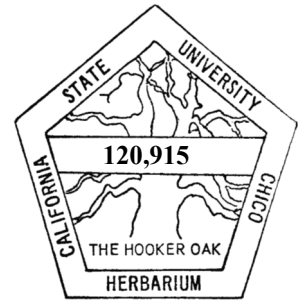




# Friends of the Herbarium

**The Chico State Herbarium  
California State University, Chico**



Volume 24 Number 2

October 2018

## Newsletter

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### Friends of the Herbarium Annual Meeting

**October 27, 2018**

**5:00-6:00 pm**

**Holt Hall 170**

**Chico State University**

**Invited Speaker: Jennifer Jewell**

*Cultivating Place: Leveraging Our  
Human Impulse to Garden in the  
Service of Plants*



Creator and Host of the national award-winning public radio program and podcast, *Cultivating Place: Conversations on Natural History and the Human Impulse to Garden*

Free Admission

**Everyone is also invited to:**

**Friends' Annual Meeting**

**4:00-5:00 pm**

**Holt Hall 170**

Including a presentation by the 2018 Jim Jokerst Botany Award winner: *Understanding Sweet Bottom-Up and Top-Down Trophic Cascades—Honey Dew Gall Wasp (*Disholcaspis elderadensis*)*  
by Drew B. Gilberti

**Open House and Reception to follow at 6:15 pm  
Holt Hall 129**

**Featured: 8th Annual Fall Photo Event and Taco Bar  
Taco Bar**



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.

#### BOARD OF DIRECTORS

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#### *Newsletter*

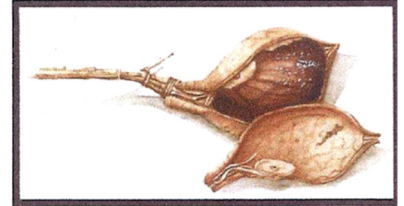
#### **Volume 24 Number 2**

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.

## Upcoming Workshops

For all upcoming workshops and how to register: Friends' website: [www.friendsofthechicostateherbarium.com](http://www.friendsofthechicostateherbarium.com). All workshops are in the Herbarium, Holt Hall 129 on the CSU Chico campus.

**Botanical Illustration Workshop - November 10, 2018. 9:30-4:00pm** Enjoy an autumn day drawing seeds, pods and leaves. Botanical illustrator, Joan Keesey, will lead this one day workshop which will concentrate on accurate botanical drawing and graphite techniques. Joan will provide plant materials, but if there is a specific subject you would like to tackle, please bring it along. Joan has had two solo exhibitions at the Theodore Payne Foundation for Wild Flowers & Native Plants, and in 2015 she won first place in a California Native Plant Society Exhibition ([keesey1@verizon.net](mailto:keesey1@verizon.net)). Cost is \$40.00 (\$30.00 for students and members). Please register in advance.



Buckeye Pod & Seed

### **Wreaths of the Season: Handcrafted with Native Plants – December 1, 2018. 1:00-3:30pm**

Bring native plant beauty and cheer into your Holiday Season! Learn about native plants and preserve them in a naturally fragrant native plant wreath. Led by Jennifer Jewell, host of "Cultivating Place" on NPR and Adrienne Edwards, you will create a fragrant and beautiful wreath appropriate for the holidays. Workshop will be from 1:00-3:30 and the cost will be \$45 for one wreath and \$70 for two wreaths. Native plant and wreath-making material will be provided.



### **Nature Crafted Inks and Watercolor Paints: A Local Color Palette—February 9, 2019. 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.



### **Upcoming Workshops - Just a few that we are working on:**

- Bryophytes (February)
- Plant Families (April)
- Willows (May)
- Riparian Soils (May)
- Ethnobotany (June)



## Butte Creek House Ecological Reserve Phytoblitz

By Rob Schlising

On 4 August a summer “phytoblitz” was held at Butte Creek House Ecological Reserve, a sub-alpine meadow at 5800 feet elevation in northeastern Butte County. The event was co-sponsored by the Mount Lassen Chapter of the California Native Plant Society and Friends of the Herbarium. Marjorie McNairn, Robert Fischer and Rob Schlising had scouted out a route to lead the attendees. A list of vascular plant species for this reserve had been prepared by Vern Oswald in 1999, so the goal of this phytoblitz was to see how many of the plants on the list could be spotted during the short time (several hours) the group searched. Wet-meadow, dry meadow (see photo by Tim Hanson) and dry forest edges were scrutinized. Marjorie suggests that 41 species were found in flower; many other species were found in either pre- or post-flower stages. Marjorie and Robert believe that about 16 species found were new to the 1999 list (e.g., *Mentha arvensis*, American mint; *Carex nebrascensis*, Nebraska sedge; the non-native *Hypericum perforatum*, Klamathweed). The group appreciated seeing many flower-visiting bees, butterflies, beetles and flies while identifying flowers along the curvaceous route (that went to, and around, the apparent glacial moraine well out in the meadow). After a



good day of learning and/or reviewing plants, the phytoblitz wound down at the parked cars. But folks were treated to a neat phenomenon in the soil at roadside there: a large and busy aggregation of ground-nesting solitary bees. Each female of *Diadasia nigrifrons*, a bee a little smaller than the honeybee, was taking loads of white pollen from *Sidalcea* flowers into her own tiny nest hole.



## A Rare Lichen Experience

By Emily Doe

I work for the Forest Service, as Botany Crew Leader for the Feather River Ranger District on the Plumas National Forest. As botany field crew for the Forest Service we do extensive field surveys, searching for rare plants that we want to protect.

One of these plants is a very unique aquatic lichen, *Peltigera gowardii*, or Western waterfan lichen. This obscure and interesting creature has a California Rare Plant Rank of 4.2, meaning it has limited distribution in the state and is fairly endangered in California. It only grows on submerged rocks in creeks with cold, year round water and little to no sediment or disturbance. This makes it very vulnerable to any change in hydrology due to activities like logging, vehicular disturbance, erosion, or some recreational activities.



*Peltigera gowardii* (Western waterfan lichen (black))

Photo by Emily Doe

Last year during creek surveys in the area of Strawberry Valley, my co-worker Claire Meehan and I found a creek

(Continued on page 8)

## Highlights from Recent Workshops

**Butte County Butterflies and Their Host Plant Affinities—June 7th 2018.** Professor Don Miller, workshop leader and Entomologist from Chico State led the workshop. His class was composed of diverse students—from newcomers to the wonders of butterfly biology, to people that had been watching/collecting butterflies for years.

Don presented Powerpoint lectures — garnering many comments and questions, which he seemed to enjoy. These talks emphasized the biology and ecology of butterflies, and his handouts contained diagrams and text that help distinguish the five local families of butterflies. For lab he had pinned specimens representing the different families that students could examine under dissecting ‘scopes. And, as a special treat for viewing only,



Zephyr Anglewing  
Photo by Nancy Groshong

he had a grand display of glass-topped museum boxes containing numerous examples of local butterflies. Don also had a series of herbarium specimens out, and a few live specimens, that illustrated the larval food plants of many local butterflies—including some non-native plants that are also used.

Most of the class accompanied the instructor on the optional field trip the next day. Three places in higher Butte County were visited, and numerous butterflies were experienced in nature. An amazingly appropriate moment happened during the visit to Scotts John Meadow: the instructor, with a book in hand, had a Zephyr Anglewing (*Polygonia zephyrus*) alight on the book—to the delight of the people assembled (see photo by Nancy Groshong)! Later, Don emailed all fieldtrip attendees a tally of the species encountered during the trip—29 species observed!

by Rob Schlising

### Photography Workshop: Native Flowers as Compositional Elements—June 9th 2018

“What story are you trying to tell?” That was local photographer Spencer Dykstra’s leading question during his recent Friends of the Chico State Herbarium workshop—Native Flowers as Compositional Elements. Spencer is a recognized photographer from Chico whose work focuses on California

native plants and other natural subjects.

The June 9<sup>th</sup> workshop was held in the southern Cascades outside of Chico and was greeted by unseasonably stormy weather, which provided perfect cloud-filtered light.

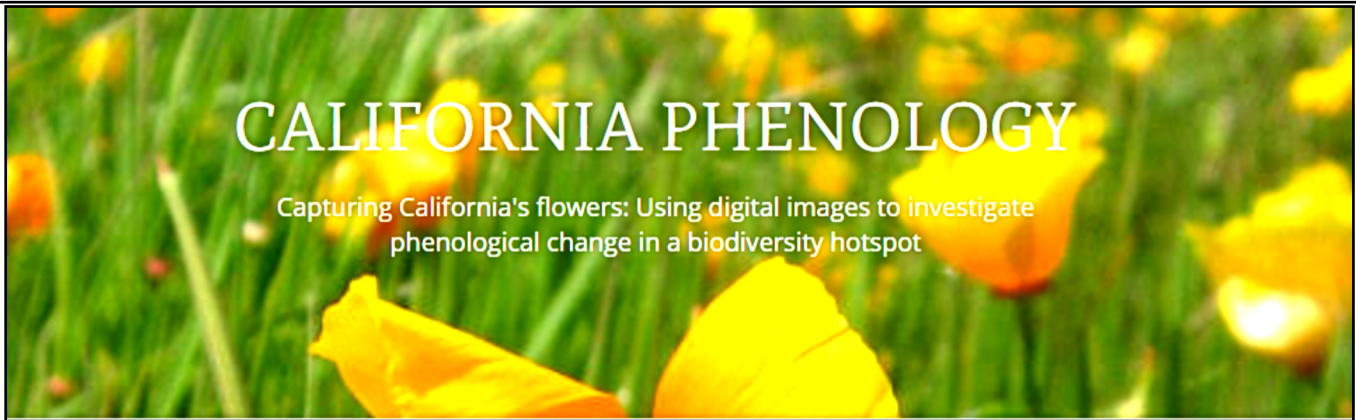
The workshop started in a wet montane meadow filled with early season flowers such as bog saxifrage (*Micranthes oregana*), Sierra bog orchid (*Platanthera dilatata* var. *leucostachys*), and western bistort (*Bistorta bistortoides*). Everyone also enjoyed seeing the interesting flowers of the carnivorous California pitcher plant (*Darlingtonia californica*). After Spencer guided us through suggested techniques and camera settings for macro and landscape photographs, we spread out through the meadow to apply what we learned.

Throughout the workshop, Spencer gave attendees individual assistance to dial in the setting of their cameras, but his primary goal was for us to think about the composition of our images. The diverse flora and landscapes of California are fantastic subjects for creative photography. Unique textures, colors, and shapes combine with countless ecological interactions to provide an observant photographer with ample material for intriguing photos. Spencer continually encouraged us to identify scenes of interest and consider how we could compose our photos to convey the “story” behind our subject.

The workshop finished on an open, volcanic ridge with expansive views and drastically different flora than the meadows we had previously explored. Vibrant displays of Plumas County beardtongue (*Penstemon neotericus*) and mountain pretty face (*Triteleia ixioides* ssp. *anilina*) formed impressive natural rock gardens. It was extremely insightful

(Continued on page 6)





# CALIFORNIA PHENOLOGY

Capturing California's flowers: Using digital images to investigate phenological change in a biodiversity hotspot

The Chico State Herbarium has received NSF funding to digitize the university's plant collection as part of a large California-wide collaboration to understand the effects of climate change on flowering time. The National Science Foundation has awarded \$1.8 million for this project, called Capturing California's Flowers. The Chico State Herbarium is one of 22 participating herbaria throughout the state.

The project will produce nearly 1 million digital images of the plant specimens housed in herbaria throughout California. These plant records go back almost 200 years and have data about when and where the plant specimen was collected. This project will capture the time and place of each collection as well as data about the flowering and fruiting condition of each specimen. This will allow researchers to combine the historical data with current flowering time trends to track change through time. All of the images and data will also be made available to the public via a new online database.

The Chico State Herbarium will receive \$33,660 to image 30,000 records. The Chico State Herbarium just added their 120,000th specimen to their records that supports teaching and research. This includes 98,000 vascular plants, 3200 bryophytes, 1300 lichens and 10,000 slime molds. The current project will focus on the vascular plant collection. The specimens provide a long term reference of the plants for the North Central Valley and beyond. The funds will also be used to improve herbarium infrastructure and support students who will participate in this effort.

A website has recently been created for this project, called CAP TCN, short for California Phenology Thematic Collections Network, at [www.capturingcaliforniasflowers.org](http://www.capturingcaliforniasflowers.org).



Partnering with iDigBio, Integrated Digitizing Biocollections, the National Resource for Advancing Digitization of Biodiversity Collections.



## Restoring Riparian Meadows Along the Sacramento River

By Tom Griggs

Open, riparian meadows that are dominated by native herbaceous species are extremely rare today due to the dramatic alteration of the natural hydrology of the Central Valley as well as all the aggressive invasive species. Only a handful of locations are known today around the Central Valley. Most locations are low-lying and tend to be flooded during a wet winter. This apparently prevents many of the spring invasives from becoming established and competing with the natives.

Working with the Sacramento River National Wildlife Refuge staff, I have been collecting seed of native herbaceous perennials with the intention of restoring a small (4 acres) area. A water pump will allow us to manage the hydrology of this area. So far, we have collected seed from Bolander's sunflower (*Helianthus bolanderi*), Loosestrife (*Lythrum californicum*), Yampah (*Perideridia kelloggii*), hedge nettle (*Stachys stricta*). Native Hibiscus (*Hibiscus lasiocarpus*).

This will be an ongoing project over the next several years. Anyone interested in joining this effort please contact me ([ftomgriggs@gmail.com](mailto:ftomgriggs@gmail.com)) and I will put you in touch with Refuge Manager, Joe Silveira.



(Photo Workshop Continued from page 4)

to see a professional photographer like Spencer's approach to capturing the beautiful scenes on the ridge and it helped us put more thought into the composition of our own images. By the end of the workshop, everyone had photos they were proud of and I think we were all inspired to continue trying to capture images of the compelling stories behind California native plants.

Article and Photos by Tim Hanson

## Mountain Meadows—August 25th, 2018

Kyle Merriam, Sierra Cascade Province Ecologist for the U.S. Forest Service, and Mike Friend, Beckwourth District Botanist for the Plumas National Forest, led a Mountain Meadows workshop on August 25, 2018.



Workshop Leaders:  
Kyle Merriam and Mike Friend

Linnea Hanson had reserved the group campsite at the Grasshopper Flat Campground at Lake Davis. Seven people stayed overnight on Friday and Saturday nights. Jenny Marr and Linnea bought food for dinner both nights that the people camping helped pay for. Linnea and Jenny brought their camping kitchens so there was enough equipment to share. Each person brought their own breakfast. Thank you so much Jenny for all of your help! It was great!

We had a great burrito dinner on Friday night that everyone helped make. And on Saturday night we had spaghetti with Marinara sauce, green salad and French bread. Again, with everyone helping to prepare the food. After dinner

both nights there was a great campfire. It was fun to be able to enjoy the campfire with folks that are interested in plants!

We had eight people plus the instructors show up on Saturday morning. It was a little crazy getting all the cars in the right places. The camp hosts didn't want any cars along the side of their camp road but after getting the cars out that were going on the workshop field trip and the others that weren't going on the workshop field trip parked at the group campsite we were ready to go.

We first visited Dan Blough Creek Meadow west of Lake Davis. Kyle explained the characteristics of meadows and how meadows are classified. She then talked about the functions and degradation that occurs in meadows. Mike Friend and many of the workshop participants developed a checklist of meadow species. We then visited several fens that were also west of Lake Davis. A fen needs to have at least 40 cm of peat in the upper 80 cm to be classified as a fen. Mike and Kyle talked about how grazing alters the species composition of fens. Mike walked us through the Fen Condition Assessment to rate the proper functioning condition of a fen to see if it is at risk.

Kyle and Mike talked about the seral stages of the meadows and what happens when an area is fenced. The early seral stage species come into the area after fencing. They monitored several meadows with fens for 10 years! It was impressive! They have published papers about this work that are available. Kyle and Mike also talked about the fen restoration that is currently being conducted on the Plumas National Forest. Mike mentioned the need for public input in the projects that are being planned on the National Forest and urged the workshop participants to get involved. Everyone who participated said they learned a lot about meadows and fens and had a great time!

Article and Photos by Linnea Hanson)



Dan Blough Creek Meadow



Sunset at Lake Davis



## American Tule, *Schoenoplectus americanus*, a New Plant for the Flora of Butte County

By Lowell Ahart – 15 August 2018

Alex Palmerlee, who is doing restoration work on the Far View Ranch, a ranch in the foothills between Honcut and Bangor, needed help with the identification of some plants. So he asked around and learned that I might be helpful. Then I received an e-mail about a grass, with a nice picture, and I replied to Alex that I did not know the grass. The next e-mail had five pictures. The first picture was a plant with round leaves and I thought it might be western brookfoam (*Boykinia occidentalis*). The second and third pictures were of a *Schoenoplectus* that looked like rough-seeded bulrush (*Schoenoplectus mucronatus*), which grows along North Honcut Creek and is a bad rice field weed. The fourth was of a stem that had a white sap and Alex thought it was some kind of a milkweed, but it was indian-hemp (*Apocynum cannabinum*). The fifth Alex thought was saltgrass (*Distichlis spicata*) which was correct. Alex told me these five plants were found along South Honcut Creek.

I asked Alex if he would take me along when he made a trip to collect seeds for his restoration work. So on 9 August 2018, he came to my home to pick me up at 7:30 a.m. We went in his little car to Bangor, then down Los Verjeles Road to South Honcut Creek. Alex parked in a wide spot and we walked across the bridge and down a steep slope



Lowell Ahart's collection number 21,872 (CHSC #120864) of American tule (*Schoenoplectus americanus*).

to the creek. The area is of riparian vegetation and it was somewhat difficult to get through the berry vines and shrubs. We came to the round-leaved plant and it was indian-rhubarb (*Darmera peltata*). We went on down the creek and the riparian vegetation disappears, for the area is of bedrock and little grew on it. It was here we saw the *Schoenoplectus*. It was a very robust perennial with large tough rhizomes, certainly not rough-seeded bulrush. Farther down the creek we found the indian-hemp and the saltgrass.

All along the hike I collected a few plants and put them in plastic bags. When we reached a small sand and gravel bar it had a scattering of a lot of different plants, mostly weeds. I collected many and put them in plastic bags. On our way back to the car I collected a few more plants.

On the way home I told Alex how I once grew native plants. On collecting a young plant in the wild I would bring it home in a plastic bag. When I removed it from the bag to put in a gallon pot I would remove all the leaves except the top one or two. I would then pot the plant and water it and put it in shade on the north side of a building and out of the wind.

When I got home from the trip with Alex I put the collected plants in two plant presses. I recorded in my Plant Journal what I had collected. When got to the *Schoenoplectus* I checked The Jepson Manual II and found it to be American tule (*Schoenoplectus americanus*). This is a new species for Butte County, and also for Yuba County since South Honcut Creek is the dividing line for the two counties. I collected 33 different plants and some duplicates of them. This *Schoenoplectus americanus* is my collection number 21,872.

New discoveries are often a matter of going to a new place, or a little further, or later in the year, and with good company. Thanks to Alex Palmerlee we did this trip and I had an excellent time. So, **All Right!!!** (But what a lot of work!)



Achenes from Lowell Ahart's collection number 21,872 [achene = a small, dry, one-seeded fruit that does not open to release the seed].

(Rare Lichen Continued from page 3)

with several waterfalls abundant with the Western waterfan lichen, much more than I have ever seen anywhere else! It was completely covering the rock faces of the waterfalls in this creek, as well as scattered on many of the submerged rocks in the creek. We dubbed this area the “Motherlode of Peltigera” and playfully named one waterfall “Peltigera Falls”. What fun is was finding this beautiful, undisturbed area full of this rare water lichen!

Now that we know it is there, we can make sure this occurrence of Western waterfan lichen gets protected from any disturbance that would cause it to decline in health or abundance. These are the kind of days that make me feel happy and proud of the job I do, and blessed to get to experience such natural splendor!



Photo with fellow botanist, Claire Meehan, at the top of “Peltigera Falls,” Feather River Ranger District, Plumas National Forest.

(Photo by Emily Doe)



## The Success of the Chico State Herbarium is a Collective Effort

The Chico State Herbarium turns into a flurry of productive activity on Fridays. Dedicated volunteers show up to help with accessioning new plant specimens and importantly, helping train students which includes how to read and enter label information correctly. Students are also an important part of the team. Every semester we have new students sign up for credit to work in the Herbarium (we have three students this semester) and often these students are able to use this experience to get seasonal or permanent jobs working in a botanical related position.

Due to the collective efforts of the Curator, Lawrence Janeway, the volunteers, students and an incredibly active botanical community in our region, we are one of the largest regional herbariums in the state (see inset above). The value of this resource was recently recognized in the successful funding of a National Science Foundation grant to establish the California Phenology Thematic Collections Network (Page 5)

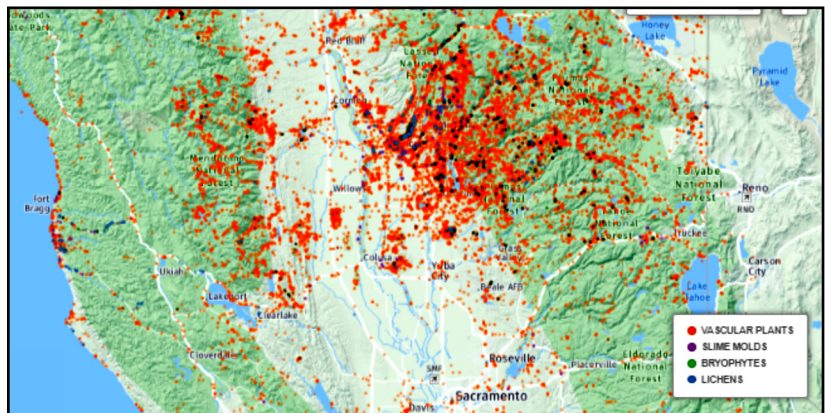
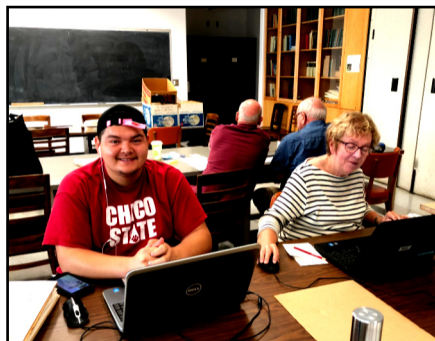


Image from the FOH website home page: Each dot represents a specimen. Vascular plant specimen data are searchable at the Consortium of California Herbaria website and Bryophyte, Lichen and Slime Mold (*Myxomycetea*) data is searchable on separate on-line portals





**Book Review:**

**“Botanical Inks: Plant-to-Print Dyes, Techniques and Projects”**

In her debut book, Babs Behan teaches all you need to know to become confident with natural dye-making and a variety of interesting application techniques for the home-dyer whether you are interested in textiles or paper. Babs is the founder of Botanical Inks – an artisan natural dye studio based in Bristol, England. Babs first learned about natural dyeing and printing processes in India and has brought her years of traveling and learning about artisanal dyeing techniques to her studio in Bristol and now, world-wide in her book. The book is full of beautiful pictures demonstrating the wide array of patterns that can be created and the rainbow of colors that can be obtained from natural plant materials including flowers, foraged plants, leaves, berries and even recycled food waste! The book is well thought out with an explanation of how to choose the right materials, how to use modifiers, specific plant materials that can be used to obtain certain colors, step-by-step directions for the different application methods, and fun projects to make with your newly dyed textiles or paper. It truly has made me confident and excited about starting my own home-dyeing project. I was particularly interested in learning about the Hapazome

printing technique and the Shibori ancient Japanese dyeing technique. Although Babs is based in the UK, many of the plant materials she specifically explains how to use to make dyes are readily available such as avocado, nettles, onion skins, dock and eucalyptus. It will be fun to see what colors can be derived from some of our locally native plants!

By Elena Gregg



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

- Student.....\$20
  - Individual.....\$35
  - Sustaining.....\$100
  - Lifetime .....\$1,000
  - Jim Jokerst Award .....\$\_\_\_\_\_
  - Annual Fund .....\$\_\_\_\_\_
  - Endowment .....\$\_\_\_\_\_
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This is a membership renewal for 2019#

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

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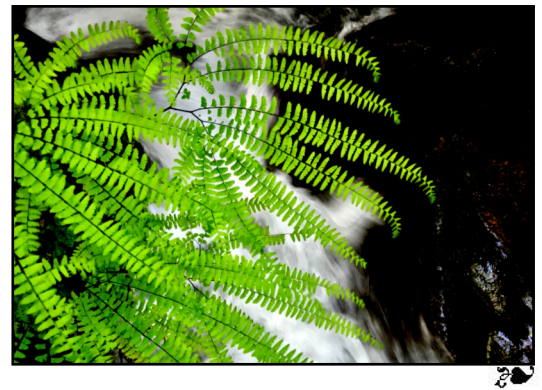
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# Fall Native Plant Photo Contest Continues....

## 8TH ANNUAL CALIFORNIA NATIVE PLANT PHOTO CONTEST

We continue to celebrate all things beautiful, wild and wonderful regarding our native flora with our 8th annual photo event. This year, we have changed the process for photographers to enter their photographs. Easy as one-two-three! No printing or mailing required. Simply go to the Friends of the Herbarium webpage, click on Events and California Native Plant Photo Contest. Submissions are on-line and there is no charge for submitting your favorite photo of a native plant.

Submissions are due **October 15th** and the the Grand Prize winner will receive free registration to a Friends of the Chico State Herbarium workshop of their choice. Honorable mention photos will receive the really cool Friends of the Chico State Herbarium t-shirt in a color of their choice. Submissions will be featured at the upcoming Friends of the Herbarium Annual Meeting (October 27th) and highlighted in the Spring Newsletter.



**Friends of the Chico State Herbarium**  
California State University, Chico  
Chico, CA 95929-0515