



GOLD FIELD NOTES

EL DORADO CHAPTER ☼ CALIFORNIA NATIVE PLANT SOCIETY ☼ NOVEMBER-DECEMBER 2021

NOVEMBER 16 PROGRAM

NEW LIGHT ON *Calochortus* EVOLUTION

Prof. Thomas Givnish from the University of Wisconsin-Madison will talk on a flowering plant called *Calochortus*, a 72-species member of the lily family that is found in many areas of the western Americas but has a center of diversity in California.

Anyone who has hiked or wandered through a wild meadow in Northern California in the spring has seen these wonderful plants—**fairy lanterns**, **cat's-ears**, star tulips, mariposas, and more—with enormous variety and exquisite beauty.

Prof. Givnish will talk about how different versions have evolved several times and now have fairly narrow ranges. He and his colleagues use next-generation DNA sequencing to understand relationships and screen for hybridization. He will discuss some of their recent findings, including the discovery of a species complex surrounding the Central Valley; a cryptic species (one that appears identical to another but is genetically quite distinct) hiding in plain sight; the rampant diversification of plants in the Bay Area; and progress on research to identify the genetic basis for **fairy-lantern and cat's-ear** flowers and the ecological conditions that favor them.

Prof. Thomas J. Givnish is a plant evolutionary ecologist and holds the Henry Allan Gleason Chair in Botany and Environmental Studies at the University of Wisconsin-Madison. His interests focus on plant adaptation, speciation, molecular systematics, historical biogeography, adaptive radiation, and determinants of diversity. Givnish **analyzes the connections of key physiological and morphological traits to a plant's ability to compete successfully in different contexts**, and uses what he learns to help explain global patterns in plant form, physiology, distribution, and diversity, and to reconstruct patterns in ecological radiation, geographic spread, and species diversification of plant lineages through time and space.

The presentation will be given via Zoom and is free and open to all. Advance registration is required. Visit this link to register: <https://tinyurl.com/Reg4EDC-CNPS>.

Photos, upper left and lower left: Fairy lantern (*Calochortus albus*); Lower right: Cat's ear (*Calochortus coeruleus*). Photos: Steve Perry.

CALENDAR

November 16 (Tuesday)

Chapter program.
New Light on *Calochortus* Evolution with Thomas Givnish. Zoom meeting; details right.

November 18 (Thursday)

Talk (Zoom).
Friends of the Chico State Herbarium presents Emily Brodie on Fire and **California's High Elevation Five-Needle Pines**. For more information: <http://www.friendsofthechicostateherbarium.com/eventsviewcalendar/>

January 28 (Tuesday)

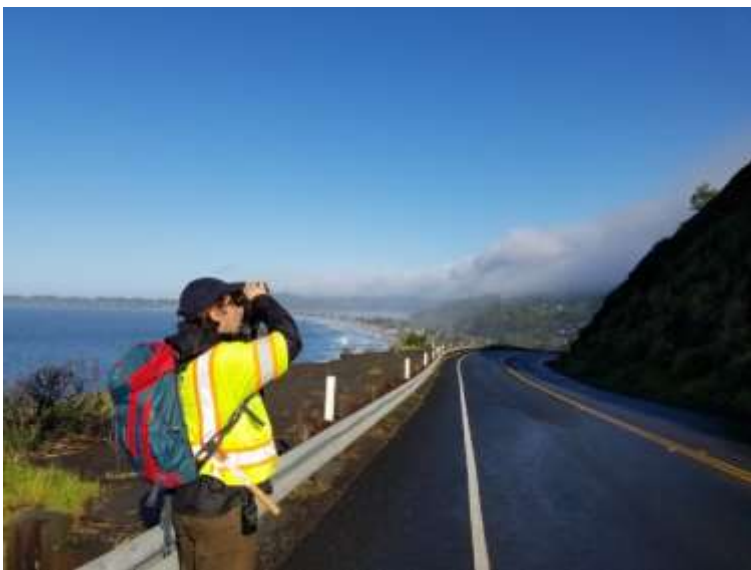
Chapter program.
Becky Estes, Ph.D. will talk about the dynamics of the Caldor Fire 2021. Details in the next newsletter.



CAL – INVASIVE PLANT COUNCIL CONFERENCE OCTOBER 2021

This year's conference focused on weed management strategies more from a policy perspective rather than on Herbicide X applied to Weed Y. Prevention is the first priority for weed invasions to keep a weed from entering an area. It could range from keeping your neighborhood free of stinkwort to washing weed seeds from fire fighting equipment to state level prohibitions against certain salt water aquarium species, like *Caulerpa*. The second strategy, Early Detection Rapid Response (EDRR) is employed after a weed has arrived in the state. For example, two 3-year "Cycles of EDRR on Mt. Tamalpais" were just completed by the Golden Gate National Parks Conservancy in which all the 250+ miles of roads and trails at Mt. Tamalpais were walked and searched. When a target plant was found, they would spend no more than 10 minutes on control efforts. Weed occurrences were mapped on Calflora. As a side note, Calflora is not used only for native plant occurrences, but also for exotic plant species. Several speakers mentioned using Calflora to map weed infestations due to ease of use and to make weed distribution information readily available to the public.

At the next level, Weed Management Areas (WMA) are regions united by topography rather than delimited by county lines that weeds readily cross. The El Dorado County WMA, headed by LeeAnne Mila, Deputy Agricultural Commissioner, includes lower El Dorado County, Lake Tahoe, and Alpine County and its efforts are mostly directed toward weed introductions and treatments following fire, such as Yellow Star Thistle introduced to South Lake Tahoe following the 2007 Angora Fire, and Spotted Knapweed following the 1992 Cleveland fire (<https://www.cal-ipc.org/solutions/wmas/el-dorado-wma/>).



Early Detection Rapid Response on Mt. Tamalpais (<https://www.onetam.org/early-detection-beyond-boundaries>) Photo: Golden Gate National Parks Conservancy.

STINKWORT BROCHURE

Our brochure on Stinkwort is included with this newsletter for your perusal and possible printing and posting. Note that while now is the best time to see the plant in full maturity, it is the worst time for controlling it as plants with flowers and seeds should be carefully bagged and removed to get rid of the seeds. Nonetheless, posting it in your neighborhoods or sharing it with your neighbors will increase both their awareness and control actions next summer when removal is a lot easier.

To any member that would like to post the brochure more widely, please contact us via email (<https://www.eldoradocnps.org/about-us/contact-us>) with the number of brochures you need, and your name and address; they will be mailed to you free of charge.

At the state level are organizations like the California Invasive Plant Council (Cal-IPC) that bring together agencies, consulting firms, and academics involved with weed spread, control, and biology, and the California Department of Food and Agriculture (CDFA) that keeps track of invasive plants (and other organisms) and is tasked with keeping noxious organisms out of the state (https://www.cdfa.ca.gov/plant/ipc/encycloweedia/weedinfo/winfo_table-sciname.html - click on link to download a pdf of weeds). This year's CDFA weed alerts, presented by state botanist Robert Price, included Purple Ragwort (*Senecio elegans*), Garlic Mustard (*Alliaria petiolata*), Sea daffodil (*Pancratium maritimum*) and *Lathyrus nissolia*, plants that are in early stages of invasion with the potential to become more widespread.

Looking to the future, in October 2020, Governor Newsom issued Executive Order N-82-20 calling for California to conserve 30% of its lands and coastal waters by 2030 (30x30) to protect biodiversity, combat climate change and expand equitable outdoor access for all Californians. Dr. Christina Sloop, California Department of Fish and Wildlife's (CDFW) lead scientist, stressed the importance of prevention, early detection/rapid control, and eradication of invasive species as necessary to protect the State's exceptional biodiversity as part of the 30x30 goal.

Deb Ayres
Invasives Exotics Co-chair



Spotted Knapweed (S. Perry)

FALL PLANT SALE— ANOTHER SUCCESS!

Thank you to everyone who made the October chapter plant sale such a success!! A nice variety of natives went out to 115 or so households, where people will now learn more about these native species, use less water, and where insects, birds, and other wildlife will now be able to find more plants around that they have evolved with.

Plants were ordered online in earlier weeks and then picked up in person at Govt Bldg C, where some native plants and mosaic art were also available for in person browsing. The new chapter plant sale website was a great improvement, as were Kit's new organizing methods. Kudos to Kit for producing another great plant sale, and to all the volunteers who helped! Spring sale is tentatively planned for April 9 pick up date. Stay tuned!



Kit Veerkamp, OJ Gow, Shellie Perry, and Ginna Meyer sort plants in early morning hours.



Pick-up location, boxed orders, and volunteers awaiting customers. Photos: Kathleen Barco



GLASS MOSAICS AT THE FALL PLANT SALE

The Snoring Orange Studio (<https://snoringorangestudio.com/>) joined the plant sale this year with their nature themed mosaics. Intrigued by glass mosaics? Check out their website for workshops on mosaic making.

JANUARY 25 PROGRAM:

Becky Estes, Ph.D. will talk about the dynamics of the Caldor Fire 2021. Details in the next newsletter.

Interested in some background on the Caldor Fire? Check out this information site: <https://inciweb.nwcg.gov/incident/7801/>





El Dorado Chapter
 California Native Plant Society
 P.O. Box 1948
 Placerville, CA 95667

November-December 2021

For Updates Visit Us on the Web
www.eldoradoCNPS.org and



CALIFORNIA
 NATIVE PLANT SOCIETY

DEDICATED TO THE
 PRESERVATION OF
 CALIFORNIA'S NATIVE FLORA

The California Native Plant Society is a statewide nonprofit organization of amateurs and professionals with a common interest in California's native plants. The mission of the Society is to conserve California native plants and their natural habitats, and increase understanding, appreciation, and horticultural use of native plants. Membership is open to all.

Membership includes the journal *Artemisia*, quarterly magazine, *Flora*, which gives statewide news and announcements of Society activities and conservation issues, and the chapter newsletter *Gold Field Notes*. To join, call our main office in Sacramento, (916) 447-2677, or visit www.cnps.org to join online.

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Contact Chapter Leadership at web.eldoradocnps@gmail.com

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NEWSLETTER	

Since 2009, stinkwort has been moving around the County on roadsides and is now invading parking lot edges and vacant lots - any place where the normal vegetation has been removed or the soil disturbed.

The photo below shows how it looks at the end of the season in full fruit before next year's seed disperse. At this stage mowing or pulling it could spread the seeds, so bag and clip it very carefully - do not leave dead plants on the roadside as the seeds will drop to the ground to produce a new crop the following spring.



If you have it, remove the plants before they start to flower by mowing, hoeing, pulling or spot treatment with an herbicide and monitor the area for regrowth. If they are starting to flower, pull them out and bag them up for disposal. Wear gloves as the plants may give you a rash. If seeds are present, carefully place a large bag over the plant, and then clip the base of the plant. Do not mow, or leave pulled plants on the ground as the seeds will drop off to increase the infestation next year. Moisten the plants in the bag, seal it up and place it in the sun to mold and kill the seeds.



Left—young stinkwort plant in early June
Right—plant in flower in mid-September



The Stinkwort Invasion of El Dorado County



You will probably first see *Dittrichia graveolens* or 'stinkwort' on the roadside as 1-2' tall pine-tree-shaped plants. It is able to grow in and expand cracks in the road. Around the middle of September it starts blooming; the flowers are small yellow daisies. Later in the season the whole plant dries out and thousands of seeds blow in the wind, or are shaken off to produce next year's plants.