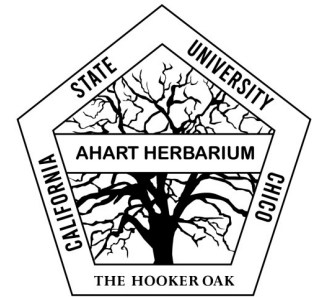


Friends of the Ahart Herbarium

California State University,
Chico



Volume 29 Number 1

May 2023

Spring Newsletter

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Enter your prize native plant photo for the 12th Annual California Native Plant Photo Contest
Submissions accepted until May 31, 2023
for a chance to win a cash award and a Friends of the Ahart Herbarium Annual Membership!!

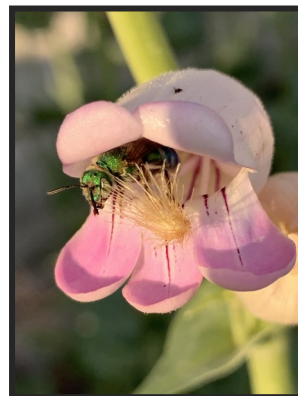
For details and more information, visit
<http://friendsoftheahartherbarium.org/>



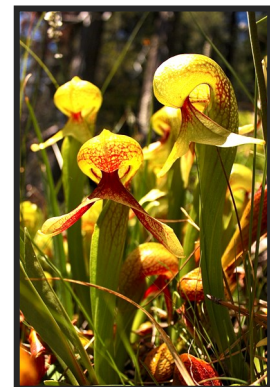
2022 Winner: Morgan Strickrod
Harlequin lupine, *Lupinus stiversii*,



2020 Winner: Jim Morefield.
Pink Buttercup (*Ranunculus andersonii*)

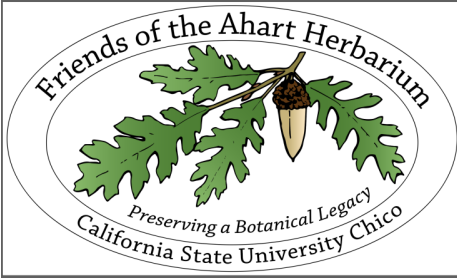


2021 Winner: Gaylene Kinzy
Female metallic sweat bee in
Penstemon palmeri



2019 Winner: Moe Donnelly
Darlingtonia californica





The **Friends of the Ahart Herbarium**, California State University, Chico, was formed to help maintain the high quality of work known to be associated with the Herbarium. The primary purpose of the group is to provide community support for the Herbarium. This includes raising funds for items that are not covered under the University budget, in particular the curator's position. Scientific and academic pursuits as well as community outreach are the focus of the group. The Friends also offer low cost workshops and classes on various botanical topics.

The **Friends of the Ahart Herbarium** operates under the auspices of the Chico State Enterprises at the California State University, Chico, and as such enjoys non-profit status and has access to the use of University classrooms and equipment.

Memberships are renewed on January 1 of each year.

BOARD OF DIRECTORS

Emily Doe, President	Linnea Hanson
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Tim Hanson	Elena Gregg
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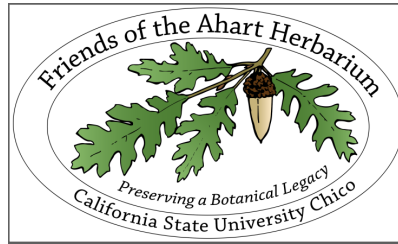
Newsletter

Volume 29 Number 1

The Newsletter is published two times per year by the **Friends of the Ahart Herbarium**, California State University, Chico. Subscription is free with membership. Submissions on herbarium-related topics are welcome.

Logo Updates

You might have noticed a bit of a difference in the Friends logo in this newsletter. Notice the difference?

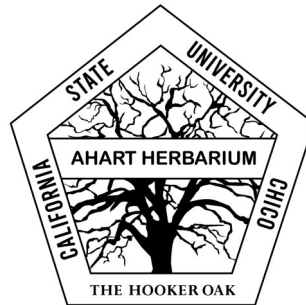


New Logo

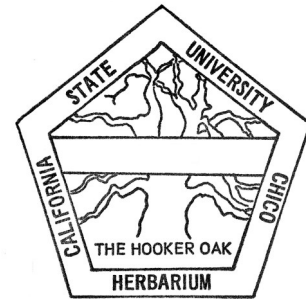


Old Logo

The Herbarium logo also went through some changes and updates to reflect both the name change and an updated version of the Hooker Oak in the background.



New Logo



Old Logo

University Greenhouse Tour

Shaine Hill, Greenhouse Manager for Chico State invited herbarium volunteers and Friends of the Ahart Herbarium Board members to a tour of the Greenhouse. The weather was cold and dreary but several, including Colleen Hatfield, Linnea Hanson, Judy McCrary and herbarium volunteer Noelle Davis, took Shaine up on his offer. The group was awed by the



beauty and extent of the greenery present. Note that Shaine will be giving a presentation on the greenhouse in June as part of the Herbarium presentation series.

Linnea Hanson, Judy McCrary and Noelle Davis with Shaine Hill.
Photo C. Hatfield

Friends Workshops and Presentations

Upcoming Workshops:

Butterflies of Butte County and Their Larval Host Plants

Thursday, June 1, 2023 9:00—5:00

Workshop Leader: Don Miller

Butterflies are among the most charismatic and easily identified pollinating insects. California has a rich and distinctive butterfly fauna with about 250 species, 115 of which have been recorded in Butte County. Besides serving as pollinators, the vast majority of butterflies are herbivorous in their larval stages. This workshop provides an introduction to some of the butterfly species found in Butte County, with a special emphasis on their relationships with larval host plants. The dietary breadth of caterpillars varies broadly, ranging from specialists such as the Pipevine Swallowtail (*Battus philenor*), whose local populations feed solely on *Aristolochia californica*, to generalists such as the Painted Lady (*Vanessa cardui*), whose larvae consume the foliage of more than 300 plant species from at least seven families. Note: There is an optional fieldtrip on Friday, June 2nd when Dr. Miller will be conducting an annual butterfly count at the Big Chico Creek Ecological Reserve, sponsored by the North American Butterfly Association.



Introduction to the Willows of California (Salicaceae) Saturday, June 24, 2023 9:00—5:00 Workshop Leader: John Bair

California is home to one third of the estimated 120 willow species growing in North America. Cottonwoods and willows are the most common riparian hardwood species in California and yet many of us have little idea of how to tell them apart. Species identification is often neglected because willows are thought to frequently hybridize, which is further compounded by only having vegetative material during field visits when we think we need flowers to make a positive identification. The workshop will focus on the leaf, stem, and other vegetative growth characteristics that are useful in making identification while also emphasizing the regional distributions of the different species. The goal of the workshop is to instill confidence about vegetative characteristics used in the identification keys in The Jepson Manual (2nd edition) and familiarize participants with the six most common willows in California



Unless otherwise noted, all workshops are held in the Ahart Herbarium, Holt 129, on the Chico State Campus.

To register or to find more information about FOAH workshops, go to friendsoftheahartherbarium.org.

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“All Things Botanically Related” Presentation Series:

We continue with our monthly presentation series with an interesting line-up of speakers for the next few months. In **May**, Barbara Wilson from the Carex Working Group will present on Stonecrops of *Sedum* section *Gormanina*. In **June**, Shaine Hill, Greenhouse Manager for Chico State Biology, will present a virtual tour of the Chico State Greenhouse. As noted in the Fen Restoration article later in this Newsletter, in **July** Kaylie DeLuca will be presenting an expanded version of her Masters research project which was partially funded by the 2022 Jokerst Award. **August** brings us Travis Columbus from the California Botanical Garden who will present on *Eriogonum*. **September’s** presentation will be given by Jennifer Jewell, author and host of the award winning program Cultivating Place on NPR, who will be presenting on her brand new book on seeds. That brings us finally to cooler **October** weather and the monthly presentation by Rob Preston who will be presenting on Geophytes.



Sedum orogonensis—
May presentation by
Barbara Wilson



Greenhouse Manager Shaine Hill
June presentation



Restoration with Kaylie DeLuca
July presentation

If you missed any of our previous presentations, recordings are available on the Friends website. Some of the more recent presentations included:

- *Whiskeytown: A Goldmine of Botanical Treasures*, presented by Chris McCarron, Great Basin Institute
- *Distribution and Ecology of Vernal Pools*, presented by Carol Witham, Consultant
- *Creating High Value Habitat in the Built Environment*, presented by Pat Reynolds,
Heritage Growers General Manager
- *The Fabulous Flora of California’s Desert Region*, presented by Russell Huddleston, Consultant
- *A Sight for Sori: Ferns of the Northern Sierra Nevada*, presented by Shane Hanofee, Botanist
- *Timing is everything: What Preserved Specimens Can Tell Us About Risks for Plant-Pollinator Interactions*, presented by Laura Lampe, Garden Curator, Gateway Science Museum
- *EcoFlora for Everyone: Engaging your Community in Observing Nature*, presented by
Jennifer Ackerman, Denver Botanica Garden



2023 Wildflower Show

By Linnea Hanson

Marjorie McNairn of the Mt. Lassen chapter of the California Native Plant Society asked the Friends of the Ahart Herbarium if they would help collect and identify specimens for the Wildflower Show this year. Linnea Hanson asked several of the Friends if they would be willing to collect and identify specimens from specific habitats. She also asked others if they were willing to help identify the specimens and place jars of water on the tables to display the specimens. She ended up with a list of collectors and identifiers that were willing to help.

The specimens were divided by habitat with labels for each habitat type. Lists of the specimens that had been collected in the past were also available. Barb Castro, Rob Schilising and Linnea Hanson combined several old lists in 2015 into a comprehensive list for each habitat type. Barb had streamlined the method we used to get the specimens from the buckets into a jar with water and a label. We had each collector involved with the identification of the specimens they collected which really helped the process. We all worked together and got the plants identified that had been collected with time to spare.

The habitat types and collectors were: for grassland—Christine Hantelman; for vernal pools—John Dittes and Josephine Guardino; for riparian woodland—Gail Kuenster and Robin Carter -Ervin; for chaparral and foothill woodland—Tim Hanson and his son, Abe Hanson; for serpentine—David Popp; and for Yellow Pine Forest—Robert Fischer. John Whittlesey and Jennifer Jewell collected from several habitat types including grassland, vernal pools, riparian woodland, and foothill woodland. Lawrence Janeway, Samantha Hillaire, Colleen Hatfield, and Judy McCrary helped with identification and set up. Many people from the Mt. Lassen chapter also helped with the set up.

Besides the habitat tables, Rob Schilising and Michelle Graydon had an exhibit that was called "Native Bees:



Display Tables organized by habitat type.
Photo L. Hanson



Robert Fisher's Yellow Pine Display
Photo L. Hanson



Tim Hanson with son Abe Hanson collected for
Chaparral and Foothill Woodland habitats.

Photo L. Hanson (Continued on page 6)

(Continued from page 5)

Plant for Them and They Will Come!" A large poster in the middle showed the diversity of bees which drew the interest of a lot of people. Elena Gregg brought in specimens of invasive plant species. Marjorie McNairn had an exhibit of poison oak which intrigued many people. Robert Fisher also had a table with the plants of Bidwell Park. David Popp and Linnea Hanson helped at a table with microscope use by visitors. David and Linnea also helped with an exhibit of the Friends of the Ahart Herbarium. The Mt. Lassen chapter had books, t-shirts and posters for sale. The chapter also sponsored a large native plant sale.

There were around 300 people who visited the show— which was wonderful. Many of us stayed in the afternoon to answer questions from the visitors to the show. Everyone was just amazing with all the work that was done to put on a successful show. Thank you to all of the many people that were involved with the wildflower show. It was a great success!



Poison Oak Exhibit prepared by Marjorie McNairn. Photo M. McNairn



John Dittes setting up the display for vernal pool habitats. Photo L. Hanson



Part of the Planting for Bees exhibit prepared by Rob Schlising and Michelle Greydon.
Photo CNPS Member



Invasive Species Exhibit prepared by Elena Gregg. Photo L. Hanson



Recent Noteworthy Findings from Eastern Shasta and Lassen, and Western Sierra Counties.

By Len Lindstrand III

Northern California offers seemingly endless areas to explore and expand our botanical knowledge while frequently providing surprising rare species discoveries. The past couple years proved no different for the Botany Program at Sierra Pacific Industries, where we have had numerous noteworthy discoveries, many of which were from the local area. Take for example in 2021 when Tim Hanson was reviewing some recently acquired properties near Scales in western Sierra County that included areas subject to extensive historical placer mining. While hiking around a large pond at the former gold mining diggings at Poverty Hill he noticed an extensive patch of odd looking erect, mossy-like structures along the shoreline. What he saw were the cones of a rare lycophyte, *Lycopodiella inundata*, inundated bog club-moss. Another occurrence was located nearby at the Scales diggings shortly thereafter. This species has a circumpolar distribution that includes the Pacific Northwest and an odd distribution in California with several locations in the vicinity of Malakoff Diggings State Park near Nevada City and on the North Coast at Big Lagoon. These findings provide a species range extension in the Sierra Nevada and just the third general locality in the state.

In 2022 Tim had another surprise when he and Kayden Ash-down were exploring meadow habitats on the Home Ranch near Mountain Meadows Reservoir. This time it was the elusive *Orthocarpus bracteosus*, rosy orthocarpus. This species is more widespread in the Pacific Northwest and reaches its southern extent in California where it is only known from seven occurrences in Siskiyou, Lassen, and Plumas counties. However, just one of those occurrences is not considered a historical record. During 2021, we happened to relocate and update the single known recent occurrence located near Westwood, only to later learn portions of the site had been used as a staging area for crews during the Dixie Fire. In addition to our new discovery, we revisited the Westwood site in 2022 and found the population in good condition.

While conducting fen habitat investigations in eastern Shasta County near Latour State Forest during 2022 I noticed a peculiar rush-like plant hiding among dense sedges and western false

(Continued on page 8)



Lycopodiella inundata habitat at historic placer diggings pond.



Lycopodiella inundata patch along pond shoreline.



Orthocarpus bracteosus in meadow.

(Continued from page 7)

asphodel. Curious, I did the usual steps and determined my finding as *Scheuchzeria palustris*, American Scheuchzeria. Not having seen this before during years of work in the area I suspected this finding was unusual, and after further research I confirmed that was indeed the case and that I also had stumbled onto an interesting story. Scheuchzeriaceae is a monotypic family consisting of a single genus and species, *Scheuchzeria palustris*. This species also has a circumpolar distribution and occurs in bogs and fens across much of northern North America and Eurasia. California's High Cascade Range represents the southern limit of its geographic extent in the Pacific Northwest; however, until 1988 *Scheuchzeria palustris* was long considered extinct in California. At that time, the location of the only known California collection, near Prattville in 1897 was flooded by creating Lake Almanor in 1914. An additional late-1800s record from Sierra County remained unresolved, and for decades no observations of this species occurred in California. The species was "rediscovered" by Vern Oswald in Plumas County during 1988 at Willow Lake, and subsequently in 1989 at nearby Little Willow Lake and Domingo Lake. Only one other occurrence from two nearby localities has been documented in California since. Now with a fresh search image and weird feeling like I had seen this before somewhere during my work, I suspected this species may also occur at another fen complex I had been studying near Green Mountain, southwest of Burney, so I visited that site with Aubrey Hayes and Sam Kelly, and we quickly located another extensive population. These findings are just the third and fourth known species localities in California and represent an approximately 33-mile range extension from the Little Willow Lake occurrence.

We collected specimens from the new *Lycopodiella inundata* and *Scheuchzeria palustris* occurrences, and accessions include the Ahart Herbarium at California State University, Chico (CHSC). We plan to conduct further evaluations at the new *Orthocarpus bracteosus* occurrence and collections are forthcoming. I suspect 2023 will reveal additional noteworthy findings that have been waiting for discovery, and we are all eager to go once this much needed snow-pack allows access to our forestlands.



Extensive fen habitat and *Scheuchzeria palustris* location.



Scheuchzeria palustris among sedges showing distinctive fruits.



Scheuchzeria palustris specimen heading for the plant press.



Ahart Herbarium accessions during 2022

By Lawrence Janeway, Curator

Twenty-four years ago Vern Oswald started the annual tradition in this newsletter of summarizing all of the collections newly accessioned into the Ahart Herbarium (formerly the Chico State Herbarium) during the preceding year by county and collector. Here is the summary for 2022.

The total number of new accessions for 2022 was 1396 specimens, as documented in our herbarium database (at www.cch2.org/portal/). There were 1030 accessions in 2021. As usual we were thus able to incorporate a significant number of new specimens into the collection!

As we have done for many years now, all new incoming specimens are databased before they are filed. Our wonderful volunteers Cindy Weiner, Noelle Davis, Barb Castro, Alana Raczynsk, and Kaden Ashdown, and student assistants Amanda Howey, Madelyn Lloyd, Jorge Kasten, and Alana Raczynski, have accomplished the databasing during the past year and all of the filing of the specimens. New specimens are also imaged before they are filed. These images are available to the botanical community with the associated data records at CCH2, and have all been produced by Nancy Groshong, herbarium assistant working in our imaging room.

We continue to owe a HUGE debt of gratitude to our volunteer mounting specialist and plant collector extraordinaire, Lowell Ahart. Aside from a few exchange sheets that came to the herbarium already mounted, Lowell has mounted almost all of the specimens accessioned into the herbarium in 2022. In fact, Lowell has mounted almost all of the specimens accessioned into the herbarium each year since 1995! For 2022 this means that Lowell prepared about 1200 beautifully mounted specimens that were accessioned and imaged into the collection during the year (and a few more that haven't been accessioned yet), all as a volunteer! Thank you once again, Lowell, for your continuing contribution of countless hours of invaluable time and service to further the goals of the Ahart Herbarium at California State University, Chico, and northern California botany.

Also, thanks also to all of the collectors, especially those shown below, for their time spent collecting, identifying, and making labels for all of the specimens that they contributed to the herbarium. A tremendous amount of time goes into this process and I know that most, if not all, of this time is volunteer time on the part of the collectors.

The following table summarizes the new plant specimens accessioned into The Ahart Herbarium during 2022.

Specimens Accessioned in 2022					
by Plant Group		by Collector		by County	
GRAND TOTAL:	1396	LOCAL COLLECTORS		TOTAL CALIFORNIA:	1220
		– more than 10 collections –		– top 10 counties –	
Bryophytes	2	Josephine Guardino	302	Lassen	207
Lycophytes	2	Lawrence Janeway	219	Butte	197
Ferns	15	Lowell Ahart	179	Modoc	197
Conifers	14	Rob Schlising	119	Tehama	110
Flowering Plants	1363	Wendy Boes	63	Nevada	72
		Peter Zika	34	Sierra	55
		John Rawlings	26	San Bernardino	54
		Tim Hanson	19	Siskiyou	46
		Nick Otting	17	Placer	42
		Barbara Wilson	12	Shasta	29



Seedbank Research in a Restored Wetland: Past, Present, Future

By Kaylie DeLuca, CSU Chico Graduate Student and 2022 Jokerst Award Winner

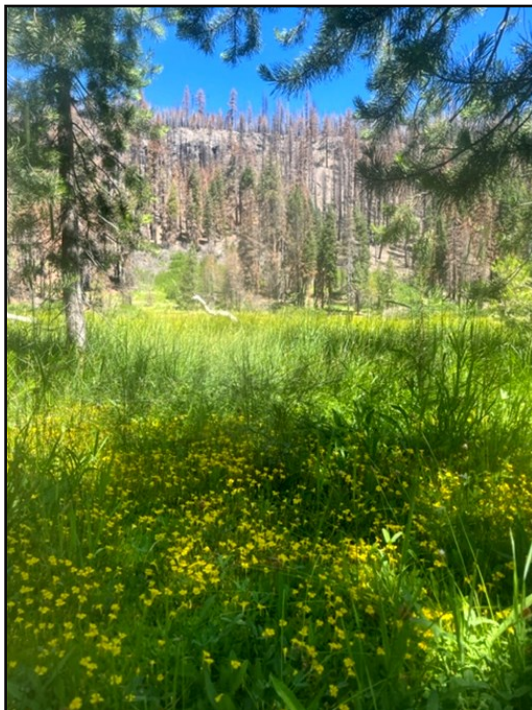
Fen wet-meadows are biologically diverse ecosystems that are mostly dependent on groundwater to maintain their high level of productivity. They provide multiple ecosystem services such as carbon sequestration, water filtration/storage and flood and erosion control. In addition, these wetlands are an important habitat to many plant and animal species. Unfortunately, over the years anthropogenic and/or climatic disturbances have infringed upon meadows' ability to support their regional flora and fauna.

Drakesbad Meadow, a montane fen wet-meadow complex, located in the Southern Cascades Range of California, within Lassen Volcanic National Park (LVNP), experienced great channeling/ditching and grazing during the late 1800s through the early 1900s. Luckily, during the early 2000's a restoration effort began in Drakesbad, and since then much data has been collected in the meadow. To compare the meadow's current seedbank to past vegetation surveys, soil was collected from 24 focused plots during the summer of 2022. Through soil seedbank studies 'lost' vegetation may be rediscovered, past composition highlighted, resiliency potential established and future trajectory imagined. With long-term monitoring of restoration sites being rare, it is my pleasure to contribute current data and findings to LVNP's resource managers, and to share with inquisitive naturalists such as yourselves.

Note that Kaylie will be giving a presentation on her research project in July as part of our ongoing "All Things Botanically Related" Series.



Kaylie DeLuca at Drakesbad Meadow, the site of her graduate research. Photo Kevin Clement



Fen in foreground with Flat Iron Ridge in background which burned during Dixie Fire. Photo: K. DeLuca



Greenhouse research with 24 soil seedbank plots .
Photo K. Deluca

Grass Class Workshops

March 4th and 11th

By Robert Fischer
Photos by Rob Schlising

John Dittes, one of the most popular and talented botanists of the Friends of the Ahart Herbarium (FOAH), returned to teach his favorite course subject, Poaceae. Specifically, this class concentrated on the grasses of Northern California mainly following the taxonomic key of The Jepson Manual. Years have passed since the FOAH has been able to host a traditional taxonomy class. Both the pandemic and John's extremely demanding personal life left a big hole in the FOAH workshop schedule.



John Dittes keying aloud with his class on 11 March 2023

John has taught keying classes many times and on many plant groups over the last 20 plus years. Botanical subjects ranged from Introduction to Plant Taxonomy (using The Jepson Manual), Keying Vernal Pool species, Asteraceae, Fabaceae, and many Poaceae workshops. The need for these kinds of classes seems to have built up over the last few years and was bolstered (I believe) by John's popularity such that while only one workshop had been originally planned it filled within days, with a long wait list. The long wait list prompted the FOAH board to ask if John would consider doing another class the following week. Thankfully, John agreed and the second one also quickly filled.

John has a teaching approach that I have always found to be of immense value. It begins with an entire wall of counterspace lined with 40 or more containers holding a diverse collection of grasses from Northern California. All participants were started with the same unknown grass. The class would walk through the Jepson key together and learn that nearly the entire key had to be discussed before it broke out near the end. As couplets and characteristics were compared throughout the key John would hand out relevant samples from his countertop collections so folks had a tangible experience at what a great many of the characteristics looked like and how they defined the individual grasses and grass groups that the Jepson Manual used to split out these California plants.



A portion of the grasses used in the workshop

John's immense grass knowledge coupled with his personality made for a great classroom experience. Questions, comments, and observations were invited. Nothing was unimportant, everything was made into an educational moment. All information was at his fingertips. Clearly massive preparation was put into his classes. But the preparation wasn't just on John's part. His wife and botanical partner, Josephine, arranged all the small but critical details that make for a great presentation. There were large Tupperware containers filled with bundles of labeled grasses, a huge collection. Most of these were provided by a man named Lowell Ahart, a long and close friend of John and Josephine Giardino, the most prolific plant collector in Northern California, and the namesake for CSU, Chico's herbarium.



Yes, I Would Like to Join/Renew/Contribute!

- Student.....\$20
- Individual.....\$35
- Sustaining.....\$100
- Lifetime\$1,000
- Jim Jokerst Award\$_____
- Annual Fund.....\$_____
- Endowment\$_____

Total \$_____

- This is a membership renewal for 2023

Name _____

Organization _____

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State _____ Zip Code _____

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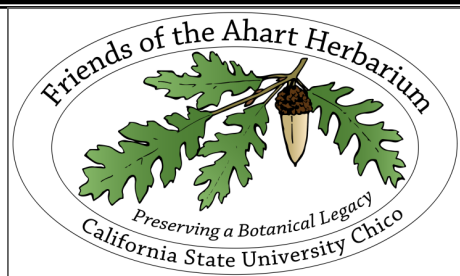
Please make your check payable to: Chico State Enterprises (include membership and/or donation on the memo line).

The Chico State Enterprises is a 501c(3) non-profit organization.

Mail to: Ahart Herbarium, c/o Biological Sciences Dept., California State University—Chico, Chico, CA 95929-0515

Friends of the Ahart Herbarium

May 2023



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