



Photo by Esther Mathieu

July 2023

Notes of a Naturalist

A newsletter bringing you the species, landscape, history, and happenings of the Taft-Nicholson Center

Lakeview Happenings

We had a busy July here in Lakeview, Montana! We started the month off with a group from Montana State University's Osher Lifelong Learning Institute. This group of older adults had a short but in-depth introduction to Centennial Valley, guided by local expert and former Red Rock Lakes Wildlife Refuge manager Bill West. We were then joined by brass musicians from the University of Utah's School of Music, who filled the valley with beautiful music during their weeklong stay with us. Their visit and many hours of practice culminated in a community concert at our outdoor stage.



Brass musicians perform for the community
Photo by Esther Mathieu

The Dee's Artist Colony, led by Jackie Osherow from the University of Utah English Department, joined us at the end of the month. Their week here



The Artist Colony enjoys stunning views on a hike
Photo by Melissa Parks

is dedicated to their creative pursuits, but they take breaks from their work to hike and canoe and find inspiration from the Centennial Valley landscape. This has also been our fourth summer hosting faculty fellows! Our faculty fellowship program allows faculty from the University of Utah dedicated time to work on their projects. This year we've had 11 faculty joining us from various departments:

- José Gutiérrez (Department of Education) • Paisley Rekdal (Department of English) • Danielle Endres (Department of Communication) • Michael Middleton (Department of Communication) • Chris Ingraham (Department of Communication) • Ofer Rog (School of Biological Sciences) • Erika George (S.J. Quinney College of Law) • Carol Sogard (Art Department) • Joanne LaFleur (College of Pharmacy) • Anna Neatrou (Marriott Library) • Rebekah Cummings (Marriott Library)

You can find out more about our faculty fellows [here](#).

Wildflower Spotlight: Thieving Plants

Most plants are autotrophs, making food for themselves using water, carbon dioxide, and the sun's energy. But others don't play by these rules. About 1% of all flowering plants steal food. This is a trait that has evolved multiple times in the evolutionary tree of angiosperms, found in over 4,000 species within 20 different plant families. Some of these are hemiparasites, taking only some of their required resources from other plants. These include Elephant's head (*Pedicularis groenlandica*) and Paintbrush (*Castilleja* spp) found in Centennial Valley. Since they have green leaves and are able to photosynthesize, they don't completely depend on host plants.



Pinedrops

Other parasitic plants have lost their ability to photosynthesize, fully relying on other species for nutrients. These obligate parasitic plants are usually entirely red or white, lacking the green chlorophyll that is needed for photosynthesis. Pinedrops are a great example of this in Centennial Valley. These otherworldly plants have long red stems, little yellow vase-shaped flowers, and small vestigial leaves that are effectively useless since they can't photosynthesize.

Spotted Coralroots (*Corallorhiza maculata*) are another parasitic plant species found here. Like pinedrops, they have reddish stems and nearly non-existent leaves. These orchids have characteristically beautiful flowers with white petals covered in purple spots that attract unusual pollinators like misquitoses and gnats. Pinedrops and coralroots are found in montane forests, but they don't feed off of the trees themselves. These species are mycoheterotrophs, feeding by tapping into the mycorrhizal fungi that grows in association with these trees. Mycorrhizal fungi provide nutrients and water to plants, who in turn provide food to the fungi in the form of sugar, and mycoheterotrophs essentially cheat this mycorrhizal system.

Because parasitic species take without giving back, and often harm host species, it's easy to turn them into botanical villains. But these fascinating plants are a part of the thriving ecosystem, in Centennial Valley and elsewhere. They help shape the plant communities around them, even if we don't see that directly. They can be a reminder of the true drama that exists in what otherwise appears to be a tranquil forest. They also challenge our tendency to put things into strict categories by defying our ideas of what a plant is.



Spotted Coralroot

Meet the Artist: Esther Mathieu



Esther Mathieu is a writer and artist from Queens, New York, currently living in Salt Lake City, where they are pursuing a Master's in Environmental Humanities. Esther's childhood was dedicated to art, writing, and the violin, and full of a fierce attachment to lepidoptera, cats, and the ocean. As a graduate student, Esther is exploring the ways in which wetland ecologies can serve as design instructions for climate adaptation. Their artistic work explores questions of mental health and illness, mythologies, ecologies, and engagement with place, and sits mostly in the worlds of poetry, photography, book arts, and collage. When they are not in the field (or the classroom), they can be found plotting the beginnings of seventeen simultaneous projects, hanging with their cat, Willow, biking from vintage store to bookshop, or baking an abundance of chocolate desserts.



Paintbrush