach of our organization is also evident, for example, *Cladia retipora, Lichina pygmaea, Phyllopsora*, and *Vezdaea leprosa*.

Thanks to everyone for contributing!

Totals are on the next page.

What is your favorite lichen?

Total		Total		Total	
1	Acarospora schleicheri	1	Lecanora	1	Polycauliona candelaria
1	Bactrospora cascadensis	1	Lecanora phryganitis	1	Porpidia
1	Badimia elegans	1	Leptogium phyllocarpum	1	Pseudocyphellaria aurata
1	Brigantiaea praetermissa	2	Letharia	1	Pseudocyphellaria mallota
1	Buellia	4	Letharia columbiana	1	Pseudocyphellaria rainierensis
1	Calicium viride	5	Letharia vulpina	1	Psora crenata
1	Candelariella rosulans	1	Lichina pygmaea	1	Psoroma hypnorum
1	Cavernularia lophyrea	1	Lithographa tesserata	1	Ramalina farinacea
1	Cetraria	2	Lobaria	10	Ramalina menziesii
1	Cetraria canadensis	1	Lobaria anomala	1	Rhizocarpon cookeanum
2	Cetraria merrillii	1	Lobaria anthraspsis	1	Siphula
1	Chaenotheca furfuracea	2	Lobaria linita	4	Solorina crocea
1	Chaenothecopsis tsugae	6	Lobaria oregana	1	Solorina spongiosa
1	Chrysothrix caesia	1	Lobaria pindarensis	1	Sphaerophorus fragilis
1	Cladia retipora	5	Lobaria pulmonaria	1	Sphaerophorus tuckermanii
1	Cladina rangiferina	1	Lobaria scrobiculata	1	Stereocaulon
11	Cladonia	3	Masonhalea richardsonii	3	Sticta
2	Cladonia bellidiflora	1	Mycoblastus sanguinarius	1	Sticta fasciculata
2	Cladonia chlorophaea	1	Nephroma arcticum	1	Stictis urceolatum
2	Cladonia coccifera	2	Nephroma occultum	1	Sulcaria spiralifera
1	Cladonia cristatella	2	Nephroma parile	2	Teloschistes chrysophthalmus
1	Cladonia fimbriata	1	Nephroma resupinatum	2	Texosporium sancti-jacobi
1	Cladonia pyxidata	1	Ochrolechia laevigata	1	The one I haven't found yet
1	Cladonia rangiferina	1	Ophioparma rubricosa	1	The one that I just identified.
1	Cladonia straminea	1	Parmelia sulcata	1	Tholurna dissimilis
1	Coccotrema maritimum	1	Parmelina coleae	1	Trapeliopsis flexuosa
1	Collema	1	Parmelina quercina	2	Umbilicaria
1	Cyphelium inquinans	1	Parmeliopsis ambigua	1	Umbilicaria cylindrica
1	Dactylina arctica	4	Peltigera	1	Umbilicaria nodulospora
1	Dendriscocaulon	2	Peltigera membranacea	2	Umbilicaria phaea
3	Dimelaena oreina	4	Peltigera venosa	1	Umbilicaria phaea var. coccinea
1	Enchylium polycarpon	1	Pertusaria	12	Usnea
1	Ephebe pubescens	1	Phylliscum demangeonii	1	Usnea antarctica
2	Evernia prunastri	1	Phyllopsora	6	Usnea longissima
1	Fellhanera bouteillei	1	Physcia	2	Usnea strigosa
3	Hypogymnia	1	Physcia adscendens	1	Usnea trichodea
1	Hypogymnia duplicata	1	Physconia americana	1	Vezdaea leprosa
4	Hypogymnia imshaugii	4	Pilophorus acicularis	1	Xanthoria
1	Hypogymnia inactiva	1	Pilophorus nigricaulis	1	Xanthoria elegans
1	Hypogymnia physodes	1	Pilophorus robustus	2	Xanthoria parietina
1	Hypogymnia tubulosa	1	Platismatia lacunosa	1	Xanthoria polycarpa
1	Icmadophila ericetorum	1	Platismatia tuckermanii		

TNC Ellsworth Creek Preserve Old-growth Forest Indicators Project
From Carl Baker and Michael Case

Research Hypothesis

Forest management treatments (thinning) have led to an increase in indicator vegetation species that are associated with old-growth forests or mature forests.

Evaluating the effect of restoration treatments, such as forest thinning, is challenging because there is no single indicator to measure success. Therefore, we propose to 1) identify multiple old-growth indicator lichens, and bryophytes and 2) use those indicator species to quantify the degree to which restoration treatments have accelerated forest succession towards old-growth conditions. Previous studies have shown that restoration thinning can establish and enhance suitable habitat for a variety of old-growth indicator species, including lichens (Root et al., 2010). Furthermore, thinning techniques, such as variable-density thinning can help develop critical structural habitats in the lower canopy for indicator species of lichens and bryophytes (Marcot, 2018).

We propose to survey for key indicator non-vascular vegetation species and test whether our restoration treatments have led to an increase in their presence and/or abundance. Our survey plots will be focused on the North and Central experimental sub-basins to capture the differences between restoration ("Active") and no restoration ("Control") treatments (Figure 1). We will also sample in the old-growth area to represent reference conditions. Our initial surveys in the old-growth area found multiple old-growth or mature forest lichen and bryophyte indicator candidate species (Table 1).

The effect of forest restoration treatments on indicator non-vascular vegetation species is still relatively unknown. We aim to fill this critical knowledge gap and to inform future forest management at Ellsworth and other westside forests. Our information will also be useful for the US Fish and Wildlife Service's Willapa Bay Refugee and their restoration objectives.

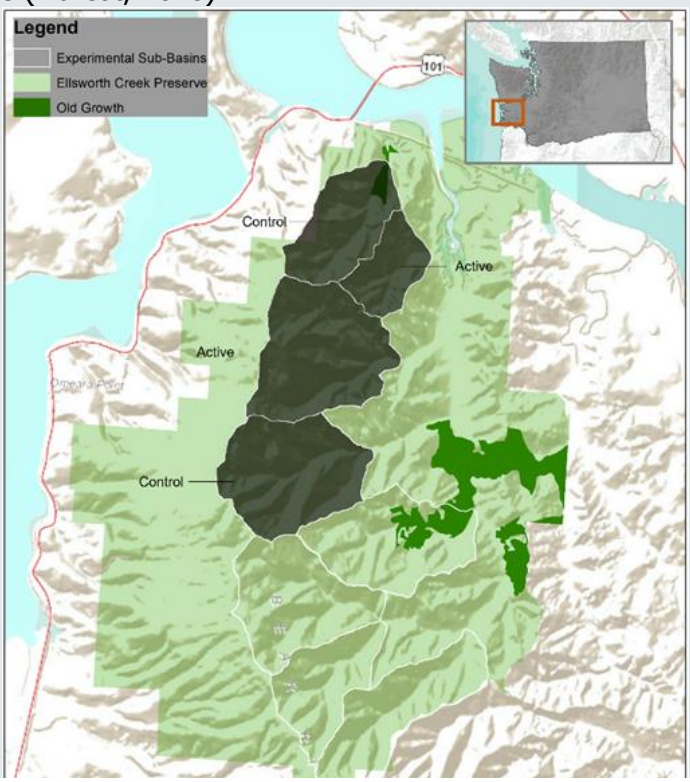


Figure 1. Ellsworth Creek Preserve Experimental Basins

Research Questions

1) What relevant old-growth indicator lichen and bryophyte species exist in the study area?
2) Are there differences in old-growth indicator lichen and bryophyte species presence and abundance between old-growth areas and Control and Active sub-basins?
3) In what way do these old-growth indicator species differ across treatments?
4) Have restoration treatments affected the presence and/or abundance of the old-growth indicator species?
5) Are there rare and/or threatened old-growth indicator non-vascular vegetation species or locally endemic species in the study areas?

Methodology

TNC will partner with academic, nonprofit, state, and federal collaborators to complete this project. We will team with volunteers and interns from organizations, such as Reed College, The Evergreen State College, University of Washington (UW) Herbarium, the Northwest Lichenologists, Washington Native Plant Society, and independent botanists. Leveraging these partnerships, we will sample 30 survey plots from May 2023 to September 2024 in the old-growth areas and Control and Active sub-basins. Old-growth indicator non-vascular vegetation species will be identified in conjunction with iNaturalist and other expert identifiers. A limited number of voucher species will be collected for submission to the UW Herbarium and will conform to TNC and UW Herbarium guidelines.

Old-growth indicator vegetation species survey methods will be adapted from the USDA Forest Service Forest Health Monitoring Program (Mangold, 2000). In addition to identifying old-growth indicator lichen and bryophyte species at each survey plot, we will also take GPS locations and photographs of each specimen. These photos will be uploaded to iNaturalist and we will consult with independent experts to verify identifications.

Table 1. Old-Growth Indicator Candidates

Scientific Name	Type
Alectoria sarmentosa	Lichen
Bryoria sp.	Lichen
Cladonia norvegica	Lichen
Hypogymnia oceanica	Lichen
Lobaria oregana	Lichen
Lobaria scrobiculata	Lichen
Platismatia norvegica	Lichen
Pseudocyphellaria citrina	Lichen
Pseudocyphellaria rainierenis	Lichen
Sphaerophorus tuckermanii (globosus)	Lichen
Sphaerophorus venerabilis (globosus)	Lichen
Usnea longissima	Lichen
Pseudocyphellaria hawaiiensis	Lichen
Lobaria anomala	Lichen
Bryoria bicolor	Lichen
Peltigera britannica	Lichen
Hypotrachyna afrorevoluta	Lichen
Usnea diplotypus	Lichen
Usnea subgracilis	Lichen
Usnea silesiaca Motyka	Lichen
Conocephalum conicum	Liverwort
Diplophyllum albicans	Liverwort
Pellia neesiana	Liverwort
Scapania bolanderi	Liverwort
Antitrichia curtipendula	Moss
Buxbaumia piperi	Moss
Dicranum fuscescens	Moss
Hylocomium splendens	Moss
Hypnum circinale	Moss
Plagiomnium insigne	Moss
Buckiella undulata	Moss
Rhizomnium glabrescens	Moss
Rhytidiadelphus loreus	Moss

To learn more or volunteer, please contact Old-Growth Forest Indicators Project coordinator Carl Baker carlbak22@gmail.com 206-427-7695

Marcot, Bruce G., Karen L. Pope, Keith Slauson, Hartwell H. Welsh, Clara A. Wheeler, Matthew J. Reilly, and William J. Zielinski. 2018. "Chapter 6: Other Species and Biodiversity of Older Forests". Synthesis of Science to Inform Land Management Within the Northwest Forest Plan Area.

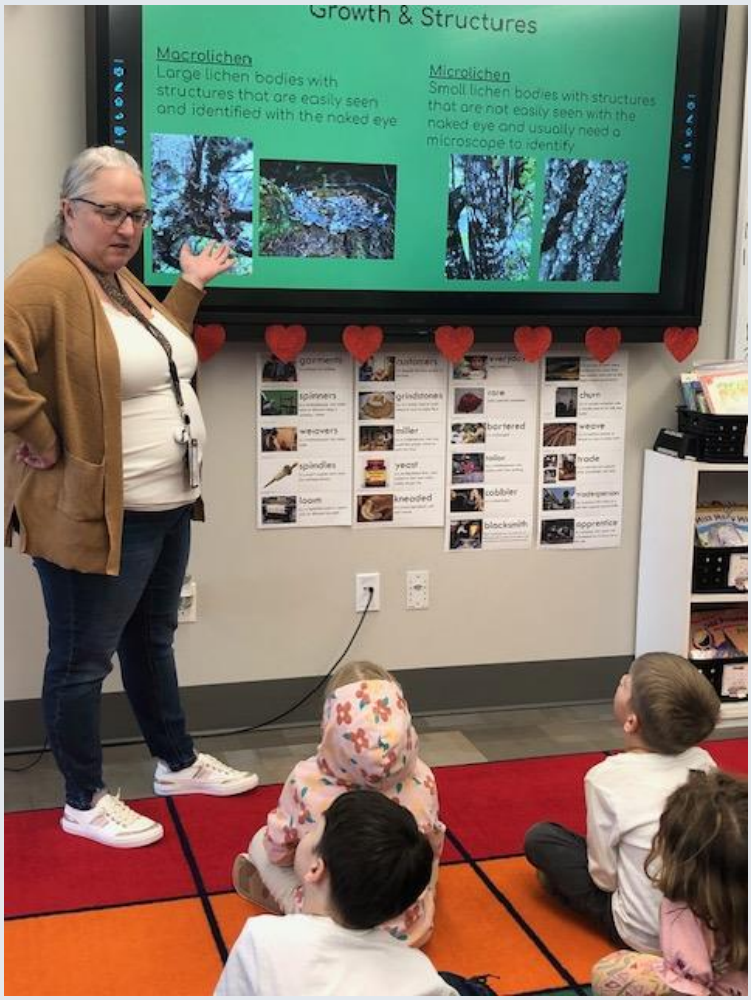
Root, Heather T., Bruce McCune, and Peter Neitlich. 2010. " Lichen habitat may be enhanced by thinning treatments in young *Tsuga heterophylla-Pseudotsuga menziesii* forests". The Bryologist 113(2), pp. 292–307

Amazing Populations of *Lobaria* and *Nephroma*
From Jack Massie

On an October lichen outing to Upper Priest River, Idaho, I observed *Lobaria pulmonaria* and *Nephroma helveticum ssp. sipeanum* **totally covering the branches** of Engelmann spruce, cedar, grand fir and lodgepole pine. I had never seen such large amounts of lichens on conifers. That first sighting was at the bridge crossing Upper Priest River on FS-1013. Further up the road, the profusion of lichens continued. As I collected samples, it seemed the thousands of *L. pulmonaria* were somewhat stunted. *N. resupinatum* ssp*. sipeanum* was new to me in the field, so I could not effectively judge its "health". This was an interesting foray with many commonly-seen lichens in unusually crowded habitat.

Elementary Science Program
From Allysa Brook

After graduating Oregon State University in 2023 I began working at Eastside Elementary School in Coos Bay. At the beginning of this year, I met with the administration team and presented the idea of an elementary science program. This idea was approved! It has started with a model program to work out the kinks and collect data, in which I will use to apply for grant funding. What does this have to do with lichen? Well, the first lesson I have been teaching to the kindergarteners, first and second graders is about lichens! I began with teaching them about lichens…what they are, growth forms, reproduction, and the importance of it. The second part covers identification, what a dichotomous key is and how to use it and looking at different lichen samples and their varying structures. The third part is a hands-on lab with an in-class scavenger hunt in which they get to examine lichen, draw, label and write in their scientific journals. Since the start, the majority of the teachers and children did not even know what a lichen was and are now looking for it on their hiking adventures or in their own backyard!



Grant Opportunity
From Friends of Cascade-Siskiyou National Monument

Interested in doing research within the Monument boundary? The Friends Research Fund annually awards individual grants ranging from $500 – $3000 to undergraduate and graduate students for faculty-supervised projects that enhance the understanding, appreciation, preservation, and/or protection of the Cascade-Siskiyou National Monument. Students have an opportunity to share their findings with the public at the annual Monument Research Symposium.

The 2024 grant cycle is now open! Applications are due April 26, 2024, 11:59pm PST.

ELIGIBILITY
This grant is available to students who:
-Are studying in areas of biology, environmental sciences / education, sociology, arts and humanities, or business.
-Are currently enrolled as a Junior or Senior Undergraduate or a Graduate student with good academic standing at a state or regional college or university.
-Have successfully completed (with a passing grade or better) coursework in at least one upper division course related to their area of study.

TIMELINE
FCSNM offers one grant cycle for the Friends Research Fund each year. Awardees will be announced May 6, 2024, and commitments to accept the projects confirmed by May 10, 2024. Grant funds will be issued to awardees by May 31, 2024.

INSTRUCTIONS
Go to the Friends Research Fund website, download the application, and fill in the embedded form using Adobe Acrobat Reader or Adobe Acrobat Pro. Save your completed application and email it to us as an attachment along with your curriculum vitae and a letter of recommendation from your faculty advisor to: researchCSNM@cascadesiskiyou.org. Please read the detailed instructions contained in the application.

Application and more information available at:
https://www.cascadesiskiyou.org/programs

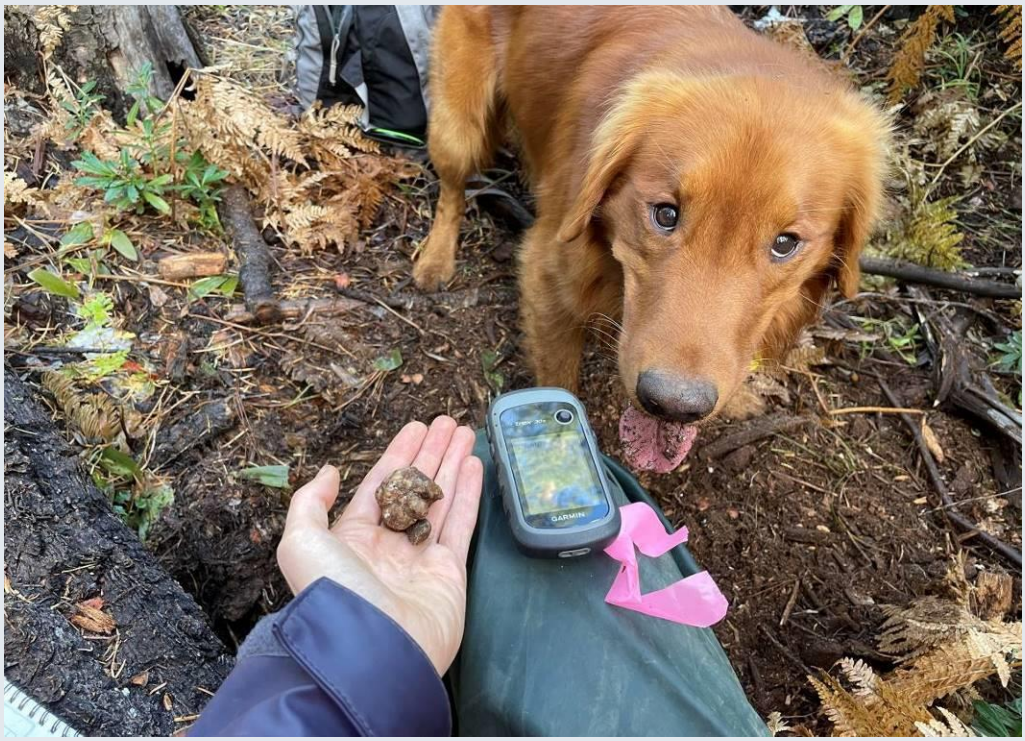
QUESTIONS?
Contact Collette Streight at collette@cascadesiskiyou.org

Among recent grant recipients:

Heather Stewart-Ahn is a Master's student in biology at the University of Alberta. Working with her advisors Dr. Jason Ashley at Eastern Washington University and Dr. Toby Spribille at the University of Alberta, she has been studying an extremely rare vividly red lichen, *Umbilicaria phaea* var. *coccinea*, that is found in the Monument.

Umbilicaria phaea var. *coccinea* and other lichens, Cascade-Siskiyou NM

Hilary Rose Dawson is a Ph.D. candidate in Biology at the University of Oregon. Working with her advisor, Dr. Lucas Silva, at the University of Oregon, she will expand on her previous work to create a preliminary list of truffle (underground-fruiting fungi) species found in the Monument.



Truffle research in the Monument - Hilary Rose Dawson and truffle dog Rye.

Beautiful Lichen Photos
From Grace Barthelmess

Brief Notes
From Amanda Hardman

Lichen Biomonitoring

This season started off with a brief training at the annual NWL/NWS conference in March. Because there is always interest in learning the FIA lichen indicator protocol, we managed to slip in a quick trip from Western Washington University campus up to Sehome Hills Park in Bellingham. Appreciation to Fred Rhodes for locating a good area to install a plot ahead of the meeting, and for also heading back out for a tissue collection (to measure elemental pollution content of *Platismatia glauca*) when we ran out of time to complete that portion of the survey. I later discovered that Chiska Derr installed a plot in 2000 that we will be able to make a ~20-year comparison to. Visually the lichen community appeared to be suffering the effects of air pollution. Thirty-one species were collected at this plot by the group. Pictured from left to right are Maddy, Mack, Tiffany, Amanda, and Eleonore (below, left). This was a good introduction to lichen biomonitoring for the participants and a fun jaunt to the forest between conference sessions. We plan to include it as part of the conference going forward.

Biomonitoring on Forest Service lands of Oregon and Washington took place at just under 100 plots with the bulk of those being completed by Joe DiMeglio (top right), pictured on a plot with his pup and stylish NWL hat and shirt) and Maysa Miller (lower right) completing her paperwork while in the Pasayten Wilderness). Thanks to them and all of the other folks who helped out.

2023 NWL Lichen Certification

This year I had planned for the certification to take place at Andrews Research Forest within the Willamette NF, but the Lookout Fire closed the research facility and forced a quick pivot. Luckily, I have lived and worked at the Toketee Ranger Station in Idleyld Park, Oregon and was able to secure housing and laboratory space for the event within very short notice. Special thanks to District Ranger, Mark Sommer, for allowing us the use of this space. Out of 8 participants 2 passed completely, and one passed the collection. We allow examinees who pass one part of the exam another chance to pass the second part the next exam year. Forty-eight species were collected by the group, which is reflective of the area and the site, a mix of old trees and gaps. A good time was had by all with breaks to share meals and stories. Next exam is 2025 in Washington. Please consider joining us – it is a learning experience for all. It is great to be able to see what you are able to find relative to others, since even the most seasoned lichenologist has blind spots. If you don’t stress out about passing the first time through, you can enjoy the process and learn a lot.

Updates
From Katherine Glew

Katherine Glew, PhD. Associate Curator of Lichens, WTU Herbarium at the University of Washington, Seattle, Washington.

Lichen walks were led at Bellevue Botanic Gardens on March 17 and October 13, 2023.

At the University of Washington Botanic Gardens, I gave walks on February 4 and March 4.

The annual 'Cemetery Lichens' walk occurred on October 28, 2023 at the Mount Pleasant Cemetery on Queen Anne in Seattle.

Snohomish Country Mycological Society, Everett, WA, invited me to give a talk on lichens, February 8, 2023. Title: "What Everyone Should Know About Lichens".

I enjoy these walks and talks. Many people do not know much about lichens and with beautiful photos by Richard Droker, these presentations really enlighten folks and encourage them to look for lichens in the city and in rural habitats.

I learn from them too. Last year I discovered from my talk that *Parmotrema perlatum* can be used as a spice in Indian food when lightly cooked in oil, which brings out the flavor.

I participated in a rare lichen survey in Westport Light State Park, Grays Harbor County, Washington on May 31 & June 1, 2023. The survey focused on *Kaernefeltia californica*, revisiting sites in the area where there were historic records of the species. We also made collections of other notable and rare lichens. No previous organized lichen survey has been conducted in the state park. We were able to identify other rare lichen species in the area, new records for the Washington State Rare Lichens list. The habitat is unique for the Washington coast with *Pinus contorta* (shore pines), uncommon in the state. A total of 52 macrolichen species were observed, including 6 rare lichen species. Participants in the survey were myself, Dr. Lalita Calabria, and Siskiyou Bio Survey investigators - John Villella, Jay Scelza.

Monthly meetings with the Seattle Lichen Guild are sometimes outside. On our annual January 1 hike, we had 20 participants @ Seward Park in Seattle. Fifty+ lichen species were recorded for the park, including macro- and microlichens. Seward Park has never been logged. It contains one of the last surviving tracts of old-growth forest within the city of Seattle. The area was inhabited by the Duwamish people since the last ice age, 8,000 to 10,000 years ago. (Wikipedia). The purchase of the parcel was suggested in

1892 but was not established as a city park until 1911. Allan Smith, Richard Droker and I recorded known lichen species. Dan Paquette recorded bryophyte species for the park.

This *Lobaria pulmonaria* was about 8 inches in diameter. Wow! It fell out of one of the trees in the area, most likely an *Acer macrophyllum*.

I provided a donation toward the purchase of a new herbarium cabinet, dedicated to lichens, at The Evergreen State College, Biological Sciences.

Proposing Official State Lichens
From Tiffa Theden

by Erin Springhotic *by Al Kordesch* *by C Graydon* *by Eva Ullström*

State symbols are a fun way for people to become aware of somewhat esoteric organisms that they may have never thought to consider. This awareness is the first step towards caring for and working towards the protection of these organisms. All 50 states (and many territories) in the US have a state bird and state flower (some with more than one!), but there are very few state symbols represented by other types of taxa. Only a handful of states have an official state mushroom, let alone a state lichen. Currently, 5 states have a state mushroom (Minnesota, Oregon, Texas, Utah, and California), and 5 more states have proposals that are in various states of limbo (Missouri, Washington, Massachusetts, Vermont, and New York). There is only one state that has an official state lichen - it's California with Lace Lichen (*Ramalina menziesii*). This achievement was won through the hard work of everyone at CALS (the California Lichen Society) and became official in 2015. There are actually more state *microbes* than state lichens, and I feel that this is an injustice that must be corrected.

If we want to make the issue of selecting a state symbol democratic (as we should), we need to include the public in the selection process. The issue with state mushrooms is that most people don't know much about mushrooms, and if you ask them, they will suggest a species that they have heard of. This is almost always one of the highly sought after edibles - either some kind of chanterelle, or some kind of morel. This can lead to some possible conundrums. While having a state mushroom that is a prized edible increases knowledge of that species, it also increases the desire for people to go foraging for them. This can lead to environmental degradation from increased human use. Many legislators also find state symbol proposals to be frivolous. Unless there is a loud, knowledgeable minority that can convince members of the legislature to co-sponsor a bill, it's very unlikely to ever happen. If the proposal does proceed, it can take years to become official.

I think that an easier first step towards an official state fungus would be to propose an official state lichenized fungus (aka lichen) instead. There tends to be (sometimes very vocal) disagreement over which mushroom species to propose, and it would be annoying (to say the least) for yet another chanterelle to become the next state mushroom. Not many people know about lichens, so there would likely be less conflict, and an official declaration could help popularize, and increase knowledge about, these important organisms. Lichens are fascinating in their symbiotic relationships and are a wonderful example of working together to achieve something greater than any part alone. They are also amazing environmental indicators, so having an official state lichen could help bring attention to the myriad environmental issues we face as our planet's climate rapidly changes over the next few decades.

An easy place to start advocating for official state lichens is the Pacific Northwest, since we are absolutely covered in charismatic lichens up here. We, the amazing humans that make up the Northwest Lichenologists, are in a prime position to help lead this effort. While many of the lichen species that occur in western North America are similar, there are some regional differences, and there are many lichens named for states, cities, and/or habitats found in these areas. A good starting point for choosing an official lichen would be to come up with a list of criteria that states and provinces could follow. This list would make future proposals easier, without having to reinvent the process each time. A simple first option could be to suggest a macrolichen, since they are usually the most visible of an often-overlooked type of organism. The question is, would it be best to propose a very common, charismatic species? Or a rarer and/or threatened species, to help increase awareness of their existence and plight? How important is it that the species is "beautiful" to a casual observer (like the lace lichen obviously is)? Most people aren't yet aware of the complexities and intricacies of lichen identification, so ease of identification using macroscopic characteristics also seems important to include on the list of criteria. Species that have an interesting, descriptive common name can also be helpful to convince the non-lichenologist general public. There are so many different aspects to think about!

Some examples of common, or rare, or locally named lichens that could possibly make good official state/provincial lichens:

Oregon -

- *Letharia columbiana*? Iconic, name recalls the Columbia River, striking color, very noticeable, everywhere.
- *Sulcaria badia*? Rare, only a few populations, really interesting color and habitat.
- *Lobaria oregana*? Huge and weird, everyone knows the "giant lettuce leaves", named after Oregon.

Washington -

- *Usnea longissima*? Amazing, beautiful, everyone knows "old man's beard", threatened.
- *Bryoria fremontii/(tortuosa)*? Important indigenous and wildlife food (not the tortuosa variant), everywhere.

- *Pseudocyphellaria rainierensis*? Rare, old-growth associated, can help bring knowledge to diminishing populations, named after Mt. Rainier!

British Columbia -

- *Cladonia borealis*? *Cladonia* species are adorable, and this one is named for the boreal forest.
- *Alectoria vancouverensis*? *Alectoria* has a great common name (Witches Hair) and it's named for Vancouver!
- *Hypogymnia canadensis*? *Hypogymnia* species are ubiquitous and this one is named for Canada.

Idaho - Many species are named for Idaho

- *Esslingeriana idahoensis?*
- *Rhizoplaca idahoensis?* Narrow endemic, endangered
- *Xanthoparmelia idahoensis?* Endangered

What are some lichens that you think would be good candidates for state lichens? It would be fun to get a poll going and see if we could expand this idea out to a state level. Look for the thread "Proposing Official State Lichens" on the forum at NW Lichenologists. https://northwest-lichenologists.wildapricot.org/page-1816824/13325979

Lichen Apparel and Publications

***Letharia columbiana* apparel**

Northwest Lichenologists offers hats, tote bags, patches, and a variety of t-shirts featuring the NWL *Letharia columbiana* icon. Please visit our online store for current prices, sizes, and ordering information. If the item you want is not in our store, email Daphne Stone for placing an order. Also, for questions about sizes, feel free to email Daphne.


Women's t-shirt, black


Men's t-shirt, black


Women's v-neck, black


Baseball cap, black


Baseball cap, blue

Patch

Women’s t-shirt, blue

Men’s t-shirt, blue

Tote bag, blue

Tote bag, black

Women's long sleeve, blue

Men's long sleeve, black

Women's thin hoodie, charcoal gray

"Lycanologist" t-shirt, black (glows in the dark)

Women’s deep v-neck, burnout blue

Zip hoodie, black

Monographs in North American Lichenology
A series sponsored by Northwest Lichenologists

Northwest Lichenologists aim to produce a series of reasonably-priced, peer-reviewed, paperback academic books on lichens, with a focus on topics of regional interest, such as generic monographs, annotated state lists, ecological works, local floras, and symposium proceedings. Our purpose is to provide an outlet for very long papers and books of wide interest but that are too long for regular scientific journals. Volumes will be produced sporadically. We expect 0-2 volumes per year. Works on any aspect of lichenology will be considered.

For ordering information, please use Monographs under the "Store" tab at the new NW Lichenologists website.

Order by credit card using PayPal from www.nwlichens.org

Monographs in North American Lichenology, Vol. 5

Revision of the Aspicilia reptans *Group in Western North America, an Important Component of Soil Biocrusts*

Aspicilia in the broad sense is one of the most common and speciose genera of saxicolous lichens in the world. It is also a common genus in the biological soil crusts of arid and semi-arid parts of North America, as well as on other continents. Analysis of DNA sequences and morphology from *Aspicilia* in soil crusts revealed previously unrecognized species that are ecologically, geographically, morphologically, and genetically distinct. Six previously unrecognized species are described. The new species are mostly infertile, primarily terricolous, and are separable in most cases by a key to subtle differences in morphology, anatomy, and secondary chemistry.

Although we have released a free pdf, we have made a small, limited print run. These are available for $30, first come, first serve. Only a few copies remain. Because we do not plan to reprint these, they are guaranteed to become a collectible -- be sure to have a full set!

McCune, B. & J. Di Meglio. 2021. **Revision of the *Aspicilia reptans* Group in Western North America, an Important Component of Soil Biocrusts**. Monographs in North American Lichenology 5: 1-92. ISBN: 978-0-9790737-5-5

Revision of the *Aspicilia reptans* group in western North America, an important component of soil biocrusts

Bruce McCune and Joseph Di Meglio

2021

Monographs in North American Lichenology Vol. 5

Northwest Lichenologists

www.nwlichens.org

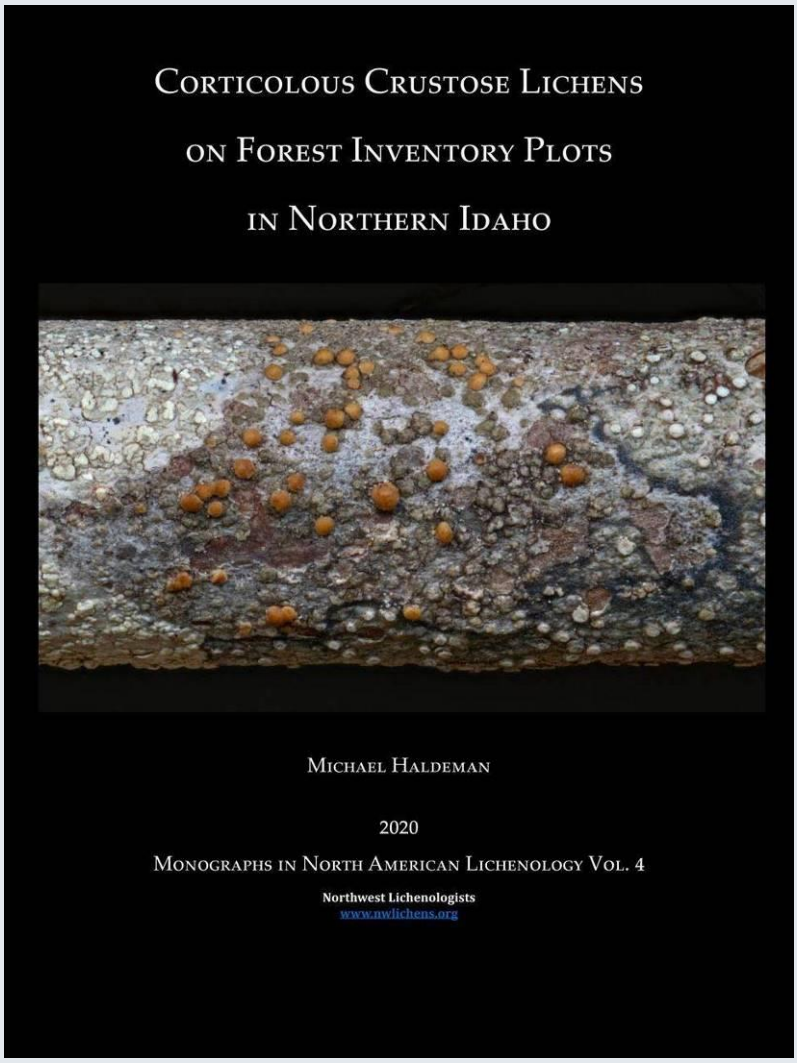
Monographs in North American Lichenology, Vol. 4

Corticolous Crustose Lichens on Forest Inventory Plots in Northern Idaho

This richly illustrated monograph provides excellent habitat and substrate preferences for bark-dwelling crustose lichens and lichenicolous fungi in the northern Rocky Mountains of Idaho. Four main sections describe habitats, lichen species, occurrences for each phorophyte species, and lichenicolous fungi. It should prove useful throughout the Pacific Northwest region.

Haldeman, M. 2020. **Corticolous Crustose Lichens on Forest Inventory Plots in Northern Idaho**. Monographs in North American Lichenology 4: 1-71. ISBN: 978-0-9790737-4-8

Free pdf download available. Print copies were available but are currently sold out.

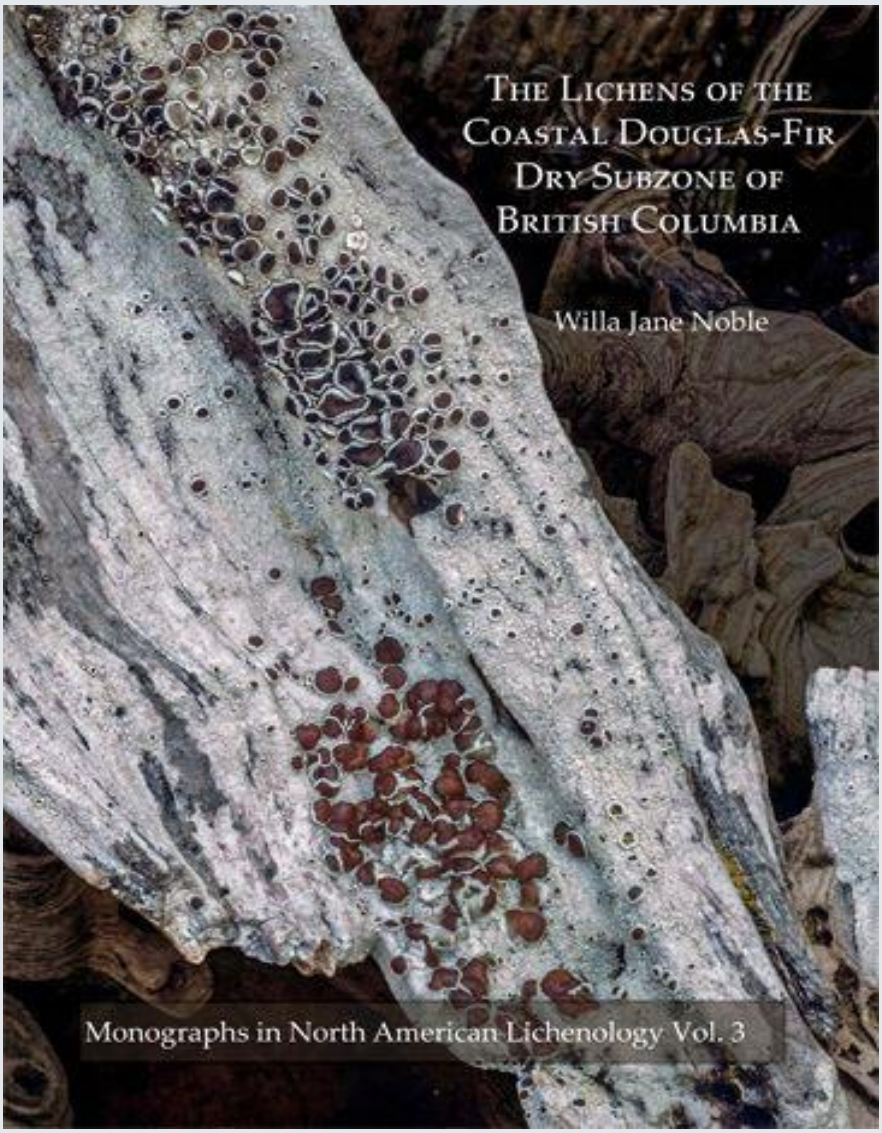


Monographs in North American Lichenology, Vol. 3

The Lichens of the Coastal Douglas-Fir Dry Subzone of British Columbia

The single most valuable book for people interested in learning the crustose lichen flora west of the Cascade Range has been Willa Noble's unpublished Ph.D. dissertation. This massive work contains an excellent lichen flora for a portion of British Columbia. But its importance extends well beyond that. It is an indispensable reference work for lichen studies from Alaska to northern California.

Noble, W. J. 1982, Reprinted in 2017 with nomenclatural updates by Michael Haldeman. **The Lichens of the Coastal Douglas-Fir Dry Subzone of British Columbia**. Monographs in North American Lichenology 3: 1-260. Pbk. $30. Keys and full descriptions, B/W line drawings of spores. ISBN-13: 978-0-9790737-2-4



Monographs in North American Lichenology, Vol. 2

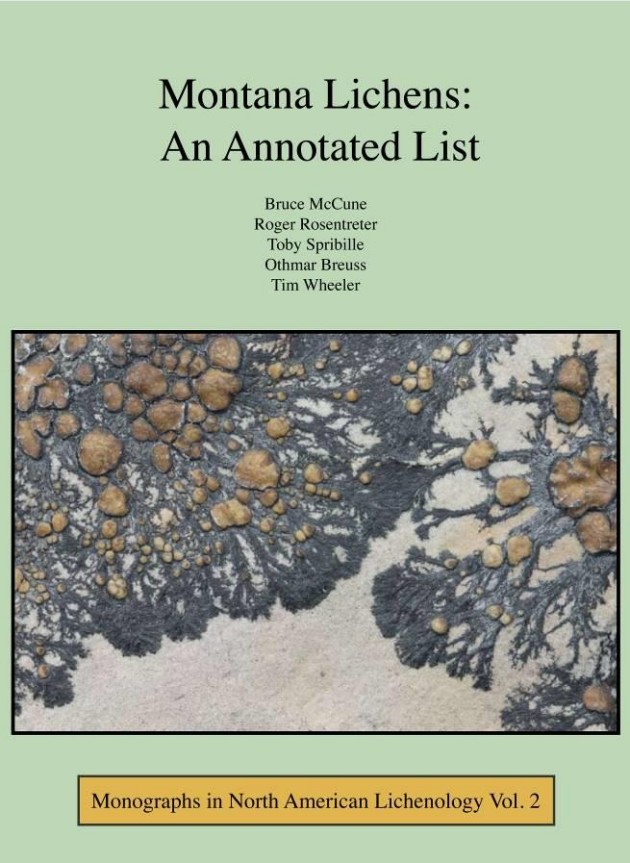
Montana Lichens: An Annotated List

Why would a non-Montanan lichenologist want one? This is the first comprehensive summary of the occurrence, literature references, and ecological context for lichens in any state or province in the Pacific Northwest or northern Rocky Mountains. Because we also include reports from adjoining states and provinces, the book should be useful in a broad area. The monograph will be an invaluable reference for people delving into either crustose lichens or macrolichens.

So far, a total of 1074 species are documented from Montana. Of these, 283 species are new for the state and 19 are new to North America. We discuss the rare, threatened, and endangered lichens of Montana. Priorities for surveys and monitoring are evaluated by placing species in one of eight categories, based on all combinations of global rarity, ease of detection, and habitat vulnerability.

You will also find new names for a number of old friends. Do you recognize *Lobaria anomala*? *Scytinium palmatum*? *Circinaria rogeri*? Dig in and find out.

McCune, B., R. Rosentreter, T. Spribille, O. Breuss and T. Wheeler. 2014. **Montana Lichens: An Annotated List.** Monographs in North American Lichenology 2: 1-183. Pbk. $30. ISBN-13: 978-0-9790737-1-7



Monographs in North American Lichenology, Vol. 1

Biotic Soil Crust Lichens of the Columbia Basin

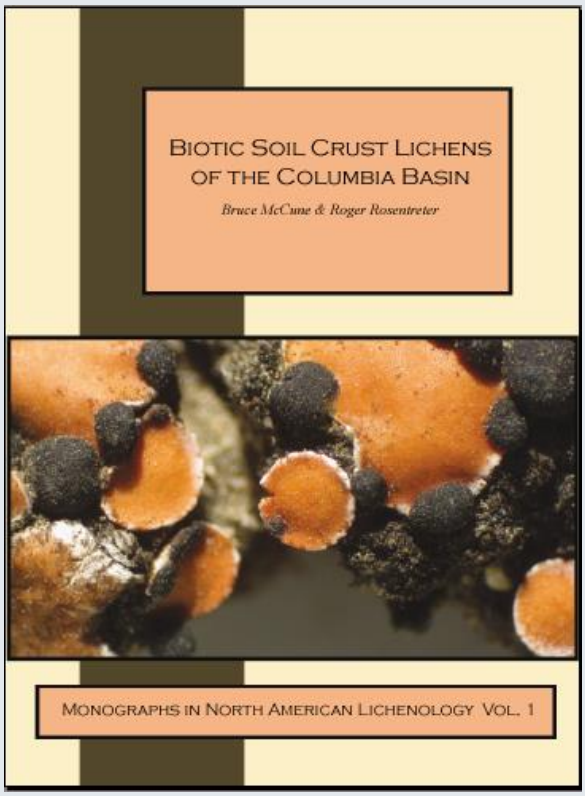
Why write a book for identifying soil crust lichens? We have three reasons: (1) they are ecologically important, (2) they can be difficult to identify with existing sources, or they are omitted altogether, and (3) they should be more widely recognized for what they are.

Macrolichens are much better known in North America than crustose lichens, but most of the lichens found in biotic crusts are crustose lichens. Keys and line drawings for macrolichens from the Pacific Northwest and northern Rocky Mountains are provided by Goward et al (1994), McCune and Goward (1995), and Goward (1999). Brodo et al. (2001) and McCune and Geiser (1997) provided color photos for selected species. Despite these resources, almost none of the lichen species growing in biotic crusts in the Pacific Northwest have been illustrated with color photos in sufficient magnification and detail for confident identification. We hope that this book will help to relieve that problem.

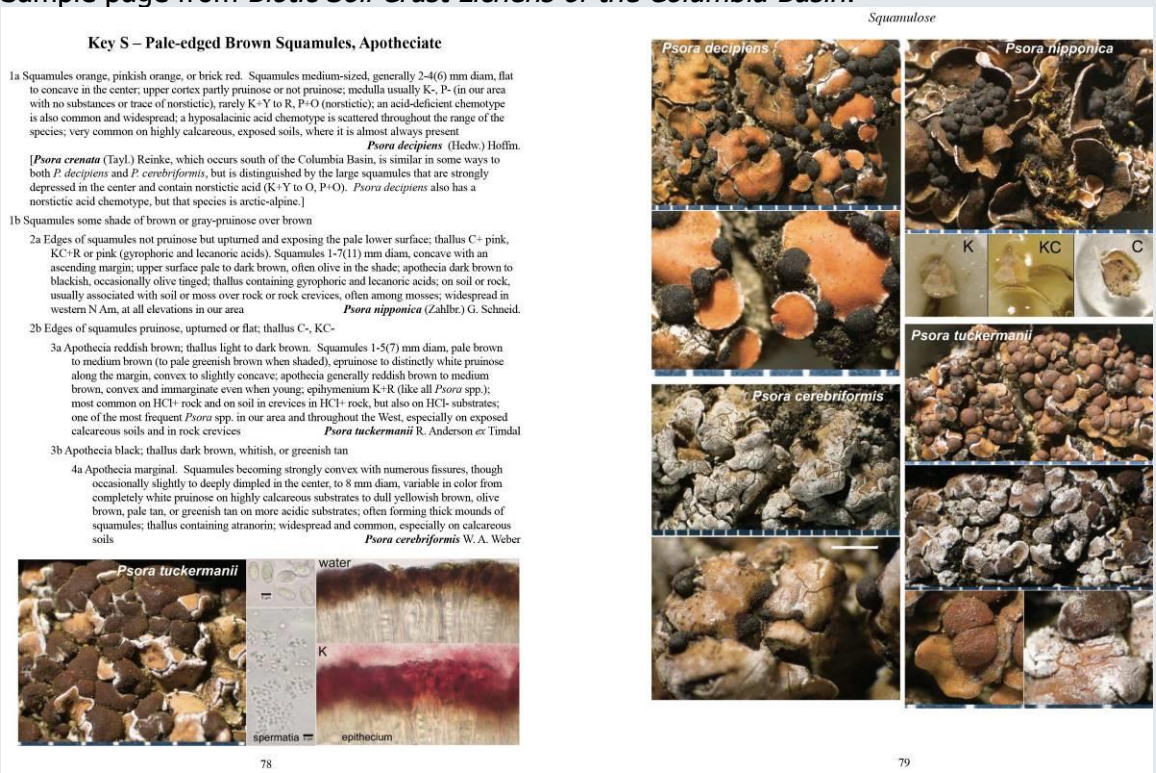
Lichens in soil crusts are often difficult to identify. Currently available books for identifying lichens do not illustrate the critical features needed for identification. We try to fill this need by providing photographs of all of the species at the necessary scale – ranging from what you can see with a hand lens to what you can see through a compound microscope. Wherever possible, we emphasize macroscopic features, but in many cases microscopic characters make the task much easier and help to confirm the identification.
This book is aimed at both technical and naturalist audiences. We hope that the use of color photographs will help someone without much experience, while we strive to provide the technical details needed for more certain identification.

McCune, B. and R. Rosentreter. 2007. **Biotic Soil Crust Lichens of the Columbia Basin.** Monographs in North American Lichenology 1: 1-105. Pbk. $30. Fully illustrated in color. ISBN-10: 0-9790737-0-7.

***** Reprinted in 2018 with updates to nomenclature and much improved color rendition! If you are already a regular user you will love the reprint, easily worth the $30 for a new copy. *****



Sample page from *Biotic Soil Crust Lichens of the Columbia Basin*:



Key S – Pale-edged Brown Squamules, Apotheciate

1a Squamules orange, pinkish orange, or brick red. Squamules medium-sized, generally 2-4(6) mm diam, flat to concave in the center; upper cortex partly pruinose or not pruinose; medulla usually K-, P- (in our area with no substances or trace of norstictic), rarely K+Y to R, P+O (norstictic); an acid-deficient chemotype is also common and widespread; a hyposalacinic acid chemotype is scattered throughout the range of the species; very common on highly calcareous, exposed soils, where it is almost always present ***Psora decipiens*** (Hedw.) Hoffm.

[***Psora crenata*** (Tayl.) Reinke, which occurs south of the Columbia Basin, is similar in some ways to both *P. decipiens* and *P. cerebriformis*, but is distinguished by the large squamules that are strongly depressed in the center and contain norstictic acid (K+Y to O, P+O). *Psora decipiens* also has a norstictic acid chemotype, but that species is arctic-alpine.]

1b Squamules some shade of brown or gray-pruinose over brown

2a Edges of squamules not pruinose but upturned and exposing the pale lower surface; thallus C+ pink, KC+R or pink (gyrophoric and lecanoric acids). Squamules 1-7(11) mm diam, concave with an ascending margin; upper surface pale to dark brown, often olive in the shade; apothecia dark brown to blackish, occasionally olive tinged; thallus containing gyrophoric and lecanoric acids; on soil or rock, usually associated with soil or moss over rock or rock crevices, often among mosses; widespread in western N Am, at all elevations in our area ***Psora nipponica*** (Zahlbr.) G. Schneid.

2b Edges of squamules pruinose, upturned or flat; thallus C-, KC-

3a Apothecia reddish brown; thallus light to dark brown. Squamules 1-5(7) mm diam, pale brown to medium brown (to pale greenish brown when shaded), epruinose to distinctly white pruinose along the margin, convex to slightly concave; apothecia generally reddish brown to medium brown, convex and immarginate even when young; epihymenium K+R (like all *Psora* spp.); most common on HCl+ rock and on soil in crevices in HCl+ rock, but also on HCl- substrates; one of the most frequent *Psora* spp. in our area and throughout the West, especially on exposed calcareous soils and in rock crevices ***Psora tuckermanii*** R. Anderson *ex* Timdal

3b Apothecia black; thallus dark brown, whitish, or greenish tan

4a Apothecia marginal. Squamules becoming strongly convex with numerous fissures, though occasionally slightly to deeply dimpled in the center, to 8 mm diam, variable in color from completely white pruinose on highly calcareous substrates to dull yellowish brown, olive brown, pale tan, or greenish tan on more acidic substrates; often forming thick mounds of squamules; thallus containing atranorin; widespread and common, especially on calcareous soils ***Psora cerebriformis*** W. A. Weber

Booklets

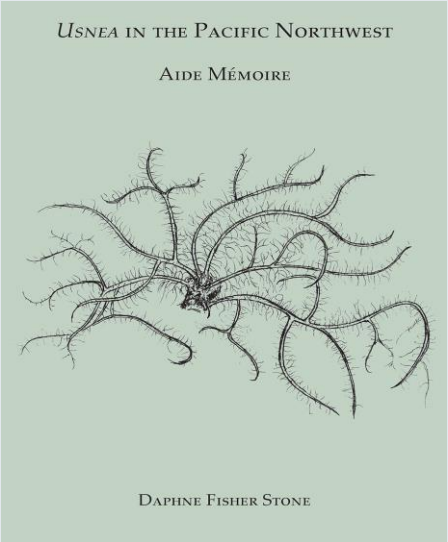
***Usnea* in the Pacific Northwest, Aide Mémoire**

by Daphne Fisher Stone, illustrated by Hannah Wilson and Rachel Werling

Inspired by an "Aide Mémoire" booklet produced by the British Lichen Society, this booklet provides a compact reference to *Usnea* in the Pacific Northwest with black and white line drawings, identification tips, and more. It should be useful to professionals and beginners alike. At the top of each page is a general statement about where the species is found in the Pacific Northwest. Each page shows several sketches. At the top left is an "icon" intended to show the general growth form. The icons used are tufted and bushy; pendulous without fibrils; pendulous with fibrils; and several with a special form or coloration, including *Usnea lambii, U. longissima*, and *U. silesiaca*. On the top right is an illustration of a large branch, cut in half lengthwise and also cut across the branch. This shows the relative thickness of the cortex (C), medulla (M), and axis (A), a useful tool for identification. Below the first two sketches are one or two sketches showing characters on main and secondary branches. A few words indicate characters that are typical of the species, such as soralia shape, isidia, papillae, and dents in the main branches. You may notice that on most species I do not describe branching patterns. This is because most *Usnea* thalli that are collected are not perfect, mature thalli, so branching patterns are not usually obvious. The bottom of each page lists similar species and some differences between them and the highlighted species. At the end of the booklet is an illustrated glossary.

Stone, D. F. 2018. *Usnea* in the Pacific Northwest, Aide Mémoire. Northwest Lichenologists, Corvallis, Oregon, U.S.A. ISBN: 978-0-9790737-3-1 (pbk.)

Cost: $12 per copy + $3 for domestic shipping and handling for 1-10 copies. (For example, 3 copies would be 3 * $12 + $3 = $39. One copy is $15 including shipping. Follow this link to order.



Miscellaneous

Lichen Blitz

Are you interested in hosting a NW Lichenologists lichen-blitz?

Once or twice a year NWL members come together for a multi-day fieldtrip to a lichen-rich area in the Pacific Northwest of North America. The purpose is to get to know each other, and learn from each other while doing what we love to do: "lichenize." These gatherings bring together much expertise. Our collaborative efforts typically result in an inventory list of species encountered, often uncover noteworthy finds (rare species, disjunct populations, others of conservation concern), and thus far one undescribed species.

If you manage a natural area, and are interested in hosting a lichen-blitz, please contact us. We are a low-maintenance group that usually camps or bunkhouses in remote locations. Formal permission to collect lichens is naturally required. NWL will periodically review its blitz requests and optional associated donations; a foray to the best candidate area will then be scheduled.

Donations will be used to support the educational, nonprofit purposes of NW Lichenologists.

Contact the secretary of NW Lichenologists