Friends of the Herbarium

The Chico State Herbarium

California State University, Chico

Volume 26 Number 1

May 2020

25th Anniversary Newsletter

Articles in this Newsletter:

This issue of the Newsletter is dedicated to reflection and celebrating the successes that the Friends of the Herbarium have achieved in the 25 years of their existence. The Friends have been instrumental in their support for the Chico State Herbarium, and it is clear that the successes and viability of the Herbarium is directly attributable to the Friends and their hard work and dedication to the North State's botanical resources. Let's start by celebrating the winners of the Native Plant Photo Contest this year. For a history of the Photo Contest see Page 14.

Grand Prize Winner (below): Jim Morefield. Spring in Eastern Sierra, Pink Buttercup (*Ranunculus andersonii*)

Honorable Mention (above): Kathy LaShure. Red Rock Canyon State Park—*Erythranthe rhodopetra* (Red Rock Monkeyflower) & *Lasthenia californica* (Goldfields)

Honorable Mention: (left) Hannah King. Sierra Fireworks

The **Friends of the Chico State 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 Herbarium** operates under the auspices of the Research Foundation 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.

Newsletter

Volume 26 Number 1

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

Chico State Herbarium Accessions during 2019

By Lawrence Janeway

Twenty-one years ago Vern Oswald started the annual tradition in this newsletter of summarizing all of the collections newly accessioned into The Chico State Herbarium during the preceding year by county and collector. Here is the summary for 2019.

The total number of new accessions for 2019 was 1020 specimens, as documented in the herbarium database (www.cch2.org/portal/). This is a much smaller number than the herbarium has accessioned in previous years (e.g. there were 1618 accessions in 2018). However, this is not a result of any slacking on the part of the herbarium staff, volunteers, or student helpers! Several years ago, as Chico State's Eagle Lake Biological Station was being closed down, numerous boxes of mounted specimens that we didn't know about were brought down from the Station. These specimens were already accessioned (stamped with the herbarium symbol and with an herbarium accession number stamped on them) although none of the current staff knew of their existence. These specimens were from the years from 1968 to 1993, and thus pre-dated the databasing of the herbarium's collection. Consequently, we've slowly been databasing and filing these specimens into the collection and that has slowed the databasing of new incoming specimens. In 2019, we databased 860 of these older specimens from the Eagle Lake area (the databasing of these specimens was completed in April 2020).

All new incoming specimens are databased before they are filed. The databasing during the past year (and filing of the specimens) has been done by our wonderful volunteers Cindy Weiner, Nancy Groshong, and Mari Moore; and by students Anna Burns, Aspen Fairley, Simone Burdick, and Toni Rose.

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, and the bryophytes and lichens, which are accessioned into the collection in folded paper packets rather than mounted, Lowell has mounted almost all of the specimens accessioned into the herbarium in 2019. In fact, Lowell has mounted almost all of the specimens accessioned into the herbarium each year since 1995! For 2019, this means that Lowell prepared more than 1000 beautifully mounted specimens that were accessioned into the collection during the year (and many 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 Chico State Herbarium and northern California botany.

Also, thanks also to all of the collectors, as 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

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The Beginnings of the Friends of the Chico State Herbarium

by Linnea Hanson

Linnea Hanson interviewed Jan Monelo about the beginnings of the Friends of the Chico State Herbarium in March 2013. John Thomas Howell was a good friend of Lowell Ahart. When John Thomas Howell passed away in 1994 he willed his personal library to the Chico State Herbarium in the name of Lowell Ahart.

At that time, Kingsley Stern, Herbarium Director, was planning to retire and there was talk that since there wouldn't be anyone officially in charge of the Chico State Herbarium that it could be sold to UC Davis or UC Berkeley. When John Thomas Howell's books came to the Chico State Herbarium, Jan and Kingsley annotated and cataloged the 70 to 80 books that were donated.

Jan wanted to celebrate this collection that the Chico State Herbarium acquired. So, she got all the names and addresses of the graduates with a botany emphasis and others that she thought would be interested. She sent them all a letter asking them to attend a reception to celebrate this gift on November 10, 1994 . 150 people came! Rob Schlising, Lawrence Janeway and Kingsley Stern spoke. Roger Lederer was the Dean of the College of Natural Sciences and gave Jan $500.00 to send out the letters. He also gave her a book on fundraising and encouraged her to start a group to support the herbarium.

At the reception celebration, Jan asked several botanists in attendance if they would like to be part of a group to support the herbarium. This included Robin Fallscheer, Lawrence Janeway, Joyce Lacey, Kingsley Stern, Jan Monelo and Linnea Hanson. These were the founding members of the board of the Friends of the Chico State Herbarium. When the Friends of the Chico State Herbarium board was formed the main concern was the question if the university was going to hire someone to replace Kingsley when he retired. If that didn't happen all were concerned that the herbarium could be sold. Kingsley Stern retired in 1994.

The Friends group began with an Inaugural Field Event at Vina Plains on April 1, 1995. Linnea Hanson welcomed everyone and Tom Griggs talked about the Nature Conservancy Vina Plains Preserve. Rob Schlising had checklists of the plants for the Vina Plains Preserve. The people attending the event were divided into four groups. Three with botanists to determine how many species could be identified and a fourth to assist Rob with his graduate class project on *Dodecatheon*. Barbara Castro, Lawrence Janeway and Gail Kuenster were the three group leaders. After several hours of identifying, each group tallied their plants and Gail's group had the most. The day ended with refreshments and good conversation with all.

In March 1995, about 200 membership letters were sent to botanists in Northwestern California to solicit membership in the new Friends of the Herbarium. As of May 1995 there were 30 members and the Friends had raised $1830.00. The new board of the Friends of the Herbarium and California State University, Chico were very pleased with the response.

With the membership letter a ballot was also sent to elect a Board of Directors for the Friends of the Herbarium. The slate included the founding members of the board listed above plus John Copeland. A questionnaire was also included with the membership letter to find out people's interest in activities the Friends of the Herbarium should provide. The following received the most responses; newsletter, fund raising, workshops, talks and symposia.

The Friends of the Herbarium started a newsletter in June 1995, started having workshops the summer of 1995, had an annual meeting in the October of 1995 with talks and started the Jim Jokerst Award in 1995. The workshops and memberships brought in money for the new Friends of the Herbarium. A few years later the Department of Biology was supportive of the renovation of the herbarium.

And now in 2020 we are celebrating 25 years of the Friends of the Chico State Herbarium! It's been quite an adventure!

Overview of Board of Directors
Friends of the Chico State Herbarium

Celebrating our 25th Anniversary of the Friends of the Chico State Herbarium with a Thank You to all who have served on the Board of Directors through the years.

CURRENT BOARD OF DIRECTORS:

Linnea Hanson, Plumas National Forest, retired	Since 1995
Elena Gregg, Gallaway Enterprises	Since 2008
Rob Schlising, CSU, Chico Biology emeritus	Since 2008
John Whittlesey, Canyon Creek Nursery & Design	Since 2013
Tom Griggs, River Partners, retired	Since 2015
Tim Hanson, Sierra Pacific Industries	Since 2015
Emily Doe, Chico State Enterprises	Since 2018
Rob Irwin, Sacramento River Forum	Since 2019
David Popp, retired high school biology teacher	Since 2020

We added a catergory in 2018 for former board members who wanted to stay involved but did not have the time to be an active board member.

Associate Board Members:

Adrienne Edwards, CSU, Chico Department of Biological Sciences
John Dittes, Dittes & Guardino Consulting
Erin Gottschalk Fisher, CSU, Chico Department of Biological Sciences

PAST BOARD OF DIRECTOR MEMBERS:

Erin Gottshalk Fisher, Chico State Biology	2013-2019
Adrienne Edwards, CSU, Chico	2010–2018
Jenny Marr, Calif. Dept. of Fish & Wildlife	2002–2014
Paul Kirk, North State Resources, Inc	2013
Susan Bazell, botanical illustrator & volunteer	2010–2012
Rodney Lacey, Eco-Analysts	2008–2012
Gail Kuenster, Calif. Dept. of Water Resources	2001–2010
Caroline Warren, CalTrans	2000–2010
Colby Boggs, North State Resources	2003–2008
Josephine Guardino, Dittes & Guardino Consulting	2002–2008
Lawrence Janeway, herbarium curator	1995–2007
Tom Griggs, River Partners	1999–2002
John Dittes, Dittes & Guardino Consulting	1998–2001, 2011–2018
Richard Lis, Calif. Dept. of Fish & Game	1996–2001
Robin Fallscheer, Calif. Dept. of Fish & Game	1995–2000
Joyce Lacey, Calif. Dept. of Water Resources	1995–1999
Jan Monelo, herbarium volunteer	1995–1999
Kingsley Stern, herbarium director	1995–1997
John Copeland, retired physician	1995

Friends of The Chico State Herbarium was founded in 1995 (as Friends of the Biological Sciences Herbarium)

Twenty-five Years of Workshops by Friends of the Herbarium

By Rob Schlising

Soon after Friends of the Chico State Herbarium (FOH) established in early 1995, the group offered its first public workshops—field-identifying plants of summer-dry vernal pools (July!) and keying *Carex* (August and October). Then, as now, the major goals of a workshop are to 1) use workshop registrants' fees to help maintain a part-time curator in the Herbarium 2) showcase the Herbarium and its functions, and 3) help the public learn about, and discuss plants and their habitats in the broadest sense.

Instructors for workshops are lined up at monthly meetings of the 9-member FOH Board of Directors. Once an instructor is found, one board member acts as "facilitator" in helping the instructor with protocol and directions. Most workshops are whole or half-day (a few are two-day) events. Most meet in the Herbarium, but some indoor workshops have a field component during part of the day, and some workshops meet strictly in the field.

FOH has been fortunate to have a large set of very capable instructors. This includes FOH board members, personnel from colleges and universities, people from federal, state or private agencies, members of consulting firms, and yet others. Instructors are entitled to a percentage of registrants' fees, but many simply donate their teaching expertise towards the functioning of the Herbarium and its curator. These instructors have come from throughout California!

The diverse FOH workshops can be sorted (with difficulty) into several general categories:

First, the most relevant perhaps to Herbarium activities, are taxonomic. One of the earliest workshops introduced use of the new (1996) Jepson Manual. Most of these taxonomic workshops are technical and designed to give practice in identifying and keying very specific groups of plants (or some groups of pollinating insects). Taxonomic groups covered have included grasses, sunflowers, willows, manzanitas, sedges (especially *Carex*), onions, legumes, local trees, ferns, lichens, bryophytes (especially mosses), mushrooms, native bees, and local butterflies and their host plant affinities.

Some FOH workshops have covered the nature of classification, introduction to cladistics, and how to collect, press, label and maintain herbarium specimens. There have also been workshops that illustrate plants by family, or even (in the field) sessions on "name that plant." Some have covered plants of particular areas, e.g., Modoc Plateau, Great Basin flora, or local vernal pools. Most of the workshops listed above are very much "hands-on" classes.

There are workshops that might be called "feet-on" (!), in that they are fieldtrips led by specialists to specific sites. These have covered nature of serpentine outcrops, riparian areas, soils of Butte County, fens, plants of Table Mountain, Butterfly Valley Botanical Area, plants of grasslands and mountain meadows, Great Basin ecosystems, revegetation at Walker Mine, soil geomorphology, fire ecology, and recognizing hazard trees after the Camp Fire.

A session introducing important federal and state conservation laws (NEPA/CEQA) has also been presented as a workshop.

A large group of FOH workshops, sometimes labelled as "general interest type" range from very- to less- technical, and appeal to diverse people. Some deal with products of plants, and cover edible and medicinal plants; dyeing with plants or mushrooms; perfumes, pigments and poisons; and wreath making. Workshops on botanical illustration, bo-

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tanical photography, nature journaling, using emerging botanical field methods, and even on health and safety in the field sciences, illustrate the wide range of topics!

A few more workshops of a practical nature include growing plants in containers, composting, vermiculture, controlling invasive plants, and caring for native plants in the garden.

The instructors of most workshops are listed in short write-ups that can be found in the FOH Newsletters—all except for the past year are archived on the FOH website. Records indicate that in the period from 2011 through 2019 there have been nearly 1000 registrants in FOH workshops! Workshops lined up for the first half of 2020 have been cancelled due to the COVID-19 pandemic, but hopefully can be continued in the later part of the year.

Friends of the Herbarium Workshop Status

As you are well aware, we usually have reviews and highlights of recent past workshops and a list of upcoming workshops in our Newsletters. Unfortunately, you won't see those jewels for the time being due to the impact of the on-going pandemic. We had to cancel seven exciting workshops, some of which were already nearly sold out. The University is closed and it is uncertain when we will be able to hold workshops on campus. Thus, we have had to put on hold scheduling upcoming workshops as well as finding new dates for the cancelled workshops. Alas, this sort of chaos has become a seemingly new normal, and we all collectively feel the anxiety and uncertainty of how to recover and move forward.

The most concerning challenge for the Friends is that all of the workshop profits go to supporting the Chico State Herbarium Curator position. The Friends provide a substantial amount of the funding for the curator position. There is an endowment in place, the sole purpose of which is to fund the curator position once the endowment becomes large enough and some of you have generously helped to build that endowment. Annual interest from the endowment does help with partial funding of the curator position, but the endowment alone is not sufficient to fund the curator position, particularly with the interest revenue also being at risk due to the uncertain economic times. Thus, with the economic challenges, the cancellation of workshops and the uncertainty of when we can start holding workshops again we are facing a significant challenge on how to continue to support the curator position.

We know that these are difficult times for everyone, but if you find yourself in an economic position where you are willing and able to contribute to the Friends support of the curator, please take a minute and go to: http://www.friendsofthechicostateherbarium.com/ - click on the "Donate" link in the upper right corner of the page, fill out the form and as simple as that you have made a significant contribution to our efforts to support a remarkable resource for the North State – the Chico State Herbarium.

First Record of *Allium geyeri* var. *tenerum* (Amaryllidaceae) for California

Lawrence P. Janeway
Chico State Herbarium
LJaneway@csuchico.edu

Allium geyeri S. Watson var. *tenerum* M.E. Jones (Amaryllidaceae) has recently been reported as occurring in California (Janeway 2019). This was the first report of the taxon in California and it has not yet been incorporated into the treatment of *Allium* in the Jepson eFlora (McNeal 2020). Specifics about the specimen upon which that report is based, as well as the story around its discovery, are presented below.

Voucher specimen: CHSC #118295, *Janeway 12038, Allium geyeri* var. *tenerum*, from Modoc County, 17 May 2016. Most of the bulblets finished maturing while the specimens dried in the press, and are seen here in the fragment packet.

Allium geyeri var. *tenerum* (bulbil onion) is a native species of onion that is unusual in that many or most of the flowers in each umbel form bulblets instead of flowers (some floras call these bulbils). It is a species of soggy meadows and streamsides east of the Cascade Mountains of Oregon and Washington eastward into the Rocky Mountains, north into adjacent Canada and south into Arizona. Although it is uncommon in eastern Oregon and rare in Nevada (only found in the northeast corner of the state), it is more common in the eastern Great Basin and into the Rocky Mountains. While documented populations of *Allium geyeri* var. *tenerum* approach the northeast corner of California in the vicinity of Sage Hen Buttes in Lake Co., Oregon, about 55 kilometers (34 miles) east-northeast of California (Oregon Plant Atlas 2020, IRHN 2020, CPNWH 2020), prior to this specimen there were no records of its presence in California (McNeal 2012, 2020; CCH1 2020; CCH2 2020).

> **California.** Modoc County: Modoc Plateau, Devils Garden area, where Road 45N06 crosses Logan Slough, about 3.2 air-km north of Big Sage Reservoir. T44N, R11E, SE¼ of NE¼ of sec. 14. Whittemore Ridge 7.5' quad; N 41.652778, W 120.662500, WGS84, 1494 m. 17 May 2016, *Janeway 12038* (CHSC, JEPS).
>
> Wide blocky-rocky flood plain constrained by rock walls 12 m high. In soil and moss, damp, between the rocks. Tepals white with pink midveins, ±erect, the few flowers cup-shaped; bulbs in small clusters in moist moss.

This population is located about 38 kilometers (24 miles) south of the Oregon border, 55 km (34 miles) west of the Nevada border, and about 120 kilometers (75 miles) west-southwest of the nearest known population, and represents the first verified occurrence for this species in the state of California.

There is only one other species of *Allium* known from northern California that produces bulblets in its inflorescence (McNeal 2012, 2020). These two species may be separated by the following couplet:

1. Leaf blades 6–30 cm, solid; MP, GB *A. geyeri* var. *tenerum*

1. Leaf blades 20–60 cm, hollow below the middle; ScV and adjacent foothills *A. vineale*

The Background Story

As I explore under-collected areas of northern California to help better document the flora of California (the Consortium of California Herbaria web site, CCH1, is very helpful in defining these places), and to prepare updated editions of *Vern Oswald's Selected Plants of Northern California and Adjacent Nevada* (Janeway 2019), I occasionally come across

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(Recent Workshops—Continued from page 7)

particularly interesting new finds. This was the case with an unusual onion that I collected in 2016 from the Devils Garden area of northern Modoc County (*Janeway 12038*). When I collected this onion I wasn't aware of how unusual it was. It was only later, while I was going through the specimens collected on that trip, that I found that I wasn't able to key it to my satisfaction.

This specimen was distinctive because many of the flowers in the inflorescences were replaced by bulblets. The treatments of *Allium* in the Jepson Manual second edition (McNeal 2012) and the Jepson eFlora (McNeal 2020) only show two species of *Allium* with that characteristic, both of them non-natives. Reading the descriptions of those two species, and looking at specimens in the Chico State Herbarium (CHSC) collection and photographs on-line, convinced me that this specimen was not either one of those. Thankfully Volume 1 of the Flora of Oregon, covering the ferns, conifers, and monocots, had been released in 2015 (Otting et. al. 2015). So knowing that my specimen was collected not far from the Oregon border I thought perhaps I might find what I needed in that book. In Oregon there are again two species of *Allium* that produce bulblets, one of the non-natives in the California flora and a native species not known from California. The key to separate the two species was straightforward and the specimen clearly keyed to *Allium geyeri* var. *tenerum*. My specimen fit the description given there and compared well with the one specimen of that taxon in the Chico State Herbarium collection (from central Oregon). At this point I was almost finished with this specimen, but felt that I needed confirmation from someone more familiar with the taxon. Thus I contacted Nick Otting of the *Carex* Working Group, who was lead author on the *Allium* treatment in the Oregon Flora volume noted above, and asked if he would take a look. He generously agreed and I sent the specimen to the herbarium at Oregon State University (OSC) for him to look at. He quickly agreed with my determination as *Allium geyeri* var. *tenerum*, and so here we are!

Habitat of *Allium geyeri* var. *tenerum*, where the voucher specimen, *Janeway 12038*, was collected. The *Allium* plants are on the far side of the creek about halfway between the creek and the nearest pines. 12 June 2018.

Two years later I was on a collecting trip to a different part of the Devils Garden. I was able to stop by the site of my collection of *Allium geyeri* var. *tenerum* to take photographs, which I hadn't done in 2016. This visit was a month later in the season (12 June 2018), so the plants were done flowering and the bulblets were beginning to fall out of the inflorescences. Therefore I did not make any repeat collection from the site. I searched a little up- and down-stream, but did not find any more of the *Allium*. During the following 2-3 days of collecting I stopped at numerous drainages that seemed similar to Logan Slough, to look for more of the *Allium*, but did not find any more.

Since this is the only location of this species in California, and it is more common elsewhere, it will likely eventually get a California Rare Plant Rank of 2B.2: Plants rare, threatened, or endangered in California but more common elsewhere; moderately threatened in California (CNPS 2020).

As a further note about the importance of collecting herbarium specimens, especially within parts of California that are still under-collected, on my 2018 collecting trip to the Devils Garden, noted above, I collected another specimen that turned out to be a species new to the California flora (*Janeway 12627*). This collection was a specimen of *Castilleja* from a site within a recent wildfire or under-burn, in an open yellow pine forest on productive soils. It looked somewhat like *Castilleja applegatei*, which we're all familiar with, but seemed to key to *Castilleja chromosa*. I collected enough material to send a duplicate specimen to Mark Egger and Peter Zika at the University of Washington in Seattle (WTU), because I knew that they were seeking more specimens to help with their writing up the genus *Castilleja* for an upcoming volume of Flora of North America North of Mexico (Egger et al. 2019). Thus I didn't investigate any deeper to be sure of my identification, but included the duplicate specimen, along with other duplicate specimens of *Castilleja*

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collected by me and by Lowell Ahart, in a package sent to WTU for use by Mark and Peter. Earlier this year I received emails from Peter and Mark asking for more information about this specimen because Mark had recently determined it to be *Castilleja peckiana* Pennell (Peck's paintbrush), a species not previously known from California. Mark was so excited about this new find that, after seeking my input, he has already gotten this new California find published (Egger & Janeway 2020)! You can see photographs of the specimen, and of live plants in the field in Oregon, in this paper.

How many other species new to the California flora are out there waiting for a someone to collect herbarium specimens of them, from which they can be documented and confirmed and shared with the rest of the state's botanical community?

Inflorescences of *Allium geyeri* var. *tenerum*, with few flowers, now dry, and well-developed bulblets, which are easily knocked out of the inflorescences. 12 June 2018.

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The Chico State Herbarium Contributes to the Professional Botany Research Community and the Greater California Community

By Emily Doe

My current position as 'Biologist Interpreter' for the Geographic Information Center (GIC) at Chico State Enterprises (formerly known as Chico State Research Foundation) has once again reinforced to me the importance of herbaria in all sorts of scientific research projects and endeavors. In this case I have gained first hand insight on how herbaria are a critical tool in the important work of identifying, categorizing, cataloging, and tracking vegetation community types across California and beyond.

At the GIC veg-mapping crew here in Chico, we do extensive vegetation mapping work under contracts from California Department of Fish and Wildlife, for the VegCAMP program. Basically, we interpret aerial imagery by learning to identify plants from satellite and NAIP imagery, and digitize vegetation stands to map out large areas of California's vegetation. This process starts out with a substantial amount of in-the-field data collection, in which we sample our project areas by conducting Rapid Assessments and Relevés using California Department of Fish and Wildlife/California Native Plant Society protocols. Vegetation types are determined using the Manual of California Vegetation and in close partnership with California Department of Fish and Wildlife.

The VegCAMP program started in 2007 when state legislation required the Department of Fish and Wildlife to develop and maintain a vegetation mapping standard for the state (Fish and Game Code Section 1940). This is California's version of the National Vegetation Classification System, and serves to provide a cornerstone to many conservation and management efforts across the state. Some examples of how this data is used are: detecting and monitoring change in preferred habitat for various threatened and endangered plant and animal species, tracking the spread of invasive plant species, correlation of management activities with changes in vegetation types and covers, and providing baseline and ongoing comparative data for restoration projects and climate change studies.

From the CDFW VegCAMP website:

" VegCAMP focuses on developing and maintaining maps and classifying all vegetation and habitats in the state to support conservation and management decisions at the local, regional, and state levels."
"Applications of VegCAMP efforts to analyses of statewide spatial data include:

- regional conservation planning,
- wildlands fire/fuels modeling for improved preparedness,
- identifying individual plant and animal species distributions,
- predicting the spread of invasive species,
- early scoping for transportation projects to minimize impacts,
- prioritizing land acquisitions for parks and ecological reserves,
- identifying important wildlife corridors, and
- setting a baseline for monitoring impacts of global climate change.

For more info on this project or to view and utilize the maps, which are free and available to all, please visit: https://wildlife.ca.gov/Data/VegCAMP

Example of relevé plot layout ready for analysis, the yellow flowers are *Taraxia tanacetifolia*. Taken on the shore of a receding Shugru Reservoir SE of Susanville. Photo by Kristin Quigley

So, as we set out to identify all of the vegetation of California, you can imagine how even a crew of well-trained botanists can use all the help we can get! The process in which a vegetation type is determined involves setting out across our (usually thousands to millions of acres) project areas to preform Rapid Assessments and Relevés for many scattered pre-allocated plots. This involves measuring out a specific area (generally 100 square me-

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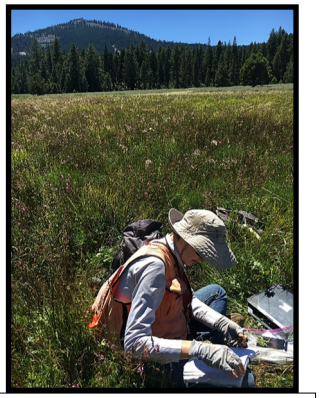
ters measured out for Relevés, and visually estimated 20-meter radius for Rapid Assessments) and identifying and estimating cover for all the plants in the plot as well as recording lots of ecological data such as soils, topography, exposure, slope, and evidence of disturbance, fire, restoration, etc. Of course the most challenging part of this is identifying all those plants! Here is where all those herbarium specimens come in, and also where this work can help to further build up and develop our breadth of plant knowledge and data that is housed and curated at our California herbaria.

Botanists/ecologists (right to left) Todd Keeler-Wolf, Remy Noll, Brett Hall, Jamie Ratchford, and Laura Askim, keying plants for a plot during a training with CDFW near Beckwourth in Plumas County.
Photo by Brian Kreb.

The wealth and legacy of botanical information that California herbaria hold is used in many ways for our vegetation mapping projects. First off, it is one of the most extensive and reliable sources for records of what plant species grow in a given area. Many plant lists and guides exist, but we know that to be accurate a record of a plant without an herbarium voucher specimen is just a rumor! So these records, which are readily available and searchable online at the Consortium of California Herbaria website and also a major source of data for CalFlora's online database, are important for us to be able to search out and make lists of plants that are known to grow in a certain area. So we make and study these lists ahead of time to prepare ourselves for our botanical adventures. Even so, many times we come across plants that are more difficult to make a determination on. We make collections of these plants and bring them back for later identification. Some areas are very diverse, and we have spent countless hours in the Chico State herbarium making use of the dissecting scopes, herbarium specimens, and other resources (occasionally even get to pick the curator's brain) in order to be sure of our plant identification. Occasionally we run across something unusual, in which case we do our best to preserve these samples and make proper voucher specimens to submit to the herbarium. In this way we get to promote and help to grow the wealth of plant knowledge housed in the humble walls of the Chico State Herbarium (and if lucky send a duplicate off to an interested herbarium or specialist).

Ready to fill out our rapid assessment/relevé field form! Plot on Mount Baldy off of the Tahoe Rim Trail looking over Lake Tahoe and Kings Beach.
Photo by Kristin Quigley

I have felt very lucky and grateful to have a local herbarium here at CSU Chico to utilize in this work. It's just one more example of how important it is to keep supporting our local herbarium!



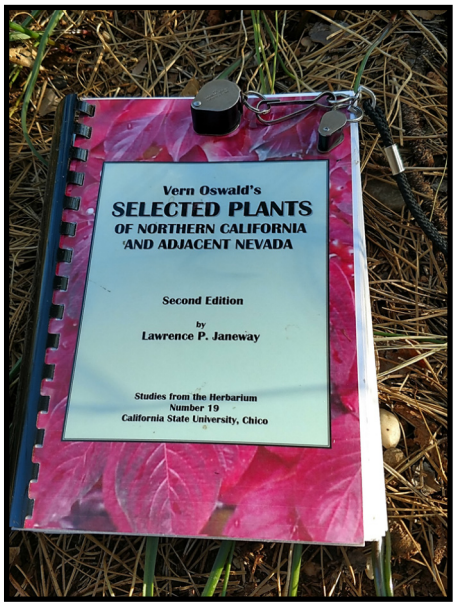
Botanist / Plant Ecologist Sara Taylor, keying plants in a lush meadow plot in Plumas County near Portola.
Photo by Lucy Haworth

Work work work! In the herbarium keying out the grasses, sedges, and other more challenging species.
Photo by Emily Doe

Book Review

by David Popp

Vern Oswald's Selected Plants of Northern California and Adjacent Nevada 2nd edition by Lawrence P. Janeway



Selected Plants of Northern California and Adjacent Nevada is one of the many books available from Studies from the Herbarium, California State University, Chico. It is a hidden gem that covers the rich flora of Northern California. It is a flora that belongs in the collection of plant books of everyone who botanizes North California. This flora has been a go-to for many plant enthusiasts in Northern California for a number of years. It is a concise flora of 494 pages with an annotated plant list, dichotomous keys, glossary of generic names, glossary of epithets, and a list of current name changes. The only thing it seems to be lacking is a ruler on the back cover.

The flora has been easy to carry and use in the field. This is because of its size (16cm x 22cm) and it's easy to turn pages that are bound by a spiral-like spine and covered with plastic laminated covers for protection. Unlike the dictionary sized Jepson Manuals and its precursor, Munz's *A California Flora*, this book is a breeze to use in the field. Though the flora is designed for Northern California, its practicality stretches down to cover the Sacramento area and East across the northern Sierras into adjacent Nevada. Some of the dichotomous keys can be a little challenging at times for the average plant enthusiast. But this is offset by having to deal with a smaller geographic area.

The book is the culmination of work started by Vern Oswald as The Butte County Flora, which is sometimes cited as Oswald and Ahart. The flora has evolved through time to become the "Selected Plants" we know today from its genesis as Vern Oswald's "Manual of Vascular Plants of Butte County" published by CNPS in 1994. Previous smaller publications covering other botanical areas were included making Oswald's original 2002 publication title what has grown into what we know today as Vern Oswald's Selected Plants of Northern California and Adjacent Nevada.

The flora is now authored by Lawrence Janeway and is in its second edition (2019) under his efforts. With the rapid changes in taxonomy, the newer editions reflect these changes thanks to the efforts of Janeway, USFS Botanist and curator of the Chico Herbarium and current author. What I like about this flora is that Lawrence is constantly updating it with new species and taxonomic changes, making it a work in progress. Another nice thing about the flora is that there is an electronic version in the pdf format (available from the author) that can be put on an electronic device like a computer or a smart cell phone to be carried into the field as long as your battery lasts.

If you like to explore vernal pools, grasslands, mountain meadows and peaks of Northern California, this book should be in your pack, be it a day pack or backpack. I keep an extra copy in my car for road botany, too. For the current price of $26, it is a bargain. The book is not sold through book stores unless you get a used or older edition.

Selected Plants of Northern California and Adjacent Nevada 2nd edition (Publication #19) is available from Studies from the Herbarium California State University, Chico, CA 95929-0515 at:

https://www.csuchico.edu/herbarium/studies/book-list.shtml

(Continued from page 2)

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 Chico State Herbarium during 2019 (not including the Eagle Lake specimens mentioned above, which are almost all from Lassen County, California).

2019 Summary of Accessions for Chico State Herbarium					
by Plant Group		**by Collector**		**by County**	
GRAND TOTAL :	1020	LOCAL COLLECTORS		TOTAL CALIFORNIA:	498
		– more than 10 collections –		– top 10 counties –	
Bryophytes	17	Lawrence Janeway	174	Siskiyou	90
Lycophytes	9	Lowell Ahart	72	Butte	73
Ferns	7	Barbara Castro	31	Modoc	71
Gymnosperms	6	Julie Kierstead Nelson	28	Lassen	55
Flowering plants	981	Belinda Lo	16	Tehama	38
		Robert Banchero	14	Trinity	37
				Shasta	28
				Plumas	21
				Los Angeles	19
				Yuba	11

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 2020

Name _____

Organization_____

Address_____

_____

City _____

State _____ Zip Code _____

Phone _____

E-mail _____

Please make your check payable to: Chico State Enterprises (include membership or donation on the memo line).
The Chico State Enterprises is a 501c(3) non-profit organization.
Mail to: Chico State Herbarium, c/o Biological Sciences Dept., California State University—Chico, Chico, CA 95929-0515

Native Plant Photo Contest – A Brief History (Spring 2020)

By Elena Gregg

As part of the mission of the Friends of the Chico State Herbarium to promote botanical education and outreach to our local community, in 2009 we started a photo contest for students in 6th through 12 grades, designed to reach young people and expose them to natural sciences. The winning photos were put on display at the Gateway Science Museum for all to see and appreciate. In 2011, we expanded the photo contest concept to include a fall native plants contest for the broader community. Our goal was to encourage the community – both old and young, experienced nature lovers and novices – to get out into the amazing natural landscapes that surround us every day and explore California's diverse botanical wonders and then share these experiences through photographs.

Sylvia Arnott 2009

M. Tremain 2009

Entries for the Fall 2016 Student Photo Contest

A lot of effort was made to reach out to the local schools to encourage participation in the spring student photo contest, particularly by the board members who took the lead in facilitating the photo contest since its inception starting with Rod Lacey, Paul Kirk and then John Whittlesey. We received many imaginative, interesting and beautiful photos from our local youths over the years. Photographs entered in the student photo contest were displayed at each year's Annual Open House at the Herbarium on the CSU Chico Campus, which also provided an opportunity for the students who entered the contest to visit the Herbarium (for the first time ever!) and get a tour of the facility.

Marjorie McNairn 2015

In 2018 it was decided, for a number of reasons, to combine the two annual photo contests into one fall native plant photo contest. Also, the old cumbersome method of submitting hardcopy and electronic copies of photos has been replaced with a completely online electronic mode of submission with great success! This new online photo contest was set up by board member Tim Hanson – thank you Tim for bringing us up-to-date with current technology!

While some changes to the contest have been made over the years, the Friends of the Chico State Herbarium have continued to have a native plant photo contest annually, with the 2020 contest being the 9th annual native photo contest! This year there were 21 submissions. The winning photographs are highlighted in this newsletter and photographs from past and present contests will be displayed on the Friends of the Chico State Herbarium website.

Moe Donnelly 2018

The quality and intriguing perspectives of the photographs submitted as with the variety of native plants highlighted over the years have been amazing to see and always makes it difficult to judge a winner. I know we all look forward to seeing what beautiful photographic wonders next year's photo contest brings!