ROCKY MOUNTAIN Herbarium

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RM Launches K-12 Education Initiative

The RM has long welcomed students of all ages into its hallowed halls. Now, the RM is hoping to become accessible to classrooms across the state that cannot travel to Laramie.

Graduate student Matt Bisk (see Dec. 2021 newsletter) created phenomenon-based lessons that utilize the resources of the RM. Explicit connections to Wyoming science standards are provided for all grade levels; however, most of the lessons may be most appropriate for upper elementary and middle school students.

Phenomenon-based learning requires students to explore and explain an observable phenomenon. One of the new lessons asks students to address the question "Why has cheatgrass spread so far in Wyoming since the early 1900's?" Using images of selected specimens, they are able to compare the traits and adaptations of cheatgrass to those of other Wyoming species. Maps of cheatgrass distribution – based on RM specimen data dating back to 1900 – show the spread of the species across Wyoming through time, enabling students to make connections to specific environments, human behavior, and their own community.

In addition to the online resources, educators can request the loan of a kit that includes supplies to support student activities, such as full-size prints of the specimens, books, native grass seeds, and even a plant press. The online resources and the kit request form can be found on the RM website.

The RM has long been a leader in specimen digitization, and its database and images are used daily by researchers around the world. However, those resources have not, until now, been readily accessible to K-12 students and educators. "I am very excited to see the RM expand its audience to include more young people and educators," said RM Director Dave Tank. "The RM contains the largest collection of Rocky Mountain plants in the world, and we want students and teachers to know it's here and to be able to access this treasure trove of information and data. Today's students will be tomorrow's stewards of our biodiversity, and knowledge of the state's flora will make them better stewards. I can't think of many more important uses of RM collections."

Director's Note

We are all very excited to transition into the summer and the start of the field season! There are a couple of opportunities coming up soon to join the RM in the field (see next page) and I look forward to that opportunity to get know more of you in our botanical community across the state.

Our inaugural Herbarium Internship course wrapped up this week. We had an excellent cohort of students that were broadly trained in herbarium activities ranging from collecting to digitizing, and everything in between. Between the five interns, they mounted nearly 2,400 specimens, filed almost 9,000 specimens, and helped to digitize (barcoding, imaging, and georeferencing) 4,600 more. You can read more about one of our interns - Hannah Morneau - in this issue.

Finally, we are excited to announce the launch of the Education tab on our website where you can find educational resources focused on herbaria. Many thanks to UW Biodiversity Institute Associate Director and RM Team member Dorothy Tuthill for spearheading this collaboration

between UW Education graduate students, the Biodiversity Institute, and the RM. More on this exciting development in this issue.

RM Faces: Hannah Morneau

UW junior Hannah Morneau has been really enjoying her semester as an intern in the RM. Hailing from Lander, Hannah has a double major in Agroecology and Rangeland Ecology and Watershed Management. She was aware of herbaria, and had even done a bit of collecting, but she "discovered" the RM during a class visit last semester. Now that she's given the internship a try, she says it has been great. Dave, Ben and Ernie are "amazing" and the class has been "super-organized." She and the other four interns have learned about and practice many of the skills required to manage a collection. Two of Hannah's favorite skills are sorting, because it hones her plant identification skills, and georeferencing. The latter sometimes requires the use of old maps to pinpoint locations of past collections, which can be compared to current locations for interesting insights into changes in species distribution over time. Hannah recommends this internship to any student in plant sciences or natural resources management.

When asked if sees herself working in a herbarium in the future, Hannah admits that she prefers to work outdoors. But given her career choices, she expects to be visiting herbaria, taking advantage of the wealth of resources they provide. The RM, she says, "is a hidden gem, and it's here to be used."

There's no better place to visit the RM than outdoors!

Phlox kelseyi flowers profusely in Red Buttes' alkaline wet meadows. B. Heidel photo

Laramie area, May 19, 6:30 pm: Plant walk to view the unusual flora found at Red Buttes Environmental Biology Laboratory. Details and registration at: https://www.rockymountainherbarium.org/index.php/workshops-events.

Thermopolis, June 5: Ever want to know what plant specimen collecting is all about? RM will be leading an all-day floristic survey at Hot Springs State Park, as part of the Wyoming Native Plant Society annual meeting. Registration is required: http://www.wynps.org/activities/2022-annual-meeting/.

Guernsey State Park, June 10: RM will be presenting two plant identification workshops at the Wyoming BioBlitz. Registration is required: https://rockies.audubon.org/naturalist/wyoming-bioblitz.