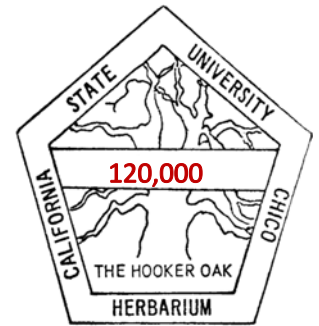




Friends of the Herbarium

The Chico State Herbarium
California State University, Chico



Volume 24 Number 1

April 2018

Newsletter

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Friends of the Herbarium Fall Native Photo Event

An Herbarium keeps its records of plants as pressed and dried specimens glued onto large sheets of paper. While these specimens retain the necessary parts and information for future scientific work they do not always capture the beauty and elegance of their existence. Seeking ways to visually celebrate California's flora, the FOH have held a number of photo events over the past 7 years – some just for students, some for all ages. Last fall we encouraged the FOH board members and herbarium friends to submit photos that were displayed at the annual meeting in November. It was a beautiful exhibit of photographs ranging from the Carrizo Plain to close-ups of monardella, agastaches, poppies, buckwheats and phacelia. They are a drop in the bucket of the immense diverse flora of California, but a nice sampling from the views and experiences of the photographers. Many of these are in the display case in the hall outside the Herbarium for passersby to admire.



Left: *Monardella* (by Rob Schlising). Above: Carrizo Plain with *Lasthenia*, *Layia*, *Monolopia* (by Tom Griggs). Above right: *Phacelia* (by John Whittlesey). Right: *Caulanthus inflatus* (by Jennifer Jewell).

The FOH are planning another fall photo event with more information soon to follow.





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.

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Newsletter

Volume 24 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.

Friends of the Chico State Herbarium Annual Meeting Nov 4, 2017

The Role of Ecological Restoration in a Changing World

By Tom Gardali

Pacific Coast and Central Valley Group Director
Point Blue Conservation Science

On Saturday Nov 4, 2017, Tom Gardali returned to the Sacramento Valley, where he started his career back in the early 1990s monitoring birds adjacent to and on riparian restoration sites, to present on modern planning concepts and restoration methods for riparian habitats in a future with climate change.

"Climate Smart" restoration embraces principles that acknowledge current as well as historic ecological conditions on a given site. Thus, an understanding of the site's history coupled with its current ecological context (e.g. size, insularity) is necessary for an ecological perspective of the site. What type or quality of restoration is ecologically possible on your site?

Planning for ecological resilience in the face of modern-day vulnerabilities is critical. Awareness of today's threats to a restoration site is necessary and should be addressed in the design. Restoration designs should include a diversity of plant species that can persist on the site under varying future scenarios.

Knowledge of wildlife habitat needs throughout the year can guide managers to select a planting palette that benefits a range of wildlife, rather than just a few target species. Especially important is the restoration of multiple vegetation structures to provide habitat not just for multiple species, but for multiple stages of their life cycles.

Of course, the needs of the people living adjacent to restorations would be of equal importance. In the Central Valley this translates to flood management; specifically, how will the vegetation in the restoration affect the depth and direction of flood flows?

Lastly, monitoring and experimentation are essential for learning as we move forward in time. There are many unknowns about how each species will respond to the climatic changes. Research will show how we can adapt restoration to this uncertain climatic future.

Tom introduced a couple of planning tools that Point Blue has developed to assist the local restoration team in their local designs.

The final third of Tom's presentation developed into a discussion with the audience over the nuances of the Climate Smart approach to riparian restoration.

by Tom Griggs
Friends of the Herbarium Board



Chico State Herbarium Accessions during 2017

Nineteen years ago Vern Oswald started the annual tradition in this newsletter of summarizing all of the collections accessioned into The Chico State Herbarium during the preceding year by county and collector. Here is the summary for 2017. The total number of accessions for 2017 was 2009 specimens.

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 2017. In fact, Lowell has mounted almost all of the specimens accessioned into the herbarium each year since 1995! For 2017, this means that Lowell prepared more than 1700 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.

All new incoming specimens are databased before they are filed. The databasing during the past year (and filing) has been done by our wonderful volunteers Cindy Weiner, Nancy Groshong, Mari Moore, Herman Gray, and Cheryl Ballantyne; by students Tara Godinez, Alexandria Willis, Alan Mata, Daysi May, and Laura Lampe; and last year's Herbarium Assistants Claire Meehan and Emily Doe.

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 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 plant specimens accessioned into The Chico State Herbarium during 2017, based on plant group, local collectors, and county.

– Lawrence Janeway, Herbarium Curator

2017					
GRAND TOTAL:	2009	LOCAL COLLECTORS		TOTAL CALIFORNIA:	1560
		– more than 10 collections–		– top 10 counties –	
Mosses	198	Lawrence Janeway	475	Plumas	273
Liverworts	2	Lowell Ahart	341	Butte	181
Horsetails	4	Barbara Castro	89	Tehama	178
Club mosses	5	Wendy Boes	49	Lassen	146
Ferns	50	Dean Wm. Taylor	36	Modoc	137
Conifers	3	Julie Kierstead Nelson	32	Shasta	104
Flowering plants	1747	Chelsea Morgan	29	Monterey	85
		Len Lindstrand III	29	Siskiyou	51
		Tim Kask	27	Nevada	43
		Don Lepley	19	Trinity	43
		David Isle	18		
		Noah Siegel	14		



Upcoming Workshops—Details and Registration information on the FOH Website

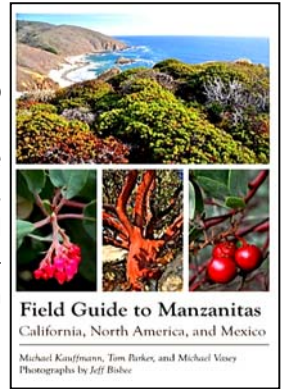
Introduction to Keying Manzanitas (*Arctostaphylos*, Ericaceae)

Led by Tom Parker and Mike Vasey

Authors of the Field Guide to Manzanitas: California, North American and Mexico

Saturday, April 21, 2018 9:00AM—4:00PM

A group considered difficult by many people, the 90+ California manzanitas are actually easy to identify once you understand the characters and how they vary. Tom Parker (Professor of Biology, SF State) and Mike Vasey (Director, SF Bay National Estuarine Research Reserve) will lead a one day workshop using keys from either The Jepson Manual, 2nd edition, or from their new book, Field Guide to Manzanitas: California, North America, and Mexico, written by the instructors and Michael Kauffmann. Photos in the field guide help to illustrate and clarify differences among species. The class will focus on key taxonomic characters and some background context on manzanita evolution, distribution patterns, and ecology. Fresh material from different species will be used. Keying will be emphasized.



Nature Crafted Inks and Watercolor Paints: A Local Color Palette

Saturday, May 26th, 10:00am-4:00pm

Led by Santa Cruz artist, Melody Overstreet, ink and watercolor paint-making will be merged into one comprehensive workshop on local color palettes. Learn about the origins of color, work with select rock and plant samples, and take a local walk to learn about different species that lend themselves to exquisite color. Each participant will learn hands-on paint grinding techniques, will take home a sample card of local colors, and an instructional pamphlet on how to reproduce the process.



Introduction to the Willows of California (*Salicaceae*)

Led by John Bair

Saturday, June 23, 2018 9:00AM—5:00PM

California is home to over one quarter 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 provide a broad overview of willows, highlight vegetative characteristics used in the identification



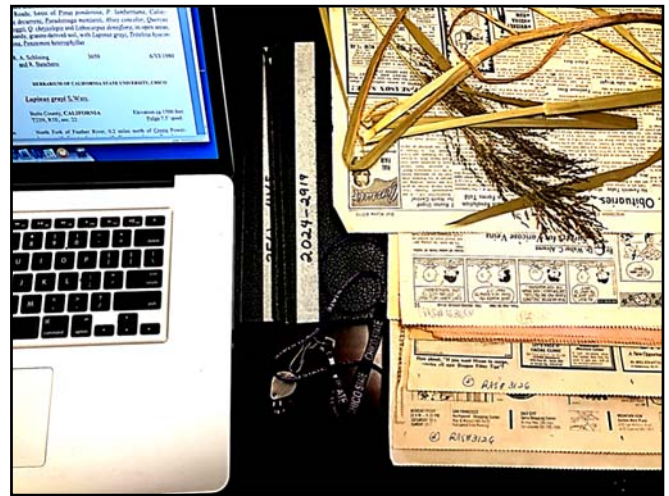
(Continued on page 6)

Plants of the Past

Rob Schlising

No, not plant fossils! As a teenager in Tomahawk, Wisconsin I learned to love plants and to make quality collections when accompanying the Reverend Frank Seymour in the field as he “baled hay” (his hobby) in preparing his book “Flora of Lincoln County.” The vast majority of the +/- 5,000 vascular plant herbarium specimens that I have collected in several states since that time have been identified, labelled and accessioned into herbaria at the University of Wisconsin, University of California, and Chico State University. But several hundred pressed specimens from many decades of collecting have been stored in folds of newspaper. Curator Lawrence Janeway urged me to work up labels for these plants so they could be added to the Herbarium (and not take up storage space). In late 2017 I agreed to make the labels for my plants of the past. Robert Fischer, who is so facile with keys, was talked into doing the keying, and he talked Marjorie McNairn into helping. So I missed the time-consuming “fun” of keying, and spent my time on the labels.

Six record books that contain the date, locality and habitat information for all the numbered specimens hold a lot of memories that were not necessarily written down in the books. Botanizing and collecting were usually done with students and other colleagues—with some names and places in northern California that readers might recognize. For example RS#4473 (*Erigeron petrophilus*) was collected at Red Mountain in Plumas County, with Lowell Ahart and Jim Jokerst; that overcast day we met the HUGEST rattlesnake we had ever seen, out in the open, on serpentine. Many trips in the field with Jim centered on his study of the reproductive biology of *Calochortus*. Labelling up a *Calochortus* from Stanislaus County reminded me of Jim and me getting shot at from the distant highway when camping out in the open one night! Typing up a label of RS#3986 (*Utricularia gibba*, collected in a pond in Butte County’s Coon Hollow) reminded me of that day’s little problem, when Jay Fuller, Kirsten Tarp, Mary Merryman and I



got stalled in my car “Piglet IV,” on the slippery rocks that we could not get traction on when driving across the West Branch of the Feather River on the way home. Some of the earliest unlabelled specimens, according to my record books note R.A., A.E. and V.E. Schlising as the collectors. Weird. How many botanists made plant collections with their parents (Anton and Vida)?!

A beautiful *Cirsium* was collected in Marin County with the record stating “near the stairway down to Point Reyes Lighthouse.” Should the collector feel guilty? He was a botanist new to the fabulous plants of California, and at that time—over half a century ago—Point Reyes was not a National Monument and not very frequented by the public. Now of course, a record of that specimen at Chico State will be added to the Consortium of California Herbaria. Similarly “bad,” RS#3140 (*Orcuttia pilosa*, collected in triplicate) was taken from a massive population in the Vina area, but before this species was formally listed as endangered (at both the state and federal levels). It was collected in triplicate, so when Lawrence distributes the two extra specimens, this rare vernal pool plant will be represented at two herbaria as well as in the Chico State Herbarium.

An advantage of keying and labelling old collections in the present has been that plant name changes can

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Upcoming Workshops—Details and Registration information on the FOH Website

(Willow Workshop Continued from page 4)

keys in The Jepson Manual (second edition) and familiarize participants with the six most common willows in California. The workshop will be led by John Bair, recognized expert in willow and cottonwood taxonomy and physiology. John has investigated the interrelationship between riparian plant establishment, geomorphology, and hydrology to recommend flow management and channel restoration approaches.

Additional Workshops we are busy organizing:



Upper Park
Photo by Spencer Dykstra

Photography Workshop: Native Flowers as Compositional Elements

June 9th
Led by Spencer Dykstra



Pipevine Swallowtail larvae
Photo by Linnea Hanson

Butterfly Workshop
Early June
Led by Dr. Don Miller

Grasses Workshop
Mid to Late June
Led by John Dittes



From previous grass workshops
Photo by John Dittes

Mountain Meadows August 25, 2018

Learn about why mountain meadows are so important, how they are threatened, and what is being done to manage and restore them. Kyle Merriam, the Province Ecologist for the Sierra Cascade Province, and Mike Friend, the District Botanist on the Beckwourth District of the Plumas National forest will lead a field trip to explore the mountain meadows in the Lake Davis area. The ecological functions of these meadows, methods for assessing their condition, management concerns, and restoration efforts will be addressed. A campsite has been reserved for the weekend for workshop participants.



A Subalpine Meadow Phytoblitz in July!

Friends of the Herbarium will host a special field event jointly with the **Mount Lassen Chapter of the California Native Plant Society** this summer. After car-pooling for a 75-minute drive (some of it on dusty roads) the day will be spent exploring the Butte Creek House Ecological Reserve in highest Butte County. The large meadow here is at about 5800 feet elevation, and is surrounded by subalpine forest of mainly lodgepole pine. The meadow has dry regions (where the pine is invading), and moist to wet regions with the upper reaches of Butte Creek winding through them. Vern Oswald prepared a list of the vascular plants in 1997 for this beautiful reserve which is now owned by the California Department of Fish and Wildlife. The list can be viewed (and downloaded) at <www.csuchico.edu/herbarium/studies/vern-oswald/index.shtml>

Rob Schlising <rschlising@csuchico.edu> , Marjorie McNairn <mimcnairn@aol.com> and Robert Fischer will lead the group around the meadow. This “phytoblitz” is a type of plant treasure hunt, where we try to see as many plants in flower as we can in a short period of time. (“Blitz” = lightning. We will be at the site for only several hours.) The exact date was not determined by the time this newsletter was printed, but it will fall on a Friday or Saturday in mid- to late July. The date and further details will be in the May Mount Lassen Chapter’s newsletter, the “Pipevine,” and will also show on the FOH website <www.friendsofthechicostateherbarium.com>. Reservations will be requested, and the phytoblitz is not recommended for children. Dogs are not permitted on the Reserve.



Highlights from Previous Workshops

Tree Identification Workshop

Oct. 21, 2017

Emily Doe and Linnea Hanson held a tree identification workshop which was well attended. Since the workshop was approved by the International Arborist Society for credits, there were quite a few arborists in attendance, including an entire local crew from About Trees. The Chico Urban Forester, Richie Bamlet, was also in attendance. Arborists came from the Bay Area and as far south as Merced to attend. The day started off with a botany lesson focused on key terms, such as plant parts and structures, used for identification. Approximately 40 trees on the Chico State campus were highlighted in walks around the campus. For each of the 40 trees, Emily and Linnea provided information sheets for later reference, and to which participants added their own notes. An unknown tree was seen near Butte Hall that Emily and Linnea figured out during the lunch break. It was *Camptotheca acuminata*, Happy Tree. Using a dichotomous key from the book, *A Californian's Guide to the Trees Among Us* by Matt Ritter to identify trees was also introduced. Everyone enjoyed the class and clapped at the end!

By Linnea Hanson and Emily Doe



Soils, Landforms and Vegetation

of Bidwell Park Workshop—Feb 24, 2018

“I will never look at Bidwell Park the same way again” said one of the workshop participants and I agreed wholeheartedly. The workshop was led by Andrew Conlin, an extremely knowledgeable soil scientist who has been working for the Natural Resources Conservation Service for over 25 years. The workshop started within the floodplain of Big Chico Creek and from there we took a short walk up to the North Rim Trail. As we walked Andrew Conlin showed us how unique Bidwell Park is in that we could see 5 different geomorphic surfaces all in just that short walk! He explained how the different surfaces were formed and how to recognize them, including using the vegetation present as an indicator. After a lunch break, we continued the tour of Bidwell Park as we walked the Lower Yahi Trail along Big Chico Creek and were able to apply what we had learned about how to recognize the different geomorphic surfaces. The tour ended at Bear Hole where we saw the stunning transition into the Lovejoy Formation basalt flow (see picture). Anyone who has been to Bear Hole knows how dramatic the landscape is in this section of Big Chico Creek. If you haven't been there to see it, I highly recommend it! Knowing more about how the different landforms present in Bidwell Park were developed provides a background story and context that will continue to enrich my future expeditions to Bidwell Park.

By Elena Gregg



(Continued on page 9)

(Continued from page 5)

be used on the labels. For example “*Aster*” of the old days no longer pertains to my specimens of *Sericocarpus* and *Symphotrichum* that Robert and Marjorie have keyed to species. Several old collections that would have been called “*Lotus*” received the current names, and many other examples showed up in my several hundred plants of the past. But another advantage of making specimen labels in the present is being able to type them up on the computer. Have you ever tried sticking a shifting little rectangle of paper—destined to be the label—into a “typewriter”? You didn’t dare make a mistake in your typing, because there was no “delete” key.

This little essay is NOT meant to promote putting off identifying and labelling your plant collections! But I must admit it was fun to be reminded of people and events, and also to see what was printed in the old storage newspapers (including “first-run” issues of “Peanuts”).

(Continued from page 8)

How to Make Wreaths, Garlands, and Kissing Balls with Native Plants Saturday, December 9, 2017



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 2018 # _____

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Please make your check payable to: CSU University Foundation (include membership or donation on the memo line).

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MEMBERS RECEIVE A 10% DISCOUNT ON WORKSHOPS PLUS BI-ANNUAL NEWSLETTERS. CHECK OUT OUR UPCOMING WORKSHOPS.

Chico State Herbarium passed another minor milestone!

The Chico State Herbarium passed another minor milestone by accessioning its 120,000th specimen – see the number 120,000 stamped in the middle of the herbarium logo on the lower left side of the sheet in the photograph. This specimen is another fine example of the collecting and specimen mounting of Lowell Ahart – his collection number 21,434 from last summer. As you can see in the Herbarium Accessions update on page 2, the herbarium accessioned 341 new specimens from Lowell during the year, and he mounted those specimens and most of the other specimens coming into the herbarium, for a total of more than 1700 specimens that he mounted last year. Most specimens are donated to the herbarium unmounted, pressed and each stored within a separate fold of newspaper, with labels typed or printed and ready to use, and these are all mounted by Lowell Ahart in the same meticulous manner you see in accession 120,000.



Ribes cereum—collected by Lowell Ahart, his 21,434th specimen collection, and the Chico State Herbarium 120,000th accession



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