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NOTES FROM THE FIELD by Erik Ertsgaard

It is nearing the end of my summer internship with Rare Care, stationed at Mount Rainier National Park, and I am excited to share what we found! The internship opportunity sprung from a collaboration between Rare Care and the National Park Service to confirm and improve the accuracy of rare plant records within Mount Rainier National Park's boundaries. For the Park Service, this work will provide vital spatial information about rare plants to inform management decisions. It's also a special chance to document plants of one of the state's most unique habitats—the most prominent mountain in the Lower 48.

In June, I and my partner for the summer, Park Service intern Alison Munayalla-Bohorquez, started with a list of 34 species of varying ecosystems and levels of rarity. By September, we visited 17 of those species across 35 sites in every corner of the park. Of those 17 species, we confirmed 14 to be species of conservation concern and three to be misidentified common species. We synthesized these data into a map dataset, so the park knows where not to build new campgrounds, trails, or fire lines and which habitats are especially valuable to preserve. It was not only a productive summer scientifically, but it also included tremendous personal development as a botanist and student of these landscapes.

In lieu of in-depth findings from our season on Tahoma, here are some highlights that encapsulate the joys of our season:

- Yellow coralroot (*Corallorhiza trifida*) was our first find of the season. Joined by project supervisors, Wendy Gibble and Beth Fallon, we located this parasitic orchid of mature forest edges in a roadside ditch!
- Howell's violet (*Viola howellii*) is a small violet native to PNW lowland meadows and rocky outcroppings. Before we identified it from a characteristic spur pouch and tuft of hair on its stigma, the violet hadn't been recorded in the park since 1935.
- King's crown (*Rhodiola integrifolia*) is a charismatic, dioecious succulent that has been frequently documented by recreational botanists along one of the more popular subalpine trails in the park. By recording its presence, we hope our data serve as one more reason for park officials to discourage off-trail use as the species has only two other recently observed populations statewide.
- Strickland's umbrella-wort (*Tauschia stricklandii*) became a frequent sight for us despite being a near-endemic to the park. One of my favorite excursions was to Grand Park, an eerily-flat field that stretched for miles with thousands of *Tauschia*.

Erik while on a trail in the Tatoosh Range, with Mt. Rainier in the background. Photo by: Jemma Clark

- Vanillagrass (*Hierochloe odorata*) is a personal favorite of mine, being the titular species of one of my favorite books, Braiding Sweetgrass, by Robin Wall Kimmerer. Finding this species was great practice in grass ID, a gorgeous trip into the wet meadow it inhabits, and a good reminder of the Indigenous histories of stewardship on this mountain that must be defended today.
- Alpine whitlow-grass (*Draba aureola*) is an enigmatic plant that can survive at the brink of a plant's tolerance to high elevations and is globally quite rare, only found in these extreme conditions on high Cascade mountains. We found it at 8,600' tucked under a rock on Mount Ruth, but it was observed last year as high as 11,800' on Disappointment Cleaver. Our discovery was very satisfying and exactly 110 years after it was first recorded there!

I will carry this summer's botanical adventures long into my career, and I hope our work will help sustain these rare plants long after my career. More will come from Mount Rainier National Park's partnership with Rare Care, so stay tuned!

ON THE HUNT FOR SPALDING'S CATCHFLY by Teddy Pierson

Out among the undulating biscuit and swale topography of the sagebrush-steppe in east-central Washington lives Spalding's catchfly (*Silene spaldingii*). The basalt studded landscape feels vast and open under the blue skies of summer. For three weeks in August of 2023, you could find Allie Howell and I hiking between hundreds of patches of Spalding's catchfly scattered over 50 square miles. Our task was to gather an updated population count after the devastating Whitney fire in 2020 that swept through a large section of the plant's range in east-central Washington.

Biscuit and swale landscape in east-central Washington

In 2023, we often found Spalding's catchfly inhabiting the gentle northern slopes of ridges and the characteristic loess "biscuits" of the region, alongside Idaho fescue (*Festuca idahoensis*) and bluebunch wheatgrass (*Pseudoroegneria spicata*). It is a slender plant in the Caryophyllaceae (Pink) family, with subtle cream-colored flowers. These five-petaled flowers barely peek out from the long tube of its calyx. Its bright yellow-green stems and foliage are covered in dense, sticky hairs, hence the name "catchfly". It can reach from six inches to two feet tall or more, with oppositely arranged leaves. Its distribution is varied, with some lone individuals found far from others, and some in swaths of one hundred or more in a good year. Spalding's catchfly is a long- lived perennial which may regularly reach an age of at least 15 to 20 years. However, it is hypothesized some individuals may live up to 30 years or longer. (USFWS Recovery Plan, 2007).

This year, I returned to some of the 2023 survey locations. My mission: to collect seeds. Spalding's catchfly has up to one hundred or more small, flat, and wrinkled chestnut-brown seeds, held in elongated, cup-like capsules with frilled serrations around the opening. If you have done seed collection before, you know it can be a bit of a gamble. When do you go, to avoid being too early or too late? How many plants will have bloomed and set seed this year? Will enough plants be found at each location to allow for a seed collection without compromising the population's regeneration? This year, the cards dealt to us were not ideal. The first group I visited had 69 plants in 2023. This year I found six plants, five of which either were still in bloom, in fruit, or had already dispersed their seeds. Things were not as bleak at some of the next locations I visited in terms of number of plants, but many were already empty of seeds, completely senesced, or had been browsed and lacked capsules entirely. Still, all in all I was able to collect seeds from around 50 plants from the three populations combined. Some plants with a large number of capsules (up to 60 or more from plants with multiple stems) even had quite a generous number of seeds.

Do not lose hope for the fate of the Spalding's catchfly, however. While its numbers were low this year, a demographic study in Montana found Spalding's catchfly exhibits prolonged or summer dormancy; that is, plants can remain alive below the ground, without leaves, for up to 6 years when conditions are unfavorable (Lesica and Crone, 2007). We speculate that the hot, dry spell in Eastern Washington in late spring and early summer dissuaded many of the plants from venturing above ground this year. We plan to return in subsequent summers to gather more seeds from the populations of Spalding's catchfly, hoping to catch the plant in a less "sleepy" year.

After a decade working in ecological restoration, beginning in southwestern Ohio then coming out to the Pacific Northwest, Teddy Pierson decided to dive deeper into the conservation research side of ecology. Teddy has greatly enjoyed the last two summers spent as Rare Care's Botany Field Technician, during which they have learned a great many new skills and seen many exciting new plants and areas of Washington. Teddy is looking forward to beginning a master's program in plant ecology in 2025.

Spalding's catchfly (Silene spaldingii) *in bloom in Lincoln County, WA*
Photo by: Teddy Pierson

PARTNER SPOTLIGHT: SIENNA WESSEL

Sienna Wessel is the first-ever second botanist at the Washington Natural Heritage Program (WNHP), bringing with her experience working for multiple land management agencies across the Great Plains and Rocky Mountains. Hailing from the Midwest, Sienna's botanical journey began in the tallgrass prairie, where she developed a deep desire to protect plant biodiversity within the tiny remaining refugia of this once vast ecosystem. With a background rooted in restoration ecology, she started her career working on habitat projects and long-term monitoring for adaptive management, where she also honed her skills in floristics and plant identification. Sienna earned her M.S. in Botany from the University of Wyoming, studying sagebrush steppe community dynamics to enhance restoration and monitoring practices at Grand Teton National Park. Her career has been marked by a commitment to link observational data with strategic management actions and to integrate habitat-focused and species-focused conservation goals.

Sienna Wessel with local endemic Columbia desert parsley (Lomatium columbianum)

At the Washington Natural Heritage Program, Sienna is eager to concentrate on species-level conservation to ensure no plant is left behind. Over the last year, she has worked on rare plant projects for various federal land management partners ranging from models of potential habitat and species management plans to climate change vulnerability assessments. Her work also involves establishing and maintaining long-term monitoring programs and contributing to species management across the state, including serving on technical teams for several federally listed species and updating Washington's rare plant list alongside lead botanist Jesse Miller. She enjoys the "treasure hunting" aspect of rare plant work and aims to conduct re-visits to as many historical plant occurrences as possible each summer.

Sienna's current interests include assessing conservation gaps for state endemic plants, championing the role of rare plants in seed conservation and restoration, and mining data from herbaria and iNaturalist. She is particularly excited about collaborating with Rare Care and looks forward to leveraging the extensive botanical community in Washington to drive impactful conservation.

MONITORING WEEKEND

The weekend of July 12th - 14th found 15 Rare Care volunteers and assorted partners on Table Mountain in the Cle Elum Ranger District for the annual Monitoring Weekend. We conducted 21 surveys and successfully located the target plant on 16 of them, with all of the teams participating in at least one success and one new discovery. Thank you to all of our fabulous volunteers!

2024 Monitoring Weekend campers
Photo by: Jake Rexus

CONGRATULATIONS to Shelly Carpenter, the 2024 recipient of the UWBG Brian Mulligan Volunteer Award. Shelly has been a volunteer in the Miller Seed Vault for over 20 years, contributing over 500 volunteer hours, sitting in 57-degree temperatures sorting some of the smallest and most difficult of our seed accessions. We couldn't do it without you Shelly!

July 1, 2023 - June 30, 2024

THANK YOU

Volunteer hours: 3,108

$1,000 and Above
Deupree Family Foundation
William and V. Lee Ellis
Christopher Mealy and Ara Olufson
Michael and Mary Van Winkle
Washington Native Plant Society Salal Chapter
Susan Wheatley

$500 to $999
Anonymous
Paul and Susan Ballinger
Dorothy P. Gibble
Alan Humphrey

$250 to $499
Steven Clark and Cherie Kearney
Darcy Dauble and John Lenihan
Earl and Tena Doan
Virginia King
Susan Saul
Paul Slichter
Curtis Sundquist
Withey-Price Landscape and Design

$100 to $249
Marvin and Suzanne Anderson
Ron and Susan Bockelman
Tom and Sally Cahill
Pamela Camp
Mickie Chamness
Tanya DeMarsh-Dodson and Alan Dodson
Janelle Downs
Shelley Evans
Timothy Fullam, Ph.D.
Wendy Gibble
Cleveland Hall and Lafe Lawyer
Marilee Henry, Ph.D. and Jeff Thorson, Ph.D.
Janka Hobbs
Shaun Hubbard and Harold Kawaguchi,
in memory of Louisa Nishitani
Tim Manns and Brenda Cunningham
Frederick McDonald
Rae Meaney
Steven and Katie Messick
Queen of Spades Garden Club
Andrew Rapin
Ann Risvold and Lawrence Donovan
Donald and Maureen Schmitz
David Selk and Teresa O'Connor

$100 to $249
Mary Ann and Carver Simmons
Lyle and Jessica Stone
Hally Swift and Eric Strandberg
Theodore Thomas
George Thornton and Lee Miller
William and Molly Tomita
Sue Trevathan
Susan Van Leuven
Jeffrey Walker
John and Melissa Winters
Carolyn Wright

$50 to $99
Jane Beaven and Dan Finn
Ann Freeman
Steve Gattis and Sue Nevler
Marie Hitchman
James and Colleen Lourie, in honor of George Thornton
Michael McGoodwin, M.D., in memory of Rebecca C. McGoodwin
Elizabeth Stanek and John Ratts
Brian Thompson
Andrew Walker
Michele Wascher, in memory of Jane Hess
Mary Water

Up to $49
Mara Martha Blair
Jeanette Burkhardt
Bob and Judy Kent
Elias Mooring
Justine and Charles Nagel
Judith Norman

Basalt cactus (Pediocactus nigrispinus).
Photo: Jenifer Parsons

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