

Intermountain Botanical Foray 2023 – Desert Experimental Range

By Julia Hobbie

What could be better than spending a long weekend botanizing in the cold desert ecosystem of Millard County, UT? How about doing so with over thirty other botanical enthusiasts!

In 2023 we were lucky enough to get to visit the Desert Experimental Range (USDA Forest Service, Rocky Mountain Research Station) in Millard County, UT. A huge thank you to our hosts at the Forest Service, Sarah Barga and Rob Heckman! This research station was established in 1933 to study Great Basin cold desert rangeland. The



Foray participants on the Tunnel Springs Mountains, looking south

We did exactly that at the first annual Intermountain Botanical Foray this June. The Foray is a new program organized out of the Intermountain Herbarium at Utah State University: Each year we will coordinate a botany trip that is open to botanists of all types and levels of experience. We will visit a different region of the Intermountain West each year to document the local flora and build community among botanists. Details of the 2024 Foray are being ironed out now—we will post details at usu.edu/herbarium/—hope to see many of you there!

ecosystem is mostly salt-desert shrubland in the valleys and alluvial fans, with a low point at the Pine Valley Hardpan dry playa (5,075 ft elevation). Hills and mountains culminate in the Tunnel Springs Mountains (8,457 ft); the slopes are dominated by pinyon, juniper, and mountain mahogany.

This year's Foray benefitted from an unusually wet winter which resulted in greener vistas—and more orange as well due to a superbloom of *Sphaeralcea grossulariifolia*. The team collected 264 herbarium specimens and made over 1700 observations on

Cover photo by Julia Hobbie.



The inaptly named *Cymopterus basalticus* (it usually occurs on dolomite); and *Sphaeralcea caespitosa*.



Trifolium friscanum, endemic to four mountain ranges in Beaver and Millard Counties; and *Micropuntia pulchella*, a geophytic, "deciduous" cactus.

iNaturalist, comprising 200 plant species. Check out our iNaturalist project here: <https://www.inaturalist.org/projects/intermountain-botanical-foray-2023-desert-experimental-range>.

It was especially neat to see a number of narrow endemics such as *Cymopterus basalticus* (dolomite spring parsley), *Sphaeralcea caespitosa* (tufted globemallow),

Eriogonum eremicum (limestone buckwheat), *Physaria occidentalis* v. *cinerascens* (Tunnel Springs Mountain bladderpod), *Penstemon nanus* (dwarf beardtongue), and *Penstemon concinnus* (Tunnel Springs beardtongue).

Trifolium friscanum (Frisco clover) was spotted up in the mountains, and down in the alluvial fans we saw my new favorite cactus, *Micropuntia pulchella* (sagebrush cholla).



Rhinotropis intermontana; *Myriopteris gracilis*.

This is a petite cactus with pink flowers that is sometimes called “deciduous” because it sheds its pads in winter and dies back to an underground tuber.

Two other favorites were the delicate flowers and spiny



participant spotted *Lewisia maguirei*, previously unrecorded from Utah! This species grows on rocky slopes at high elevation and was previously only known from Nevada. We also recorded two probable new county



Lewisia maguirei, a new record for Utah; and *Linum puberulum*, a new record for Millard Co.

branches of *Rhinotropis intermontana* and the only fern of the trip, *Myriopteris gracilis*, which we didn’t see until the very last morning.

One of the most exciting moments was when one



records and nine additional species likely new to the DER (see chart).

Two hybrids offered fun puzzles and resulted in much



Probably *Eriocoma hymenoides* x *E. arida*; *Eriogonum shockleyi* x *E. eremicum*, displaying similar features to when *E. shockleyi* hybridizes with *E. natum*.



Foray participants marveling at a *Micropuntia* tuber.

discussion. An *Eriocoma* hybrid was first identified as *E. x bloomeri*, but that would require a parent of *E. occidentalis*, which is not present near the DER. We settled on a

likely ID of *Eriocoma hymenoides* x *E. arida*. And one unusual *Eriogonum* individual was finally identified as *Eriogonum. shockleyi* x *E. eremicum*.



Terraria haydenii, discovered in 2021; petroglyphs at the DER



2023 Participants: Matt Real, Matt Berger, Adair Schruhl, Anna Miera, Chinedum Anajemba, Rob Heckman, Marguerite Trost, Andrey Zharkikh, Maddie Houde; Meghan Slocombe, Bebe Suepukdee, Natasha Pagel-Aprill, Beth Haney, Margaret Haney; Caldonia Carmello, Jerry Schneider; Montana Horschler, Otto De Groff, Julia Hobbie, Will Pearce, Carl Rothfels, Elana Feldman, David Adelhelm, Kris Valles. Not pictured: Lan Wei, Zach Nielsen, Leo Harden, Kai Briem, Bryce Silver-Bates, Jamey McClinton, Janel Johnson, Bailie Bautch-Breitung.

New records:	(Based on Intermountain Biota and Utah Flora 5th ed.)
<i>Lewisia maguirei</i>	Not reported from Utah
<i>Linum puberulum</i>	Not reported from Millard Co
<i>Sisymbrium loeselii</i>	Not reported from Millard Co
<i>Alyssum desertorum</i>	Reported from Millard Co, but not DER
<i>Centaurea virgata</i>	Reported from Millard Co, but not DER
<i>Chylismia scapoidea</i>	Reported from Millard Co, but not DER
<i>Descurainia incisa</i>	Reported from Millard Co, but not DER
<i>Erythranthe rubella</i>	Reported from Millard Co, but not DER
<i>Fallugia paradoxa</i>	Reported from Millard Co, but not DER
<i>Nama demissa</i>	Reported from Millard Co, but not DER
<i>Sisymbrium altissimum</i>	Reported from Millard Co, but not DER
<i>Verbascum thapsus</i>	Reported from Millard Co, but not DER

This was a great opportunity to benefit from each others' expertise, and we organized each day's excursions so that there was at least one person more familiar with the flora in each group.

There were a few trips outside the boundary of the DER, including an *Eriogonum*-focused trip and a trip to see the tiny mustard *Terraria haydenii*, which grows in rocky alkaline substrates of the Wah Wah mountains and was only discovered in 2012. After morning and afternoon botanizing trips, we spent each evening pressing and identifying our collections, with much collaboration and some debate. There was also plenty of time to indulge in the occasional non-botanical activity, such as checking out the local petroglyphs, relaxing by the campfire, and

scorpion hunting with a blacklight.

The Foray was a wonderful chance to come together with others who are equally enthusiastic about plants and to explore this unique ecosystem. We hope you will consider joining us in 2024! Details for 2024 will be posted at usu.edu/herbarium once determined; or email julia.hobbie@usu.edu with any questions.

Photos from Lan Wei (group photos, *Cymopterus*, *Trifolium*, *Rhinotropis*, *Myriopteris*, *Lewisia*, *Eriogonum*), Julia Hobbie (*Sphaeralcea* 1, *Micropuntia*, *Terraria*, petroglyphs), Carl Rothfels (*Sphaeralcea* 2-4), Matt Berger (*Eriocoma*), and Will Pearce (*Linum*).



Bonus quiz question: How many *Sphaeralcea* taxa are represented in the three observations above from the DER? (We don't know the answer...)