



The Surprising and Beautiful World of Lichens

Jennifer Frazer



Ever noticed a rock wall covered in flaming orange or a spruce tree festooned with weird hair and wondered what it was? In Colorado, lichens can be found on any excursion, but few people notice them and even fewer know anything about them. Come be amazed by the biology and beauty of these fascinating communities of organisms that, working as a team, can live in places most other life fears to tread. You'll learn about the anatomy, growth forms, and chemistry of lichens, and then we'll go outside to study examples in the field. Having a 10X hand lens will enhance your enjoyment, but all that is really required is an open mind. Artists and photographers welcome!

Indoor Class: Thursday, May 3, 2018, 6:30 pm – 8:30 pm, Louisville

Field Class: Saturday, May 5, 2018, 9:00 am – 1:00 pm, TBD, may include some mountain driving.

Tuition: \$60.00. Limited to 12 participants. Registration opens on March 22, 2018. Photo by Howard Witkin

Jennifer is a freelance science writer and blogger of *The Artful Amoeba* for *Scientific American*. She has written for *Scientific American Magazine*, *High Country News*, *Grist*, and *National Geographic* online. She was a reporter at the *Wyoming Tribune-Eagle* in Cheyenne and won the AAAS Science Journalism Award. Trained in biology and plant pathology at Cornell University, she is a member of the Colorado Mycological Society.

Photography: Technique, Philosophy, and Practice

Chris Brown



The art and craft of photography involves seven essential ingredients, which will be explored in this intermediate level workshop: Learning to See, Equipment, Exposing Properly, Focusing Carefully, Composing Thoughtfully, Understanding Color, and Looking at Prints. Four involve aesthetics, emotions, and philosophy, which can challenge and intrigue one for a lifetime. Three are craft techniques which are easy to learn and become second nature. This workshop is divided into three sessions. First, we will discuss the physiology and psychology of seeing, the common demons that get in our way, and how to become more deeply involved in our visual experience. Next, we will discuss and practice techniques for exposing properly, focusing carefully, and composing thoughtfully along a 4-mile stretch of

trails, with the goal of developing a workflow that becomes second nature. Finally, we will gather and show our work from the field. Good feedback from others is often the most valuable part of any photography workshop.

Indoor Class: Wednesday, May 9, 2018, 7:00 pm – 9:00 pm, Boulder (Rain or snow dates – May 14-16).

Field Class: Thursday, May 10, 2018, 9:00 am – 3:00 pm, Boulder area

Indoor Class: Friday, May 11, 2018, 7:00 – 9:00 pm, Boulder

Tuition: \$120.00. Limited to 12 participants. Registration opens March 28, 2018.

Photo © Chris Brown

Chris is a true artist, using his photography of the American West to show subtle colors, sweeping panoramas, and quiet details of the natural world. His photos are mostly landscapes, but also include close-ups of tree roots, rocks, water, and ice. He has photographed the Grand Canyon, Boulder County including the 2013 flood, Canyonlands and Alaska. His photographs have been published in *Arizona Highways*, *Outside* and *National Geographic* and are exhibited throughout the country, including the Denver Art Museum. He teaches workshops and has written a stunning book, *Path of Beauty*. Please visit <http://chrisbrownphotography.com>.

Warblers of the Front Range

Paula Hansley



The Front Range hosts at least 8 species of breeding warblers, and up to 20 species may be seen here during migration. Class members will study the songs of breeding species and learn to read their sonograms. We'll focus on identification, song, behavior and the habitat preferences of our breeding warblers, but we will also discuss the evolution, biology and migration of all North American warblers. We'll also discuss the conservation status of these long-distance migrants in their South American winter ranges, where current research projects demonstrate the success of shade-grown coffee plantations in halting the population decline of many species.

Indoor Class: Thursday, May 10, 2018, 6:00 pm – 8:30 pm, Boulder

Photo by macphailwoods.org

Field Classes: Saturday, May 12, 2018, 7:00 am – 12:30 pm, Boulder area

Saturday, May 26, 2018, 5:30 am – 12:30 pm, Chatfield State Park, Littleton

**May 26th
class now
June 2**

Tuition: \$95.00. Limited to 10 participants. Registration opens on March 29, 2018.

Each car must have a State Parks pass (\$8.00/car/day). **We will cover about 100 miles**, round trip, to CSP.

Paula has been interested in birds since the age of six when she began listening to and watching birds in her parents' three acres of hardwood forest in southwestern Ohio and during summers in the coniferous forest of northern Minnesota. In these places, she became fascinated by warblers. Paula has participated in many bird studies, including environmental impact statements for the Denver Water Board, bird inventories on Louisville open space, and bird surveys on Boulder City and County open space.

Grassland Ecology

Steve Jones



Camp under a full moon on the shortgrass prairie of northeastern Colorado and learn about native grasses, grassland birds and insects, and the evolutionary ecology of this "land where the sky began." After a hike at Crow Valley CG (an e-bird hotspot), we'll overnight in a remote part of **Pawnee National Grassland**. In August, we'll take a close-up look at grassland butterflies and insects on a morning stroll at South Boulder Creek State Natural Area, which features a mosaic of wet meadows and native grasses, including a remnant of the tallgrass prairie ecosystem. Participants can rendezvous with Steve in the Sandhills of Nebraska in fall to experience the last expanse of uninterrupted prairie in N. America.

Indoor Class: Tuesday, May 15, 2018, 6:30-9:00 pm, Boulder area. If time and weather allow, we will take a short walk through a mixed-grass prairie.

Field classes: Tuesday, May 29, 2018 - Wednesday, May 30, 2018, overnight camping in Pawnee National Grassland, NE Colorado.

Field class: Sunday, August 5, 2018, 7:30 – 11:00 am, Boulder area

Tuition: \$120.00. Limited to 8 participants. Registration opens on April 3, 2018.

Photo by Steve Jones

We will cover 175 to 200 miles on our trip to the Pawnee NG. Dispersed primitive camping (no services) is free and **participants must camp with the group**. Lodging is unavailable in the immediate area.

Steve is author of *The Last Prairie* and co-author of *Peterson Field Guide to the North American Prairie, Wild Boulder County, Colorado Nature Almanac, and Butterflies of the Colorado Front Range*. He taught in the Boulder Valley Public Schools for 33 years and has taught BCNA field classes for the last 22 years. You won't want to miss the chance to join him for this very special immersion experience.

To register, go to www.bcna.org and click on "Activities/Classes."

A link for each class will take you directly to its registration page on Eventbrite.

Mark registration opening dates on your calendar now for your best chance of success!

Foothills Bird Identification: Visual, Vocal, and Habitat Clues

Sue Riffe



Did you ever ask yourself, “Wow, what was that bird?” This class will help you answer that question. We will study the twenty most common bird species found in Boulder County between 5,000 – 7,500 feet in elevation. You’ll learn how to identify birds by sight and sound. We will also explore which bird occurs in which habitat. With a little practice, you’ll be able to recognize a specific habitat, make your best guess about what birds should be there, and then identify them by sight, sound, or both. This class is designed for all levels of birding and mobility. Bring your binoculars and be ready for some fun!

Note: You may take this class as well as Sue’s Montane Bird class at a discounted price of \$150.00 for both.

Indoor Class: Tuesday, June 5, 2018, 6:00 pm – 8:30 pm, Boulder area

Field Class: Saturday, June 9, 2018, 7:00 am – 12:30 pm, in the foothills around Boulder

Tuition: \$80.00. Limited to 12 participants. Registration opens on April 24, 2018. Photo by Eugene Beckes

Sue began her birding career visiting St. Marks NWR in Florida with some friends. After seeing an American Kestrel in a scope, she was hooked! Having lived in Ohio and Florida, she now calls Colorado home. Sue has actively birded in all 64 counties in the Rocky Mountain state and sees over 300 species annually. She’s the owner and tour leader of *She Flew Birding Tours*, and offers trips in Colorado, Florida, Arizona, Maine, migration hotspots, and international destinations. She has been a professional music educator for over 20 years and enjoys sharing her love of birds and bird songs with all ages.

Asters, Brasses, and Grasses

Jennifer Ackerfield



Three of the most difficult and largest plant families are the Asteraceae (asters), Brassicaceae (mustards), and Poaceae (grasses). They may be challenging, but a working knowledge of just these three will allow you to identify one of every eight plants in the world! At our indoor session we’ll cover the recognition characters, specific terminology, and morphological characteristics you will encounter when keying out members of these families. In the field we’ll dissect flowers, examine their specific parts, and key out plants using *Flora of Colorado*. Don’t be afraid of these families any longer! We’ll use hand lenses to view parts close-up. Bring your camera and questions, and be prepared to have fun while learning about Asters, Brasses, and Grasses!

Indoor class: Friday, June 22, 2018, 6:00 pm – 9:00 pm, Boulder

Field class: Saturday, June 23, 2018, 8:30 am – 1:00 pm, Boulder area

Tuition: \$65.00. Limited to 12 participants. Registration opens on May 11, 2018. Photo by Mary Stuber

Jennifer is the author of *Flora of Colorado*, and has been studying the flora of Colorado for over 20 years. She is the assistant curator at the Colorado State University Herbarium and teaches Plant Identification and Grass Taxonomy at CSU. She leads workshops and field trips for the Colorado Native Plant Society, Crested Butte Wildflower Festival, and Colorado Native Plant Master Program. She is currently a PhD candidate at CSU studying the systematics, bio-geography, and diversification of native thistles in North America.

Montane Bird Identification: Visual, Vocal, and Habitat Clues

Sue Riffe



Did you ever hear a bird and ask, “I wonder what that was?” This class is designed to help you answer that question. In this class we will explore the elevations of 7,500 – 9,000 feet and study twenty different bird species you can find there. Bring your binoculars and be ready for some fun! Please see the description of *Foothills Bird Identification* above for more information on what the class will cover, and to read Sue’s biography.

Note: You may take this class as well as the Foothills Bird class at a discounted price of \$150.00 for both.

Please see next page for dates/times & pricing.

Indoor Class: Tuesday, June 26, 2018, 6:00 pm – 8:30 pm, Boulder area

Field Class: Saturday, June 30, 2018, 7:00 am – 12:30 pm, RMNP area

Tuition: \$80.00. Limited to 12 participants. *Registration opens on May 15, 2018.*

We will cover about 85 miles on our field trip, round trip from Boulder.

Butterfly Habitats in Front Range Ecosystems

Amy Yarger



Native butterflies often have specific needs in terms of shelter, larval food plants and nectar. This class will cover butterfly/host plant interactions, life cycles of common species, and how the diversity and structure of a habitat may encourage or discourage different butterfly species. While visiting a few distinct butterfly habitats, both manmade and natural, we'll also discuss how seasonality plays a role in the butterflies you are likely to see in the Front Range.

Indoor Class: Thursday, July 12, 2018, 6:30 pm – 8:00 pm, Butterfly Pavilion in Westminster

Field Class: Sunday, July 15, 2018, 8:00 am – 11:00 am, Westminster/Broomfield area

Tuition: \$35.00. Limited to 12 participants. *Registration opens on May 31, 2018.*

Photo by Mary Stuber

Amy's work at Butterfly Pavilion, where she has been the Horticultural Director since 2006, touches on her many passions: plants, insects, habitat conservation, and science education. She currently heads the Urban Prairies Project, which restores habitat in urban and suburban green spaces in Westminster and Broomfield.

Lost Worlds Underfoot: Looking Back At 300 Million Years of Boulder's Geologic History

Roger Myers



Over the past 300 million years more than two miles of sedimentary deposits offer testimony to the varied environments and landscapes of Boulder's past. They record the leveling and burial of an ancestral Rockies range under thick deposits of its own eroded debris. The leveling of the land led to the inundation of all of Colorado beneath a shallow sea that would cover the area for 30 million years. With the rising of the present-day Rockies, about 65 million years ago, the sea retreated and Colorado re-emerged. Along the mountain front all those sediments, now lithified, were pushed upward and tilted outward, allowing their history to be observed like the chapters of a book.

First, we'll have an indoor overview of their stories. Later we'll drive to locations where some of these rocks are exposed to look at the lithologic characteristics that provide insights into their mode and environment of deposition. We'll also learn how their relative hardness or softness and orientation helped determine the landscapes we enjoy today. Expect some hiking over moderate terrain.

Indoor Class: Thursday, August 2, 2018, 6:45 pm – 8:45 pm Boulder

Field Class: Saturday, August 4, 2018, 9:00 am – 2:00 pm, Boulder area

Tuition: \$55.00. Limited to 12 participants. *Registration opens on June 21, 2018.*

Photo by Sue Norris

We will cover about 60 miles on our field trip, round trip from Boulder.

Roger got hooked on nature as a kid wandering the palmetto scrub and backwaters of the west coast of Florida. A trained geologist, he spent three years in the Peace Corps in Ghana teaching geology, along with math and general science. A second degree in graphic design led him to a career in technical and scientific illustration. He has worked as a volunteer naturalist in California, Texas, and now Colorado, where he volunteers for both Boulder and Jefferson Counties' open space programs.

**Registration for each class opens exactly six weeks before the first meeting date.
Questions? Email Mary Stuber at canoemary@ecentral.com, or call 303-720-9547.**