

THE CYPRESS CONE

CALIFORNIA NATIVE PLANT SOCIETY
SANTA CRUZ COUNTY CHAPTER



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Spring 2022

Between Scylla and Charybdis: A Holiday Botanizing in the Ionian Basin of Kings Canyon National Park with Michael Uhler

Chapter General Meeting

Monday April 4, 2022

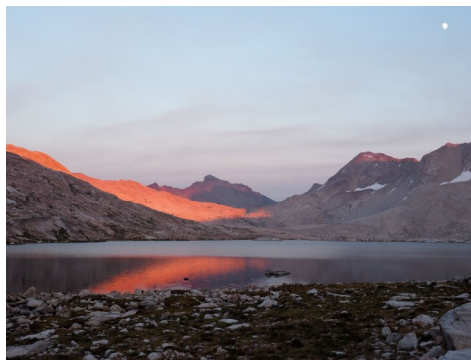
Ceanothus Keying Session with
Deanna Giuliano 6:00 pm to 7:00 pm

General Meeting at 7:00 pm

UCSC Arboretum (masks required)

Welcome everyone to the first in-person public meeting for our Chapter in two years! We will hear about a very remote region of the Sierra Nevada, where few venture—considering its austere landscape characterized by granite, talus and remote high lakes, surrounded by beautiful mountainous peaks named after sea monsters from Greek mythology. The Ionian Basin is a rarely visited, remote, trail-less, alpine region of Kings Canyon National Park. Michael Uhler will present images from this backpacking trip that starts by ascending Lamarck Col and takes us through Darwin Canyon and Evolution Valley then into the striking Ionian basin.

Speaker Michael Uhler has professionally gardened since 1987, and has been a horticulturist at the Regional Parks Botanic Garden for 17 years, where he maintains/curates the largest collection of Sierra Nevada plant species to be found in a public garden.



Wanda Lake looking towards Muir Pass and the Black Giant. The orange hue is accentuated by the smoke from the 2020 Castle Fire. Tragically, estimates are that 10-14 percent of all large wild growing (4 ft. diameter or greater) giant sequoias (*Sequoia giganteum*) were killed during this fire. Photo: Michael Uhler



"Between Scylla and Charybdis the enchanted gorge lay" as viewed from Wanda Pass. This is the first view of the Ionian Basin on the trip.

Photo:
Michael Uhler

Prez Sez

Linda Brodman

What is stewardship and leadership?

At its most basic level, stewardship is acting upon the understanding that leadership is a temporary role which is outlasted by the lifespan of an organization. A leader is performing the act of stewardship whenever he or she is actively preparing for an organization's future vitality. (NY Times, in Education, 2022)

In March, our Chapter moved to an electronic format/document for our Board elections. In the past, we conducted elections in-person; however as we found out in January, we had to cancel our in-person Chapter meeting. Our membership response was supportive of the slate put forth, and here are our election results for the Chapter's 2022 leadership team:

Chapter Officers

Executive Committee

President	Linda Brodman
Vice President	Lucy Ferneyhough
Treasurer	Linda Brodman
Council Delegate	Lucy Ferneyhough
Secretary	Marisa Gomez
Past President	Deanna Giuliano

Board Members

Deanna Giuliano
Sylvie Childress
Suzanne Schettler
Stephen McCabe
Kari Olsen
Joe Bonanno
Eva Marie Bonanno
Ariel Hunter

(Continued on page 3)

Spring Field Trips

Glenwood Preserve

Monday, March 28, 10:30 am to 2:00 pm

Join Andy Werner on Monday, March 28 for a look at East Glenwood Preserve in Scotts Valley. This new preserve is owned by the City of Scotts Valley and is open to the public at no charge. It has some of the best local wildflower displays and the trails are very well done and not strenuous.

Maximum length of hike is around 3-4 miles. Bring water, lunch or snacks. If there is time we may take a peek at West Glenwood!

Meet at 10:00 am at the East Glenwood Parking lot. We will return by 2:00 pm to the parking. To get there: take Hwy 17 to Scotts Valley. Take the Granite Creek exit and get on Scotts Valley Drive northbound. Turn left at signal to Glenwood Drive and travel about a half-mile to the parking on the right side of Glenwood Drive.

For signup and info, contact Andy at apwerner44@gmail.com. Hike is limited to ten people.

Ft. Ord National Monument

Tuesday, April 12, 10:00 am 2:00 pm

Join Andy Werner on Tuesday, April 12 for a Ft Ord National Monument Field Trip.

Meet at the Creekside Parking Lot off of Portola Dr. at 10:00am. We will see a wide variety of wildflowers that one simply cannot see anymore in Santa Cruz County. The hike is up to 6 miles, but can be shortened. Hike is moderate and elevation gain may be 500'. Sunny exposure and some hills. Bring lunch and water. We will return to cars by 2-3 pm.

For signup and info contact Andy at apwerner44@gmail.com. Hike is limited to ten people.

Pogonip

Saturday, April 30, 11:00 am to 2:00 pm

Join Grey Hayes on Saturday April 30 in one of the treasured greenspaces in the City of Santa Cruz. Grey will show you some of our beautiful coastal terrace prairie, oak woodland and redwood forest. Stands of *Stipa pulchra*, *Danthonia californica*, *Calochortus uniflorus*, and *Brodiaea terrestris* are among some of the treasures to be seen. Hike will be easy to moderate. Bring water, layers, sunscreen, hat, and a lunch. Meet at the end of Golf Club Drive. Heavy rain cancels.

If you have questions about the trip, contact Deanna Giuliano at drosegiuliano@yahoo.com or (831)278-2699.



Upcoming field trip! One of many beautiful sky lupine displays at East Glenwood Preserve.
Photo: Andy Werner

Habitat Restoration

Saturday, March 26, 2022 10 am to 1 pm
Quail Hollow Ranch County Park

Saturday, April 23, 2022 10 am to 1 pm
Location to be determined

Saturday, May 7, 2022 10 am to 1 pm
Location to be determined

Some weekday projects in April and May may be added. Contact Linda Brodman by phone or email if you are interested in coming out for a listed date, project, or want to volunteer in the future.

We are a volunteer group working to restore native habitat in the parks and protected lands in Santa Cruz County. Our program provides an opportunity for people to learn about the natural systems that surround them while helping to restore special and wild places. No prior work experience is necessary, just show up at the park.

We welcome individual volunteers from 8 to 80 years, as well as special group projects. Wear comfortable layered clothing, bring something to drink, and lots of enthusiasm! We work rain or shine, but if things get particularly unpleasant, we call it a day. Tools provided; bring gloves.

Contact: Program Leader, Linda Brodman (831)462-4041, redwdrn@pacbell.net

Take Action! Santa Cruz County Sudden Oak Death Blitz May 13 to 16, 2022

The Sudden Oak Death (SOD) Blitz Survey Project is a 15-years old citizen science program designed to map the distribution of SOD in California, identifying locations where native oaks should be treated to prevent SOD infection and death. Local SOD Blitzes are for people of all ages interested in learning about the ecology of forests and willing to spend a couple of hours in an oak woodland.

Every year, in the spring, several SOD Blitzes are organized in local communities throughout Northern and Central California.

Why the 2022 Blitzes are so important:

1. The SOD pathogen is exotic and invasive, thus every year its distribution changes and new outbreaks need to be mapped. While SOD is lethal to oaks, it spreads thanks to apparently innocuous infections of California bay laurel leaves.
2. When a local outbreak is mapped thanks to a SOD Blitz, oak owners in the area will be alerted their oaks are at risk. Preventing oak infection by SOD will also mitigate wildfire risk and hazards caused by tree failures.
3. Multiple pathogen strains cause SOD. While the NA1 strain is now naturalized in California oak woodlands, the more aggressive European EU1 strain been detected in a single California location and is currently under eradication. Early detection and eradication of this new strain may save California from a worse SOD outbreak.
4. After multiple dry years in a row, the SOD pathogen survives only on a small number of California bay laurels. Identifying those bay laurels that are still infected by SOD in 2022, after four dry years, is a unique opportunity to identify bay laurel trees that may be removed to flatten the SOD epidemic curve. This cannot be done in rainy years because too many trees are infected, so 2022 offers a not to be missed opportunity!

For more detailed information about the logistics of the May 13th-16th Santa Cruz County SOD Blitz at the UCSC Arboretum, email Jon Detka at jdetka@ucsc.edu.

Find out more at sodblitz.org.



Notes from the Lead Propagator

Peritoma arborea. The common name of this small shrub is "Bladderpod," an unfortunate name for an incredibly beautiful plant irresistible to pollinators. The first time I saw this plant in full bloom was a January day in the renowned gardens at Natural History Museum of Los Angeles; its bright yellow blossoms were buzzing with bees of all kinds. Though this species' natural range is Southern California, it happily grows on our Central Coast. The abundant bright yellow flowers appear nearly year-round leaving behind interesting-looking seed pods amongst the fine-textured blue-green foliage (note: it will self-seed). Its fast growth, tolerance of multiple soils, and ability to thrive with minimal to no supplemental water make *Peritoma* one of the easiest natives to grow.

—Kari Olson

Spring Plant Sale Saturday, April 9 10:00 am to 2:00 pm, UCSC Arboretum

Members get in early for best selection!

The ever-popular Santa Cruz Chapter Spring Plant Sale will be held in person at the UCSC Arboretum on **Saturday April 9th!** We have a fabulous selection of California natives lined up for this sale featuring plants from our local area and the central coast region.

The sale runs from 10:00 - 2:00, with the first hour reserved for CNPS members (all chapters) so *get there early for best selection*. Our Fall 2021 was a record sell out in under two hours with most of the plants selling in the first hour. It is so exciting and rewarding to see such a high demand for native plants!

Featured are over one hundred species of native plants, many of which are new offerings for our Chapter including several *Ceanothus*, *Ribes*, and *Arctostaphylos* cultivars. Also offered is a selection of spring flowering bulbs and annual wildflowers providing instant garden color and diversity for pollinators, as well as lots of plants in our most popular genera: *Iris*, *Erigeron*, *Diplacus*, *Artemisia*, *Achillea*, and *Grindelia*!

Did you hear to get there early?

Prez Sez (Continued from page 1)

Many thanks to outgoing board members—Julia Davenport, Ann Garside, Brett Hall, Mary Ellen Irons, Janice Kuch, and Karen Laing. Their contributions over the years have been immense, and behind the scenes, they will continue to volunteer their time to the Chapter leadership team in their own ways.

Stewards are part of every organization. They offer their time, skill set, and selfless service for the betterment of the organization. They are volunteers who live the institution's values and mission, carry on its traditions, preserve its history, and want **YOU** to be involved. Join us.

We hope you enjoy the newsletter. Take a look at all the engaging things happening this Spring—native plant sale, in-person speaker event, field trips, SOD Blitz, habitat restoration, and yes a ZOOM event coming your way too!

Thank you for your support of our Chapter, and mission in protecting California flora.

Current Efforts To Restore The Imperiled Santa Cruz Tarplant

By David Sanchez Venegas, Savannah Vucinich, and Amaris Corona Sandoval

Holocarpha macradenia (commonly known as the Santa Cruz tarplant) is an annual herb in the daisy family. It is listed as an Endangered species under the California Endangered Species Act, a threatened species under the federal Endangered Species Act, and has a California Rare Plant Rank of 1B.1. This plant has clustered, spike-like inflorescences of yellow disc and ray flowers with distinctive pit glands on the phyllaries.

The Santa Cruz tarplant was historically common throughout grasslands and coastal terrace prairie ranging from Monterey County to Marin County. The plant's natural coastal prairie habitat has been detrimentally reduced to a small range due to habitat destruction. As a result of urban development, non-native species introductions, agriculture, and disturbed fire regimes, the Santa Cruz tarplant populations have been decreasing rapidly.

There are now only 22 known populations of the Santa Cruz tarplant left. Many of these populations are unnatural and only surviving because of reintroductions. The majority of the remaining populations are in Santa Cruz County. Some of these populations are located in the Arana Gulch, Twin Lakes, Harkin Slough, and Elkhorn Slough. One population of focus for restoration efforts in Santa Cruz County is the Arana Gulch population, which is estimated to have declined from over 100,000 individuals to only 1 individual in recent years. Continued conservation efforts are required in order to sustain the species and protect the remaining habitats from further degradation.

Recent management efforts at Arana Gulch have focused on outplanting greenhouse-grown seedlings of the Santa Cruz tarplant. The goal of these labor-intensive outplanting efforts is to revitalize the depleted seed bank. Once the seed bank is sufficiently replenished, management efforts will shift to a maintenance strategy. Mowing and grazing will likely be used to expose the bare ground that the tarplant needs to thrive, and consequently, reduce competition with exotic annual grasses and forbs. In 2021, approximately 1000 seedlings were planted in multiple plots with varying experimental treatments: mowing, sheet mulching (cardboard topped with fir bark), grazing, and no treatment. Plants in the sheet mulching treatment grew much larger and resulted in significantly greater seed-set and recruitment than plants in the other treatments.



Simulating fire by torching thatch on top of potted seeds.

Photo: Sylvie Childress

In late 2021, the City of Santa Cruz received a \$22,050 grant from the U.S. Fish and Wildlife Service to fund the extension of this experiment with a second year of outplanting.

This year, 1,000 seedlings were planted into several macro-plots, each containing four micro-plots, throughout the Arana Gulch coastal prairie grassland. These micro-plots include a cardboard covered with rice straw plot, a cardboard covered in wood chip plot, a double-layered cardboard plot, and a control plot without sheet mulch. Iron phosphate is applied to all plots to reduce predation of the seedlings by snails and slugs. The cardboard, rice straw, and wood chip mulch treatments are expected to reduce competition with invasive, nonnative grass and weed species. These different mulching media are being used to determine which is simultaneously the most effective at suppressing nonnative grasses and weeds while also allowing strong seedling recruitment the following year.

The grant is also being used to fund germination research by the UCSC Greenhouse in order to learn how to stimulate the dormant seed bank to further increase the tarplant population.

Holocarpha macradenia inflorescences have two types of flowers (ray and disc) and produce two types of seeds. The seeds produced by disc flowers germinate readily with the onset of seasonal rains. However, the ray seeds remain dormant in the seed bank as a backup survival strategy. Prior researchers have not been able to pinpoint the environmental stimulus that breaks that dormancy and causes ray seeds to germinate. This important piece of the Santa Cruz tarplant's unique ecology could hold clues to inform future land management actions toward population recovery.



A petri dish containing ray achenes given a liquid smoke treatment. Photo: Sylvie Childress

(Continued on page 5)



Ceanothus thyrsiflorus, blue blossom. Photo: Linda Brodman

Learn How to Key Out *Ceanothus* at our April 4 General Meeting:

Plant Keying Session with Deanna Giuliano from 6:00 pm to 7:00 pm

Deanna will have *Ceanothus* specimens on hand; we will get to see some local species and identify their differing characteristics. This genus is very popular in landscaping applications. Insects, especially bees and butterflies, are attracted to the flowers. If you have a hand lens, microscope, Jepson Manual or any resource book, bring them with you to the meeting.

Tarplant Efforts at Arana Gulch

(Continued from page 4)

To answer this question, researchers at the UCSC Greenhouses are currently conducting an *ex situ* ray achene germination experiment. Researchers designed the experiment to mimic several natural environmental processes that may occur at Arana Gulch. Grassland fires were simulated with liquid smoke, heat, and charate treatments. Rodent, bird, and cow activity was represented with seed mechanical scarification, acid (i.e., “digestion”) and cow dung treatments. Researchers are also considering variables of soil microbial activity, seasonal temperature variation, and light exposure and their potential roles in seed germination.

Overall, the experiment consists of fifteen seed treatments, with five replicates of each treatment placed into a dark incubator and another 5 replicates of each treatment in an incubator with a 12 hour photoperiod. Both incubators are programmed for cold winter-like conditions (i.e., “cold stratification”) then will later be warmed to more spring-like conditions. These are examined for germination twice a week. It is too early to report on the results of this experiment, but there has already been substantial successful germination in a variety of the treatments.

This article is the collaborative capstone of a quarter long “Rare Plant Conservation in the UCSC Greenhouses” internship, advised and edited by Greenhouse

Director Sylvie Childress. The authors are student scientists in UC Santa Cruz’s Environmental Studies and Ecology and Evolutionary Biology departments, who have participated in many phases of tarplant conservation research.



Rare Plant Conservation interns David, Savannah, and Amaris sowing seeds in the lab.

Chapter Zoom Event!

Underwater Gardening: Eelgrass Restoration on California’s Coast

Thursday, April 14th, 5:30 pm to 6:30 pm

Restoring native plants underwater is a lot like restoring native plants on land, but researchers working on eelgrass trade the usual jeans and sun hats for wetsuits and snorkels to plant eelgrass!

Join us for a virtual talk on eelgrass restoration with Kathryn Beheshti, Assistant Researcher at the Marine Science Institute at UC Santa Barbara. Kathryn will review highlights from her work in California’s estuaries, and share details on an exciting new way people can help restore eelgrass on their own.

Members will receive an email with the Zoom invitation.

Interested in a Post-fire Sampling Opportunity?

Alexis LaFever-Jackson, Lead Vegetation Ecologist for CNPS will be conducting post-fire sampling across the Santa Cruz, Santa Clara, and Monterey counties this field season. Alexis is looking for people who are interested in going out into the field. The current potential dates range from April 10th to 13th, May 16th to 27th, June 1st to 12th, and the 20th to 31st, with some flexibility.

If you are interested in learning about post-fire sampling of vegetation, you can contact Alexis with dates of availability and how long you are able to commit on those dates. Alexis typically plans for an 8-10 hour day but is open to flexing that if need be. Note: this is not a formal training on how to collect post-fire data.

Contact: Alexis LaFever-Jackson, CNPS Lead Vegetation Ecologist, email: alafeverjackson@cnps.org, phone (916) 738-7617.

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Hiking • Propagation • Keying Club • Conservation • Habitat Restoration • Field Trips • Herbarium Work • Talks

Welcome New Members!

We hope to meet you at our next General Meeting on Monday, April 4, 6:00 pm keying session, 7:00 pm meeting. UCSC Arboretum and Botanic Garden. Masks required.

Please note: Our Santa Cruz County Chapter will no longer be posting the names of our newest members. The State CNPS organization is in the process of updating policy and privacy rules to comply with new California State mandates. The following clarification was sent out to all chapters in a January revision of the *Data Policies and Details* portion of Membership Report Policies & FAQ's:

"...This includes avoiding publishing personally identifiable information, such as listing the first and last names of new members in your newsletter..."

Members who currently receive *The Cypress Cone* as a hard copy but prefer digital form, contact Ann at anng@calcentral.com and she will switch you, or log onto your CNPS account.

Join the California Native Plant Society!

Your membership includes: *Artemisia* scientific journal filled with articles on all aspects of native plants; *Flora* magazine presenting statewide activities and schedules; and Chapter newsletter *The Cypress Cone*.

Fill out the form below or visit the state CNPS website (www.cnps.org) to join or renew your membership online. State your chapter affiliation as the Santa Cruz County Chapter.

Name: _____
Address: _____
City, State, Zip: _____
Phone: _____
Email: _____
Chapter affiliation: _____

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CNPS is a 501(c)(3) Non-profit Organization dedicated to the preservation of California native flora

CNPS has thirty-four chapters throughout the state and membership is open to all persons, professional and amateur, with an interest in California's native plants and other activities such as natural history, botany, ecology, conservation, photography, drawing, hiking, and gardening.

Donations are tax-deductible and support locally special projects such as publication of the County Checklist and conservation activities that preserve important habitats and rare species in our area. You may earmark gifts for specific areas. Please make donation checks payable to CNPS and send to: Santa Cruz County Chapter CNPS, P.O. Box 1622, Santa Cruz, CA 95061. Website: www.cruzcnps.org