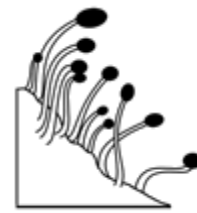




NORTHWEST LICHENOLOGISTS



2017 Newsletter

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[Stay tuned](#) for information regarding the **2017 NWL Field Trip!**

Visit our new and improved [website!](#)

Check us out on [Facebook!](#)

Upcoming NWL Events

2017 NWL Certification Exam

The 2017 Northwest Lichenologists Westside Macrolichens Certification will take place September 7 and 8 at Lewis and Clark State Park near Chehalis, Washington. Facilities include bunkhouses, a large kitchen, and on-site camping, included in the cost of the exam. Visit <http://parks.state.wa.us/369/Lewis-Clark> for more information regarding park facilities. Attendees must bring and prepare their own meals.

The cost will be \$25 per bed per night. The exam itself costs \$100 which pays for the examiners to review the written exam and check the specimens collected on the exam plot.

We also offer the use of the exam as a training. For those who feel they aren't ready to take the exam, you can participate in the field collection and identification with help in the field and in the lab from the examiners. The cost is the same as for the exam.

Visit [here](#) for more information on the Certification Exam



Part of the bunkhouse (Washington State Parks); *Nephroma occultum*

Recent NWL Events

Annual Meeting

The 2017 NWL Annual Meeting was held on March 29th through April 1st at Southern Oregon University in Ashland, Oregon, in conjunction with the annual Northwest Scientific Association meeting and the California Lichen Society. This year's theme was *Understanding and Managing Diversity: From the Landscape to the Gene*.

Special Symposia included:

- * White Oak Restoration
- * Understanding Cryptic Diversity
- * Traditional Ecological Knowledge
- * Natural History in the 21st Century

Many informative talks were given on lichen research and there was a poster presentation.

Talks included:

- Roger Rosentreter- Site suitability evaluation for translocating the federally endangered lichen, *Cladonia perforata*
- Ricardo Miranda-Gonzalez- Lichen-invertebrate interactions in tropical dry forests
- Abby L. Glauser- Cyanolichen distribution along a West-East climate gradient in Oregon
- Nils Nelson-Biodiversity and floristic patterns of epiphytic macrolichens on *Quercus garryana* in the Cascade-Siskiyou National Monument
- Robert J. Smith- Vulnerability of forest lichen communities to species loss under climatic warming
- Bruce McCune- Estimating age of rock cairns in southeast Alaska by combining evidence from successional metrics, lichenometry, and carbon dating
- Steve Sheehy- Cataloging the lichens of Lava Beds National Monument
- Tom Carlberg- *Scytinium singulare*, a new lichen species from coastal California
- Shelly Benson- Lichens in the mist: Investigating California's fog lichens
- Alexander Young- Zonation of epiphyte dwelling meiofauna in a Douglas-fir forest canopy
- Eric B. Peterson- Macro-photogrammetry using structure-from-motion (SfM) to capture lichens with high-precision point clouds

Field trip destinations included Horseshoe Ranch and Sampson Creek Preserve, both located within the boundaries of the recently expanded Cascade-Siskiyou National Monument. Sampson Creek Preserve is a newly established preserve on outskirts of Ashland. It was acquired by the Selberg Institute and is managed to maintain and promote biodiversity in this area of southwestern Oregon. It is approximately 3000 acres and provides of diversity of habitats, including white oak and black oak woodlands, savannah, chaparral, grassland, conifer forests and riparian habitats. Horseshoe Ranch was previously a working ranch that is now managed by the State of California. Habitats are similar to those of Sampson Creek, but with somewhat differing plant species and more frequent rock habitats.

For future years: We are eager to have YOU help to organize the 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. Next year's meeting will be in Olympia, Washington.



Lalita Calabria and Bruce McCune held in complete awe of the magnificent *Umbilicaria phaea* var. *coccinea* (foreground) at Horseshoe Ranch (S. Loring)

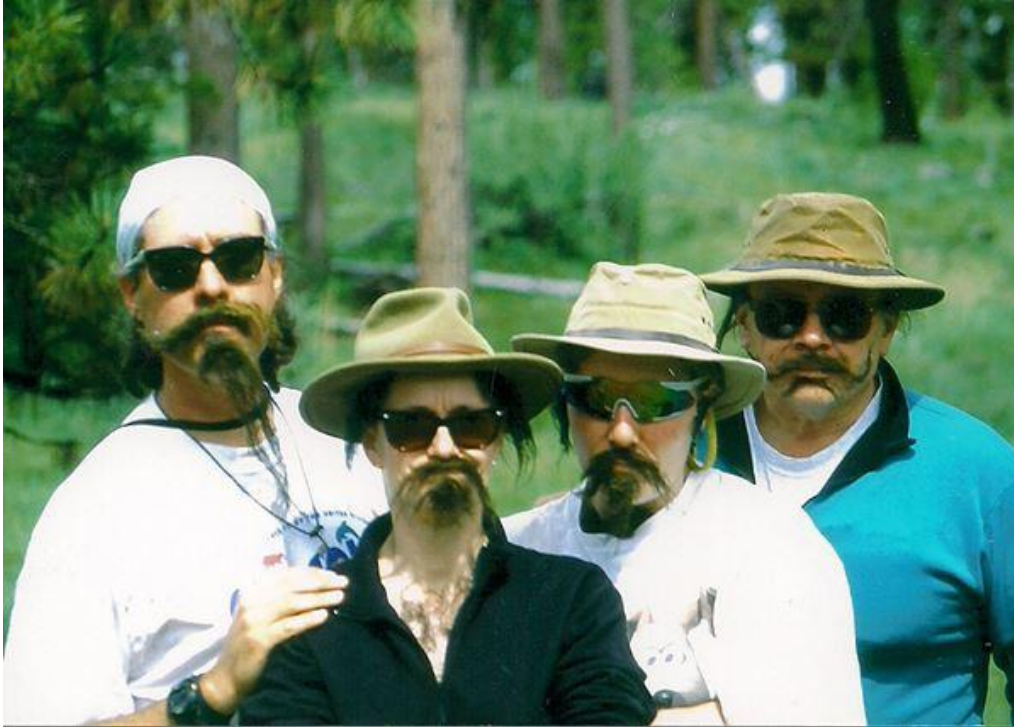


Closeup of *Umbilicaria phaea* var. *coccinea* (right) and var. *phaea* (left)

Photo Contest: Lichens and People

NWL held a photo contest in early 2017 for the best photos showing a person or people admiring, using, sampling, studying, or otherwise interacting with lichens. The winners are:

First place: *Lichen Desperados* by Terri Knoke



First runner up: *Children Admiring Saxicolous Lichens* by Rabah Khedim



Second runner up: *Lichen Mandala after the Snowmelt* by Nathaniel Stuart



Upcoming Workshops / Courses:

Northwest Botanical Institute

Pacific Northwest Bryophyte Identification Workshop – 2017(?)

Dave Wagner is considering teaching another one of his renowned bryophyte workshops during the first week of October in 2017. He would like to hear from people who might be interested in attending. His contact information is found below. The following description is provided so that potential attendees can have a general understanding of the type of course he teaches – this is an *example* from a previous course of his and does not directly apply to 2017:

This fall a four-day, intermediate level bryophyte identification workshop. This workshop is designed for participants with a strong botany background and a general knowledge of the basics of bryophyte structure and life cycles. Folks who have some experience identifying bryophytes can expect to kick their level of competence with the regional flora up a notch or two.

The class involves four days of integrated lectures, field study and lab practice. A classroom with good microscope bench space for all students is available. Students are asked to bring their own microscopes and critical dissecting tools.

The focus of this workshop will be an intensive training in using the contemporary identification keys pertinent to our area. Primary attention will be directed to mastering Contributions Toward a Bryoflora of California: II A Key to the Mosses (D. Norris and J. Shevock, Madroño 2004) with attention also given to Elva Lawton's 1971 Moss Flora of the Pacific Northwest. Identification of liverworts and hornworts will emphasize Contributions toward a Bryoflora of California: III Keys ...for Liverworts and Hornworts (W. Doyle and R. Stotler, Madroño 2006) and the just formally published Guide to the Liverworts of Oregon (D.H. Wagner, Northwest Botanical Institute 2014). Using electronic keys will be demonstrated with time for in-class practice by students with laptop computers.

Participants will receive a generous selection of valuable, mostly unpublished material, both printed and in digital format. They will get a comprehensive review of online resources and the most useful current literature from other parts of the world, too. An ample selection of study specimens will be provided. Participants will be taught lab techniques needed to observe the features used in keying with supervised practice of these techniques. More advanced students are encouraged to bring challenging or critical specimens for supervised study.

Cost is \$350 plus any housing fees. Space is limited; early inquiry is recommended. Please contact me directly at davidwagner@mac.com.

David H. Wagner, Ph.D.
Northwest Botanical Institute
P.O. Box 30064
Eugene, OR 97403-1064

Siskiyou Field Institute

To register, please go to their website <http://www.thesfi.org/index.asp>

Delving into the Lichen Genus *Cladonia*

Instructor: Daphne Stone, Ph.D.

Dates: Tuesday - Wednesday, April 11-12, 2017

Tuition: \$150

Join us in exploring the magical, diverse and complex genus *Cladonia*, sometimes known as the pixie lichens. We will discuss the vocabulary of this genus, learn how to use the *Cladonia* key in McCune & Geiser, and try to identify collections found on local field trips. We'll then test specimens with chemical spotting and learn how to interpret the results. Class will emphasize common species in all their diverse forms; a slow pace of learning will be encouraged. Students will also have time to enhance their *Cladonia* studies with drawing and photography.

The Lichens and Flora of Lava Beds

Instructors: Steve Sheehy and Sarah Malaby

Dates: Friday-Sunday, June 9-11, 2017

Tuition: \$165

Learn about the lichens that color rocks of Lava Beds National Monument and discover the wildflowers that bejewel its many habitats from sagebrush steppe to Ponderosa pine forest. This field course will investigate both vascular plants and lichens under the guidance of a lichenologist and a botanist who will introduce you to this floristically intriguing area. The Monument's rocks, tree branches and ancient soils have given rise to a diversity of lichen species, including soil crusts. We'll observe and learn about the lichens by hiking in the Monument, collecting specimens in surrounding areas and then examining them under microscopes. In a series of hikes, we'll botanize a variety of plant communities and also enjoy close-up views of spring birds and insect pollinators, too.

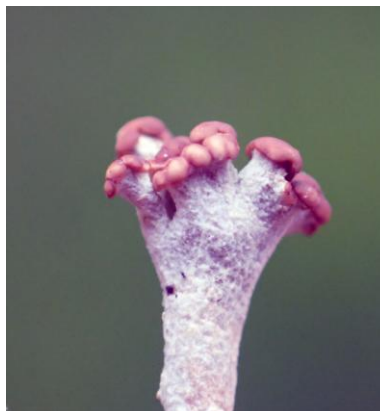
Rare Lichens of Oregon

Instructor: Scot Loring

Date: Saturday-Sunday, September TBA

Tuition: \$150

Oregon is home to many rare and sensitive lichen species. Many are also of conservation concern in adjacent states. Come and explore their uniqueness and beauty in both the field and lab with an author of the recently published book *Rare Lichens of Oregon*. Learn how to identify them in the classroom and view local sites in the nearby mountains and valleys of the Klamath-Siskiyou region. Specimens covering the vast majority of species included in the book will be on hand for examination.



Cladonia prolifica

Book Review

Field Guide to the Lichens of White Rocks (Boulder, Colorado) By Erin A. Tripp. 170 Pages. University Press of Colorado, 2016

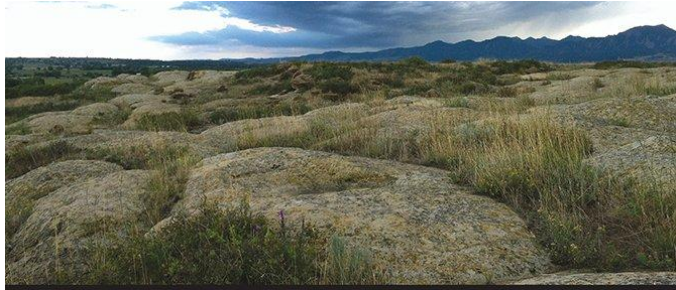
Reviewed by John Villella

White Rocks is a large sandstone rock formation that is preserved as green space in Boulder Colorado and home to many rare animals and vascular plants. With around 100 acres this relatively small area is a biodiversity hotspot due to its unique geology and habitat diversity. The lichen flora of this unique habitat is beautifully illustrated in this comprehensive guide to the lichens of White Rocks Open Space. Many of the species illustrated are common in montane settings, but western North American lichenologists exploring similar sandstone rock habitats will be happy to have this full color guide to many of the less well-known species.

The book opens with an introduction orienting the reader to the setting and putting in context the preserve in terms of its geological and protection history. The sections on lichen biology and reproduction are succinct and incorporate an up to the minute understanding of lichens, and are written in a style sure to engage even the novice. The author includes many interesting themes that seem to range wide in lichenology but then ties it back to the species specific to White Rocks. Most of the descriptive features of morphology and reproduction discussed are linked to local species, thus increasing the utility of the species illustrations.

The main feature of the book is the individual species descriptions. For each species found at White Rocks there is a full color, full page picture, many with insets showing additional details. Although this book is focused on field identification of White Rock lichens, a few pictures of the internal anatomy of apothecia, or spores etc. would have helped better visualize some of the species. Each species is described using easy-to-recognize features that focus on distinguishing species from one another in this habitat or the nearby area. This is an approach that is refreshing, getting at the features of the gestalt as well as the technical differences. It is apparent that the author uses all her senses to experience lichens, for instance in the description of *Dermatocarpon moulinii* she encourages the reader to “give it a little squish. It’s like birding by ear”.

The common names are one of my favorite components of this book, they range from very utilitarian descriptors such as “K+ crust” for *Caloplaca pratensis*, to more whimsical names such as “A Textured Dilemma” for *Lecanora garovaglii*. Some common themes for names include foods and cowboys. Here are some examples: “Over Easy Lichen” for *Candelariella rosulans*, “Western Crepes” for *Endocarpon pallidulum*, “Butter Biscuits” for *Lecanora argopholis*, “Outlaw Ashes” for *Verrucaria beltraminiana*, and “Flaming Cowgirls” for *Caloplaca saxicola*. Some may even tell us more about the lichenologist than the lichen such as “My Old Friend” for *Lecanora muralis* or “A Typical Monday” for *Xanthomendoza fallax*.



Field Guide to
the Lichens of
White Rocks

Erin A. Tripp

(BOULDER, COLORADO)



News and Projects from NW Lichenologists at Home and Abroad (Generally in the order received)

From Roger Rosentreter:

Roger graciously contributed multiple items. The first two relate to the 2016 International Association of Lichenologists meeting in Helsinki, Finland, attended by more than 300 lichenologists from around the world.

Dr. Bruce McCune receives the Acharius Medal

At each IAL meeting, held every four years, one or more people are awarded the Acharius Medal in recognition of outstanding work in the field of lichenology. At the 2016 meeting, our own Bruce McCune was awarded this medal. Among his numerous achievements, Bruce has authored or co-authored many papers and multiple books, described many new species, accessioned over 37,000 biological specimens, and co-designed the ecological analysis programs HyperNiche and PC-ORD. He is a world authority on *Hypogymnia*, co-founder of Northwest Lichenologists, and Professor at Oregon State University. As quoted from Peter Crittenden, who presented the medal to Bruce: "Bruce is highly regarded by those who work with him. Adjectives used by his close associates to describe him include amazing, supportive, generous, humble, inspiring, brilliant, productive, kind, encouraging, and inquisitive. In correspondence with his collaborators one person wrote 'Bruce is one of my favourite people on the planet' another 'Every conversation (with him) is a treasure because he is such a wonderful bank of knowledge and ideas'. It is clear that Bruce is greatly appreciated by, and a friend to, all who have worked with him." Congrats, Bruce!

Finland 🎵

Next up, we have a song performed at the IAL meeting. One should experience and understand the original Monty Python performance of "Finland" to truly appreciate this, but it is funny as stands: https://www.youtube.com/watch?v=0_WqT097JCI

Transcribed:

"Finland, Finland, Finland
The country where I want to be
Lichens, Reindeer and Drinking, or just listening to talk
Finland, Finland, Finland
It's the country for me

Your lichens so lovely
Your forests so green
Solorina crocea
Platismatia too

Finland, Finland, Finland
The country where I want
to be
Eating breakfast or dinner
Or snack lunch in the bus
Finland, Finland, Finland
It's the country for me

We'll be sorry to leave you
Hypogymnia too
Cladonia stellaris
Reindeers love to chew

Finland, Finland, Finland
The country where I want to be
Your mountains so lofty
Your tree tops so tall
Finland, Finland, Finland
Finland has it all”



The videographer

The Modern Lichen

And finally, due to the recent discovery of the role of basidiomycete yeasts in the lichen symbiosis (thanks, Toby Spribille and co-workers!), Roger has made modifications to the old saying about Freddy Fungus and Alice Algae...

Times are tough out in Nature these days
Housing costs and utility bills are up
So Freddy Fungus and Alice Algae decided it was best to get
a roommate.

So the cellist, Yo-Yo (Ma) yeast moved in.
With some great music, harmony and a bit of genetics,
The three Freddy, Alice and Yo-Yo made music together.

Yo-Yo has them covered on the outside,
Alice brings in the groceries, and
Freddy holds them all together.

From Andrea Pipp:

Exploring the Mosses and Lichens of a Livestock Ranching Operation in Mussellshell County

by

Andrea Pipp, Botanist, Montana Natural Heritage Program

January 17, 2017

What is a healthy landscape and how do you manage for one? This is a question that Bill and Dana Milton have been asking for over 30 years while working to maintain a profitable livestock ranching operation that is healthy for both land and family. Purchasing the land in 1978, the Milton family has collaborated with ranchers and scientists to return the land to native prairie and to develop a grazing management system that incorporates plant monitoring and promotes biological diversity. Today their ranching operation grazes about 450 head of cattle on nearly 15,000 acres of rolling grassland that is in part privately owned and in part leased from the Bureau of Land Management (BLM) and State of Montana.

Inspired by a request from Bill to have their ranch surveyed for mosses and lichens, I contemplated how to make this happen. In this part of central Montana, biological soil crusts and crustose lichens that grow on rock rule! It would take a team with special skills, to find and document these tiny organisms. This would be no job for the faint at heart.

A review of data housed at the Montana Natural Heritage Program (MTNHP) and recent research gathered by Dr. Bruce McCune (McCune et al. 2014) and Dr. Joe Elliott (Elliott 1993 and 2017), revealed that only one lichen and no bryophytes have been recorded for Mussellshell County (*Monoblastiopsis nigrocortina*, Caleb Morse 2008 in McCune et al. 2014). Could it be that a county of rolling grasslands, rock sculptures, and scattered tree groves has no bryophytes and only one lichen? After all, since the 1880s many famous botanists and biological expeditions have travelled Montana to catalogue mosses, liverworts, and lichens. More likely this lack of information reflects the attraction that comes with mountain lakes, wetlands, and the timber-rich habitats of western Montana. Among today's botanists and plant enthusiasts who work or play in the Pacific Northwest, there is a network of folks passionately interested in bryophytes and lichens, many of whom belong to a group called Northwest Lichenologists (<http://northwest-lichenologists.wildapricot.org/>). Could I persuade this group to come as far as eastern Montana to help us?

With an invitation from the Milton family that included meals and lodging, and transportation funding from the Montana Native Plant Society and Bureau of Land Management, a group of lichenologists, bryologists, and botanists gathered at the Milton Ranch, northeast of Roundup, in mid-September 2016 to conduct the first documented bryophyte and lichen surveys in Mussellshell County. From Oregon came Dr. Bruce McCune, author and professor at Oregon State University; Dr. Daphne Stone, consulting lichenologist and bryologist; and Rob Smith, doctoral candidate at Oregon State University. From Washington came Dr. Katherine Glew, lichenologist and retired teacher. From Idaho came Dr. Roger Rosentreter, retired State BLM Botanist and adjunct faculty member at Boise State University and Ann DeBolt, retired BLM botanist. From Montana came Wendy Velman, State BLM Botanist for Montana; Wildfire Wanderning, Assistant Botanist at MTNHP; and me, Andrea Pipp, Botanist at MTNHP. Additional help on moss identification came from Dr. Joe Elliot, consulting botanist and bryologist in Montana.

At the Milton headquarters, I turned the guest house into a laboratory, setting up dissecting and compound microscopes, a library of books and published articles, and an assortment of field and laboratory equipment. For three full days, the group spent their mornings surveying and collecting specimens and their afternoons into late evenings identifying them. Working in pairs

we surveyed the soil, rock, bark, and wood found in open ponderosa pine stands, sandstone rock outcrops, native grasslands, fields of crested wheatgrass undergoing restoration, shrublands of yucca, sagebrush, and greasewood, cottonwood groves, and old ranch fences and sheds. We found a landscape rich in habitats colonized by a diversity of mosses, lichens, and cyanobacteria – but no liverworts. Although some of the roughly 430 specimens are still under examination, the group identified at least 4 free-living cyanobacteria species, 28 moss species, and 111 lichen species!

Many noteworthy species were found including vagrant range lichens belonging to genus *Xanthoparmelia*; a very prevalent, yet sterile species of reindeer lichen (*Cladonia pocillum*); the rare moss, *Pseudocrossidium obtusulum*, and the first Montana record of the moss *Didymodon tectorum*. Vagrant range lichens are the most conspicuous soil-dwelling lichens on the ranch. They provide food for pronghorn, and live by tumbling across the prairies. When dry, their bodies curl and blow with the wind. In rain, they uncurl and photosynthesize. We believe our specimens represent five species. To further the understanding of these strange organisms, our specimens were sent to Dr. Steve Leavitt at Brigham Young University to be included in his molecular study of *Xanthoparmelia* lichens. Observation data on each identified specimen are currently being entered into the botany database at the MTNHP and at least one specimen of each species is being curated for the University of Montana herbarium (MONTU).

Surveys were conducted not only to document species, but to complement other vegetation studies. Thus, some of us surveyed near to BLM/Milton Ranch's rangeland monitoring transects and to Montana Fish, Wildlife & Park's Greater Sage-grouse vegetation plots. Rob Smith not only came to survey, but to implement the Ground Layer Indicator Method that he developed with the U.S. Forest Service's Forest Inventory Analysis Program. This non-destructive method assesses the structure and type of terrestrial bryophytes and lichens on the ground without the need to identify species.

These living crusts create a layer of resiliency that glues together soil particles and intercepts the erosive forces caused by wind and rainfall. Using the Ground Layer Indicator Method, we quantified the components and structure of the crust in five different habitats. A preliminary analysis of the living crusts found an average biomass ranging from about 11 kilograms per hectare (kg/ha) in a crested wheatgrass field to 386 kg/ha in a grassland-sagebrush habitat. Despite the difference in biomass, the number of functional groups remained similar, varying from 9 to 11 groups. The types of functional groups found included *nitrogen-fixing crustose lichens* (fix atmospheric nitrogen), *foliose macrolichens* (provide invertebrate habitat and cover bare soil), *fruticose macrolichens* (provide forage for wildlife and habitat for invertebrates), *upright turf mosses* (accrue soil and colonize bare soil), *loose turf mosses* (intercept precipitation and cool soil temperatures), *soil crusts* (intercept precipitation and are a disturbance indicator), *rock crusts* (influence rock weathering and soil formation), *Nostoc cyanobacteria* (fix atmospheric nitrogen and are early successional indicators), *crust cyanobacteria* (fix atmospheric nitrogen), *crust binding lichens* (bind together mosses, lichens, and soil organic matter), and *orange crust lichens* (nitrogen-loving lichens that colonize bare soil). A more in-depth analysis of the data is underway.

Although many habitats on the Milton ranch remain to be surveyed, including the system of ephemeral and perennial streams, this project documented at least 143 moss, lichen, and cyanobacteria species living in Mussellshell County. At the basic level, this inventory informs us of the species that live on this working ranch, and this contributes to our knowledge of their distributions and ecology. This data along with our photographs are being used to update the Moss and Lichen Field Guides on the MTNHP website, and to create a field guide for the Milton Ranch's website. For the Milton family, their website illustrates the biological life on their ranch and serves as a management tool for teaching the next generation. This project also provides insight into the ecological contributions made by biological soil crusts in Montana, and provides baseline data for their grazing management. It is through collaboration between land managers

and scientists that we can develop an awareness of the life around us, understand our interactions, and manage for a sustainable environment.

Citations

Elliott, J. 1993. *A Checklist of Montana Mosses*. Prepared by Conservation Biology Research, Helena, Montana. 45 pp.

Elliott, J. 2017 (forthcoming). *A Checklist of Montana Mosses. Revised 2017*. Prepared by Conservation Biology Research, Missoula and Montana Natural Heritage Program, Helena, Montana. 50+ pp.

McCune, Bruce, Roger Rosentreter, Toby Spribille, Othmar Breuss, and Tim Wheeler. 2014. *Montana Lichens: An Annotated List*. Monographs in Northern American Lichenology, Volume 2. Editor: Jeanne Ponzetti. Northwest Lichenologists, Corvallis, Oregon.

Smith, R.J., J.C. Benavides, S. Jovan, M. Amacher, and B. McCune. 2015. *A rapid method for landscape assessment of carbon storage and ecosystem function in moss and lichen ground layers*. *The Bryologist* 118:32–45.



The Crew. Top Row (left to right): Bruce McCune, Katherine Glew, Rob Smith, Roger Rosentreter, Dana Milton, Bill Milton, Daphne Stone, Andrea Pipp, Wildfire Wanderning
Bottom Row (left to right): Ann Debolt, Wendy Velman, & the Milton's dogs



The Milton Ranch landscape and homestead, showing typical grassland that is grazed by livestock. Bill Milton has a grazing rotation of about 3-days and his series of paddocks are bounded by single-wire electric fences. You can see one of this fences in the picture.



Vagrant range lichens, like this common wide-lobed *Xanthoparmelia chlorochroa*, live unattached to soil or rock.

Species list compiled from this project (provided by Roger Rosentreter)

Species	Organism	Species	Organism
Microcoleus	cyanobacteria	Melanohalea exasperata	lichen
Nostoc	cyanobacteria	Melanohalea exasperatula	lichen
Nostoc commune	cyanobacteria	Melanohalea infumata	lichen
Nostoc flagelliforme	cyanobacteria	Parmelia sulcata	lichen
Scytonema	cyanobacteria	Parmeliopsis ambigua	lichen
fungus	fungus	Phaeophyscia constipata	lichen
Llimoniella adnata	fungus	Phaeophyscia nigricans	lichen
Acarospora cf. badiofusca	lichen	Phaeophyscia sciastra	lichen
Acarospora fuscescens	lichen	Physcia biziana	lichen
Acarospora glaucocarpa	lichen	Physcia dimidiata	lichen
Acarospora stapfiana	lichen	Physcia tenella	lichen
Acarospora strigata	lichen	Physconia enteroxantha	lichen
Anaptychia elbursiana	lichen	Physconia muscigena	lichen
Aspicilia	lichen	Physconia perisidiosa	lichen
Aspicilia elmorei	lichen	Placidiosis species	lichen
Aspicilia hispida	lichen	Placidium lacinulatum	lichen
Aspicilia reptans	lichen	Placidium rufescens	lichen
Bacidia bagliettoana	lichen	Placidium squamulosum	lichen
Bagliettoa calciseda	lichen	Placynthiella nigrum	lichen
Bilimbia lobulata	lichen	Placynthiella oligotropha	lichen
Bryoria fuscescens	lichen	Psora decipiens	lichen
Buellia dispersa	lichen	Psora tuckermanii	lichen
Buellia elegans	lichen	Rhizoplaca chrysoleuca	lichen
Buellia punctata	lichen	Rinodina albertana	lichen
Buellia venusta	lichen	Rinodina bischoffii	lichen
Caloplaca	lichen	Rinodina pyrina	lichen
Caloplaca atroalba	lichen	Rinodina straussii	lichen
Caloplaca citrina	lichen	Rinodina terrestris	lichen
Caloplaca decipiens	lichen	Rinodina terrestris	lichen
Caloplaca jungermanniae	lichen	Staurothele areolata	lichen
Caloplaca lactea	lichen	Staurothele elenkinii	lichen
Caloplaca microphyllina	lichen	sterile crust	lichen
Caloplaca pyracea	lichen	Strangospora moriformis	lichen
Caloplaca tirolensis	lichen	Thelidium minutulum	lichen
Caloplaca trachyphylla	lichen	Thrombium epigaeum	lichen
Caloplaca xanthostigmoidea	lichen	Toninia sedifolia	lichen
Candelariella aggregata	lichen	Usnea diplotypus	lichen
Candelariella antennaria	lichen	Usnea hirta	lichen
Candelariella aurella	lichen	Usnea lapponica	lichen
Candelariella rosulans	lichen	Usnea substerilis	lichen
Circinaria hispida	lichen	Verrucaria calkinsiana	lichen
Cladonia cariosa	lichen	Verrucaria inficiens	lichen
Cladonia imbricarica	lichen	Xanthomendoza fulva	lichen
Cladonia pocillum	lichen	Xanthoparmelia camtschadalis	lichen
Cladonia pyxidata	lichen	Xanthoparmelia chlorochroa	lichen
Collema crispum	lichen	Xanthoparmelia neochlorochroa	lichen
Collema tenax group	lichen	Xanthoparmelia wyomingica	lichen
Cyphelium inquinans	lichen	Xanthoria elegans	lichen
Cyphelium notarisii	lichen	Xanthoria fallax	lichen
Cyphelium tigillare - maybe	lichen	Aloina rigida	moss
Dermatocarpon miniatum	lichen	Barbula convoluta	moss
Diploschistes gypsaceus	lichen	Brachytheciastrum collinum	moss
Diploschistes muscorum	lichen	Brachytheciastrum fenderi or B. leibergii	moss
Diploschistes scruposus	lichen	Brachythecium velutinum?	moss
Endocarpon adsurgens	lichen	Bryum argenteum	moss
Endocarpon pusillum	lichen	Bryum lanatum	moss
Evernia mesomorpha	lichen	Ceratodon purpureus	moss

<i>Flavopunctelia soledica</i>	lichen	<i>Didymodon fallax</i>	moss
<i>Fulgensia bracteata</i>	lichen	<i>Didymodon tectorum</i>	moss
<i>Fulgensia subbracteata</i>	lichen	<i>Encalyptra vulgaris</i>	moss
<i>Heppia lutosa</i>	lichen	<i>Gemmabryum caespiticium</i>	moss
<i>Heteroplacidium zamenhofianum</i>	lichen	<i>Gemmabryum kunzei</i>	moss
<i>Hypogymnia physodes</i>	lichen	<i>Grimmia</i>	moss
<i>Hypogymnia tubulosa</i>	lichen	<i>Grimmia anodon</i>	moss
<i>Lecanora epibryon</i>	lichen	<i>Grimmia plagiopodia</i>	moss
<i>Lecanora flowersiana</i>	lichen	<i>Hypnum cupressiforme</i>	moss
<i>Lecanora saligna</i>	lichen	<i>Jaffuelobryum wrightii</i>	moss
<i>Lecanora subintricata</i>	lichen	<i>Myurella julacea</i>	moss
<i>Lecanora zosterae</i>	lichen	<i>Platydictya jungermannioides</i>	moss
<i>Lecidella carpathica</i>	lichen	<i>Pseudocrossidium obtusulum</i>	moss
<i>Lecidella cf euphorea</i>	lichen	<i>Pseudoleskeella tectorum</i>	moss
<i>Lecidella patavina</i>	lichen	<i>Pterygoneurum subsessile</i>	moss
<i>Lecidella stigmatea</i>	lichen	<i>Pylaisia polyantharia</i>	moss
<i>Lepraria vouauxii</i>	lichen	<i>Schistidium ?</i>	moss
<i>Leptochidium albociliatum</i>	lichen	<i>Syntrichia</i>	moss
<i>Letharia vulpina</i>	lichen	<i>Syntrichia papillosissima</i>	moss
<i>Lobothallia alphoplaca</i>	lichen	<i>Syntrichia ruralis</i>	moss
<i>Melanohaleia elegantula</i>	lichen	<i>Tortella alpicola</i>	moss
<i>Melanohalea subolivacea</i>	lichen	<i>Tortula hoppeana</i>	moss
		<i>Tortula mucronifolia</i>	moss

From Kerry Knudsen:

I have become a permanent resident of the Czech Republic. I will be moving to Prague at the end of August where my wife Jana Kocourková and I already have a home and work at the same university. I will devote 90 per cent of my time to studying Acarosporaceae of northern hemisphere and South America. I will be happily look at any Acarosporaceae I am sent. I will be in California and southwest probably 1 to 2 months a year, visiting family, working at UCR, and doing some targeted collecting. My email for immediate future will remain Knudsen@ucr.edu and kerryknudsen999@gmail.com



Kerry Knudsen at work on San Nicolas Island. Photo by Tim Wheeler.

From Kelli Van Norman

The U.S. Bureau of Land Management has recently published the following two books, funded by the Interagency Special Status / Sensitive Species Program. Order forms will soon be posted online at <https://www.fs.fed.us/r6/sfpnw/issssp/>. Both books can currently be ordered by calling the Salem District BLM at (503) 375-5646.

INTRODUCING



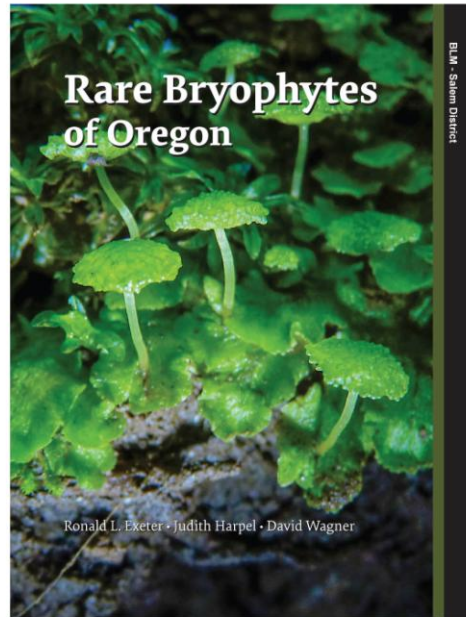
"Rare Bryophytes of Oregon"

By Ronald L. Exeter, Judith Harpel, and David Wagner

The 2013 Oregon Biodiversity Information Center's (ORBIC) species of concern list identifies 102 hornwort, 39 liverworts and 102 moss species occurring in Oregon as rare, threatened or endangered. This Bureau of Land Management publication provides for each species current nomenclature, distinctive taxonomic characteristics, technical description, similar species, ecology, mapped known distributions, references and a photomicrograph plate. This work gives a much-needed review of known species locations by both county and ecoregions. Additionally, this publication includes species proposed for inclusion into the 2016 ORBIC list.

Each publication includes a CD with both a low resolution and a high resolution copy of the entire publication.

This publication is available thru the Northwest Oregon Bureau of Land Management. The cost of the publication is \$42.00 and covers shipping and handling. Personal check, money order or VISA (phone orders) are accepted.



Orders by mail:

Bureau of Land Management
Attn.: Rare Bryophytes of Oregon
1717 Fabry Road SE
Salem, OR 97306

Phone orders: 1-503-375-5646

Copies of:
Rare Bryophytes of Oregon

_____ @ \$42.00 each Total: \$ _____

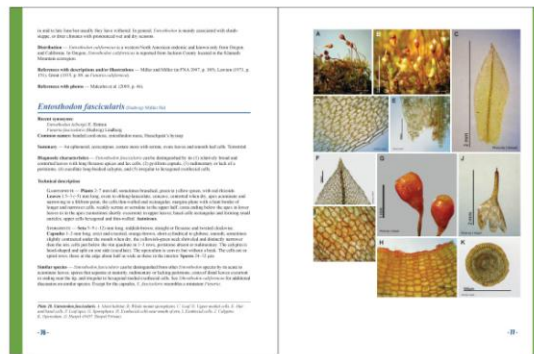
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City, State, Zip: _____

Email: _____



INTRODUCING



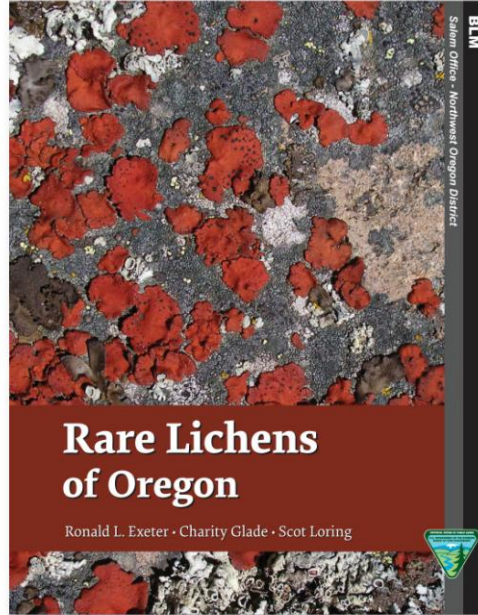
"Rare Lichens of Oregon"

By Ronald L. Exeter, Charity Glade and Scot Loring

This Bureau of Land Management publication provides species-specific information on 78 special status lichen species included in the 2016 publication of *Rare, Threatened and Endangered Species of Oregon* by the Oregon Biodiversity Information Center's (ORBIC). Additionally, *Leptogium compactum* is included and considered rare in Oregon. Individual treatments include synonyms, common names, field summaries, diagnostic characters, species descriptions, ecologies, distributions, and similar species. Also included are species distribution maps by Oregon counties and over 290 photos and drawings.

Each publication includes a CD with both a low resolution and a high resolution copy of the entire publication.

This publication is available thru the Northwest Oregon Bureau of Land Management. The cost of the publication is \$30.00 and covers shipping and handling. Personal check, money order or VISA (phone orders) are accepted.



Orders by mail:

Bureau of Land Management
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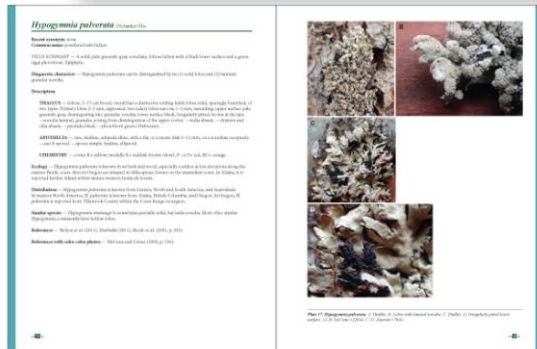
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Address: _____

City, State, Zip: _____

Email: _____



Kelli also gave a talk at the First Washington Botanical Symposium, held at the University of Washington Botanic Gardens on March 15, 2017. Her presentation, *The Micro-World Under Our Feet: Biotic Soil Crusts*, covered topics such as what soil crusts are, their ecology, why they are important, occurrences of rare/sensitive lichen and bryophyte species, recent research, and survey efforts. Her presentation can be viewed at: <https://botanicgardens.uw.edu/wp-content/uploads/sites/7/2016/11/2017-March-UWBotSymp-biotic-soil-crusts.pdf>

From Diane Haughland and Trevor Goward



LICHEN REVIVAL III

Rediscovering Macrolichens in the Canadian Rockies

Anticipated date: 4-7 October 2017

Instructors: Trevor Goward & Diane Haughland

Please join Diane Haughland and Trevor Goward in Jasper National Park for some enriched walks in the woods and an introduction to some lesser known macrolichens – some recently described, others new to science.

Against the backdrop of the Canadian Rocky Mountains, our workshop will help you find footing in the ever-shifting sands of lichen taxonomy, with a focus on tricky genera like *Bryoria*, *Hypogymnia*, and *Peltigera*. We'll introduce you to species newly discovered in BC and Alberta, in part through the work of the Alberta Biodiversity Monitoring Institute. Finally we'll be glad to help you brush up on (or learn for the first time) some of the more elusive stand-bys.

The workshop will include plenty of lab time, so please bring along troublesome specimens you'd like another opinion on. We can't promise to put names on everything, but at the very least we can tell you if you've got something undescribed or otherwise "very interesting"...

WHEN: Lichen Revival III is anticipated to begin Wednesday evening (4 October) at 7:00 PM with an introductory talk and orientation to the workshop. It will run through Thursday, Friday and Saturday, ending before dinner on Saturday afternoon, ensuring you're home for Thanksgiving.

WHERE: Wednesday's talk and all classroom work are anticipated to occur at the Palisades Environmental Centre, approximately 12 km east of the Jasper town site, in Jasper National Park, Alberta, Canada. Daily outings will take us to different habitats throughout the park.

REGISTRATION: This event will be capped at 20 people. To register or express interest, please contact Diane Haughland at diane.haughland@gov.ab.ca before **August 1st**. **We'll do another call out once our venue is confirmed, but keeners might want to be in touch sooner than later as registration will be on a first-come-first-serve basis.**

COST: Probably around \$260, but details to be finalized. Costs will include workshop, shared accommodation at the Palisades, and dinner Thursday & Friday nights. Scholarships will be available for students and others in early career; please indicate interest in your email.

RESOURCES: Resources and readings will be provided prior to the workshop, as well as keys for the genera we'll be discovering.

MORE INFORMATION: Shortly after September 1st, participants will receive an information package including a preliminary events schedule, and details on useful equipment, meals, accommodation details, weather, footwear and clothing.

Lichen Apparel and Publications

Northwest
"Lycanologists"

Letharia columbiana apparel



NWL Shirts and Caps
Email this form to Daphne Stone at daphstone@gmail.com
Once I confirm we have your items, then mail a check made out to Northwest Lichenologists to:
Daphne Stone
30567 Le Bleu Rd
Eugene, OR 97405

Shirts: LETHARIA		adult S	adult M	adult L	adult XL	adult XXL	PRICE
regular T all cotton	black						\$20.00
regular T all cotton	medium blue					n/a	\$20.00
long sleeve all cotton	black	n/a			n/a		\$20.00
Ladies T, all cotton	black				n/a	n/a	\$20.00
tissue T, V-neck, run small! design on back	black					n/a	\$20.00
tissue burnout T, V-neck, design on back, run small!	blue					n/a	\$20.00
tissue burnout T, round neck, run small!	blue					n/a	\$20.00
ladies tissue, deep V, design on back, run small!	black				n/a	n/a	\$20.00
youth T	black	youth S	youth M				\$5.00
Men's zip hoodie sweatshirt	black						\$35.00
Women's zip hoodie 50/50	black					n/a	\$35.00
shirts: LYCAN (werewolf)*							
ladies V-neck	black						\$20.00
ladies T	black						\$20.00
regular T	black						\$20.00
cap w/ embroidered logo	black						\$18.00
cap w/ embroidered logo	blue						\$18.00
round NWL patch	embroidered						\$7.00
Shipping	\$28 or less:	\$5					
	\$28-\$50	\$9					
	over \$50	ask for quote:				shipping cost:	
		daphstone@gmail.com					
* glows in the dark						TOTAL	

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.

Monograph in North American Lichenology, Vol. 3

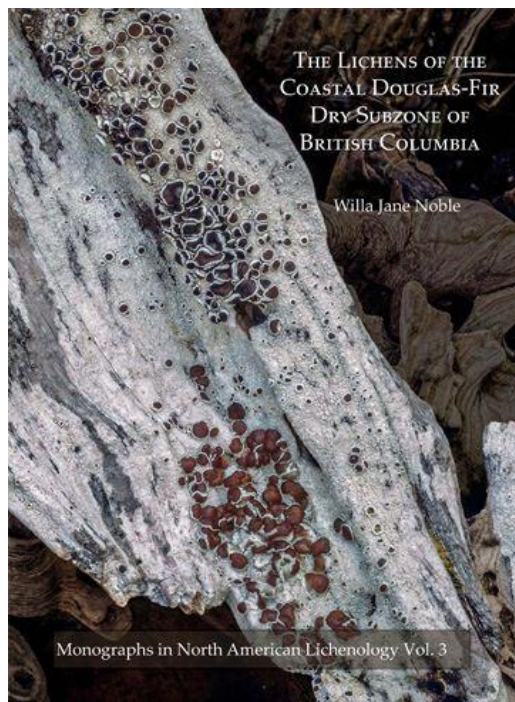
The Lichens of the Coastal Douglas-Fir Dry Subzone of British Columbia

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.

For ordering information, please use the "Store" tab at the new NW Lichenologists website. Sample pages are posted

[Order by credit card using PayPal](#) from www.nwlichens.org

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.



Monograph in North American Lichenology, Vol. 2

We are pleased to announce that we now have in hand volume 2 of *Monographs in North American Lichenology*, entitled **Montana Lichens: An Annotated List**.

Why would a non-Montanian 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.

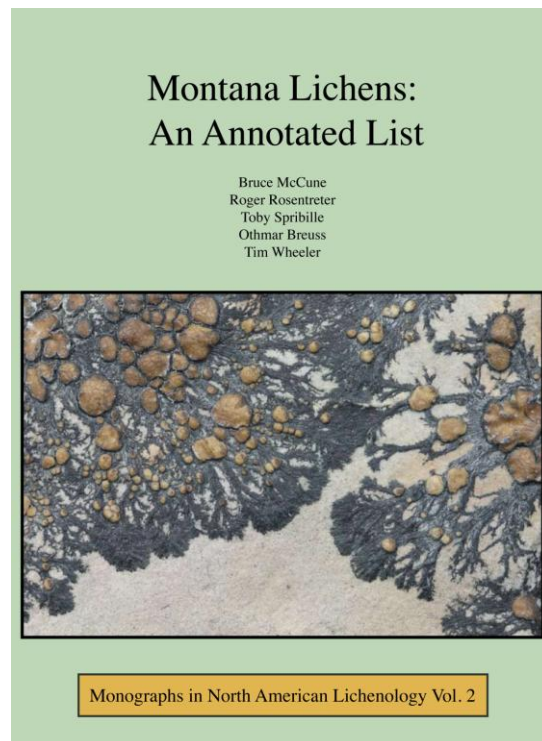
So far, a total of 1074 species are documented from Montana. Of these, 283 species are new for the state and 19 are new to North America. We discuss the rare, threatened, and endangered lichens of Montana. Priorities for surveys and monitoring are evaluated by placing species in one of eight categories,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

For ordering information, please use the "Store" tab at the new NW Lichenologists website. Sample pages are posted.

[Order by credit card using PayPal](#) from www.nwlichens.org

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



Monograph in North American Lichenology, Vol. 1

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. [[See sample pages.](#)] ISBN-10: 0-9790737-0-7 ISBN-13: 978-0-9790737-0-0

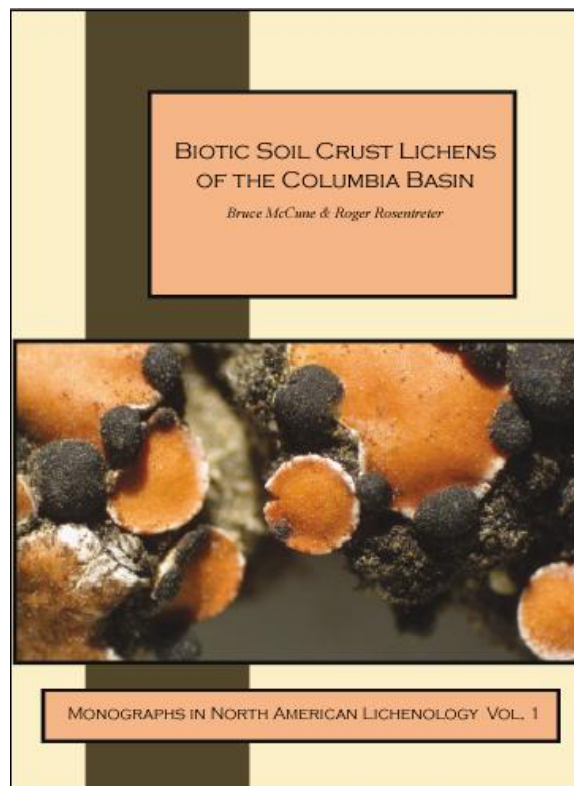
[Order by credit card using PayPal](#) from www.nwlichens.org

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.



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 and typically a species list results from our collaborative efforts.

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 needed. NWL will periodically review its blitz requests and optional associated donation, and schedule a foray to the most interesting area.

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

[Contact the secretary of NW Lichenologists](#)