

# Carpenteria

CNPS SEQUOIA CHAPTER



September 2019  
www.cnps-sequoia.org

## CONTENTS

1

China Creek Report

2

The Science of Plants

3

Conservation Report

3

Announcement

4

Classes and Events

5

Membership and  
Officers

6

Call for Volunteers

## CHINA CREEK REPORT

### Second June 2019 Work Party

--Warren Shaw

There was good news and bad news as our crew evaluated the effects of recent CAL FIRE burning at China Creek Park. Walking the blackened acres of the burn, led by Gene Richards — who has been coordinating the burning with CAL FIRE personnel — they found that a number of small



photos by Gene Richards

oaks that had previously appeared dead were showing new sprouts and appeared to have survived. They also noted that our most common native grass, creeping wild rye, was sprouting vigorously, and that the anemopsis that had seemed so devastated by burning was already recovering.

However, they also observed that new thistle plants were

taking advantage of the soil disturbance created by the many breaks that CAL FIRE had cut across the savannah areas, and that mature thistle plants, which had been burned and

seemed dead, were root-sprouting. A CAL FIRE grader was busy re-covering the breaks, but, of course, this is mostly cosmetic and doesn't change the fact that the soil was disturbed.

We will continue to monitor effects, and Gene is continuing to work with CAL FIRE to finish this year's project and modify future burning (which CAL FIRE is planning to do for 5 years).



Those of us not walking the burn kept busy digging and spraying weeds in the north area, as well as reposting informational materials on the kiosk bulletin board and getting started on some trail maintenance.

We were blessed with exceptionally pleasant weather and look forward to our next work party, which will be on September 21, when we'll get back to work after our summer hiatus. This break will give some time for the results of burning to become clearer and Opportunities for all our faithful volunteers to stay cool and rest up. See you during the September work party.

# THE SCIENCE OF PLANTS

## Fast Plants

--Jane Pritchard

Yoel Forterre, a postdoc at Harvard, et al, published a study in January 2005 in *Nature* that was among the first to use high-speed digital cameras and computer modeling, which allowed frame-by-frame analysis and improved resolution of details. In the last few years, plant tissues have been seen to kick like a soccer player, throw like a lacrosse player, generate heat to launch seeds explosively; and, the old snap trap and catapult mechanisms have been explained.

The most famous rapid mover is the Venus flytrap (*Dionaea muscipula*). When small hairs on leaf surfaces detect movement, the two halves of the leaf snap shut in 0.1 seconds, too fast for the human eye to see. The explosive sandbox tree, aka dynamite tree, (*Hura crepitans*) launches seeds across an olympic pool. Sundews' (*Drosera* spp.) sticky tendrils curl around prey. The touch-me-not tree (*Mimosa pudica*) folds compound leaves within seconds of a touch.

Flytrap leaves are convex. The halves face each other like pages of an open book. When touched, cells on the green outer surfaces expand. Cells on the pink inner surface don't. Pressure flips the leaves to concave and slams the trap shut. This is called snap-buckling.



<https://www.scienceabc.com/>

-*Mimosa pudica*-

In bunch-berry dogwood (*Cornus canadensis*) flowers, four fused petals barely hold down four bent, armlike, protruding stamens. When disturbed, the petals split apart and free the stamens. The stamens flip outward, accelerating to a g-force of 2400. Fighter pilots pass out around 9g. Each stamen flings the pollen sac attached to its tip. The flower trebuchet launches pollen at whatever triggered the burst (nose or insect) or into the wind. This cannot be seen at 1000 frames per second (fps) but is clearly seen at 10,000 fps.

On dry sunny days, tiny, bloated spore capsules dotting the surface of peat moss (*Sphagnum affine*) dehydrate and shrink, which increases air pressure inside the capsule to several atmospheres. Capsules explode and release a mushroom cloud of spores to heights 20 times that of the moss and increases the chance of dispersal by wind.

Thermal imaging can detect minute temperature differences across less than a millimeter across an object. About a minute before releasing seeds, American dwarf mistletoe (*Arceuthobium americanum*) warms up about 2° C from heat produced by a reaction in the mitochondria. Goopy gel in the plant expands and launches the seeds explosively.

A February 2018 article in *AoB Plants* reported cameras recording microscopic movement at 1000 fps. *Brachythecium populeum* moss, of the northeastern U.S., kicks with its "teeth," which are pliable



Erin Tripp

-*Ruellia cilatiflora*-

structures of tissue that surround spores. When the microscopic teeth absorb water, they bend and warp. As they dry, the teeth kick outward, lifting the spores to get caught in the wind.

An article in the March 2018 *Journal of Royal Society Interface* reported a mechanism similar to how a lacrosse stick flings a ball in the hairyflower wild petunia (*Ruellia cilatiflora*; of the Acanthaceae family – not Petunia family). Elongated seedpods each hold 20 disk-shaped seeds on hooks. Natural growth strains the seams, which are further weakened by water. When the pod splits in two, the hooks fling the seeds at a spin of nearly 100,000 revolutions per minute. The spin keeps the seeds in stable flight and is the fastest movement seen yet in plants or animals.



# CONSERVATION REPORT

## Why Not Goats?

--Jeanne Larson

I was thinning out old files and came across the collection on goats as weed eaters. Goats have received bad press as a result of being left in places with no natural predators and with not enough forage, scarring the surface clean to survive. (Horses on Bureau of Land Management Nevada Range Lands are now at the point of needed thinning.)



<https://conyersrealtor.wordpress.com/tag/maintain/>

In the 1970's, North African visitors to the U.S. Department of Agriculture (USDA) Pacific Southwest Forest and Range Experiment Station (PSW) in Madera County near O'Neals, always asked, "Where are the goats?" Research conducted in the mid 1970's by the PSW was centered on goats browsing new sprouts on fire breaks. It was found to be an environmentally sound way to keep the firebreaks clear.

Using goats for weed control could be an alternative to prescribed burns, which impact air quality. California has a diverse population of people who eat goat. Nanny goats kept for cheese can browse poison oak without it affecting their milk. Goats could be herd to patches of poison oak near hiking trails, which would be of benefit to humans by preventing skin irritation, as well as toxic smoke created by poison oak during wildfires.

Perhaps one of the places goats could be of greatest benefit is in the steep slopes we often hear are the hardest to contain wildfires at. For instance, an Los Angeles Times article from several years ago spoke of using goats to clear brush next to the Angels Flight Cog Railway, which runs up a steep hill. (Having grown up in L.A. I can tell you there are several very steep hills in Downtown L.A., and it was great fun to ride the short trip on the cog rail to the top of the hill.)



<https://xplorela.com/tag/angels-flight-railway/>

# ANNOUNCEMENT

## CNPS Fire Recovery Guide

### What should you do with your land after a wildfire?

The **CNPS Fire Recovery Guide** addresses that question in an easy-to-use booklet, which includes:

- Frequently Asked Questions
- Dos and Don'ts
- Care and Recovery
- Erosion Control
- Fire Preparedness
- Seeding
- Helpful decision trees, and more

Get your  
free digital  
copy now!

[cnps.org/fire-recovery](https://cnps.org/fire-recovery)

Questions? Contact: Elizabeth at [ekubey@cnps.org](mailto:ekubey@cnps.org)



## Upcoming Classes and Events

### •September 14, Irrigation for the Home Garden; Saturday, 9:30am – 11:00am

Location: Garden of the Sun, 1750 N Winery Ave, Fresno, CA 93703

- Improve plant health and save water.
- Learn how to convert your sprinklers to a water wise drip system or start from scratch.
- You will learn how to expand your gardening repertoire to include cool season crops.

Cost: Free

Information:

[https://ucanr.edu/sites/mgfresno/Gardening\\_Classes/Contact](https://ucanr.edu/sites/mgfresno/Gardening_Classes/Contact):  
mgfresno@ucdavis.edu



### •September 14, Party 25. Harvest Home: A Festival of Traditional American Music Saturday, 12:00pm – 6:30pm

Location: Riverview Ranch, 11605 Old Friant Road, Fresno, CA 93730

- American roots music festival with a line-up of local and regional bands for your listening and dancing pleasure
- Family nature walk (time to be determined), and family square dance at 3:30pm.
- 250 guests

Cost: \$15 members/\$20 non-members

Purchase tickets at:

<https://reservations.riverparkway.org/eventperformances.asp?evt=570>



### •September 21 to 22, GIS for Botanists, Saturday, 9:00am – Sunday, 3:00pm

Location: Blue Oak Ranch Reserve, near San Jose

- Introductory Geographic Information System (GIS) workshop that provides the fundamentals to create maps and conduct simple analyses using Quantum GIS, a free, open-source GIS program.
- Will work both in an internet accessible lab and in the field.
- Will learn where to get freely available data for making maps.
- Bring your own laptop so that you can leave with a fully operation GIS workflow.

### GIS for Botanists (continued)

- Dormitories and bathrooms will be shared. Tent camping will also be available.
- Meals will not be provided, but a large group kitchen with food storage, appliances, and potable water will be available for use.
- Option of arriving on Friday evening.



Cost: \$350 member/\$380 non-member

Information: <http://ucjeps.berkeley.edu/workshops/>

Registration:

<http://ucjeps.berkeley.edu/workshops/2019RegForm.pdf>

### •September 21, How to Garden for Free (almost), 9:30am – 11:00am.

Location: Garden of the Sun, 1750 N Winery Ave, Fresno, CA 93703

- Will talk about the three ways to start plants at home.
- Learn to grow plants from from seeds, cuttings, and from division.
- Each technique will be demonstrated.
- You will have a chance to start seeds or a cutting to take home.

Cost: Free

Information:

[https://ucanr.edu/sites/mgfresno/Gardening\\_Classes/Contact](https://ucanr.edu/sites/mgfresno/Gardening_Classes/Contact): mgfresno@ucdavis.edu

### •September 28, Adaptive Horticulture Saturday, 9:30am – 11:00am

Location: Garden of the Sun, 1750 N Winery Ave, Fresno, CA 93703

- An introduction to adaptive horticulture.
- Learn techniques for gardeners with disabilities or who need to slow down.
- Learn how to make changes in the hard scape to help eliminate or reduce bending.
- Learn about tools and techniques that can help you reduce muscle strain.

Cost: Free

Information:

[https://ucanr.edu/sites/mgfresno/Gardening\\_Classes/](https://ucanr.edu/sites/mgfresno/Gardening_Classes/)

**SEQUOIA CHAPTER OFFICERS\*  
AND COMMITTEE CHAIRS**

**Membership**

Thanks to new and renewing members.

If you require corrections or additions to your membership information, contact Helen Shaw at [helshaw@gmail.com](mailto:helshaw@gmail.com).

The Sequoia Chapter serves Fresno, Madera, and Kings counties.

The IRS considers dues in excess of \$12 per year and all gifts to CNPS as tax deductible. Renew your CNPS membership online using a credit card. As an option, renew automatically year after year. It is quick, easy, and convenient, and reduces renewal-mailing costs. Visit [www.cnps.org](http://www.cnps.org) and click on the JOIN button.

- \*President** open
- \*Vice-Pres.** Warren Shaw 559/451-1256 (h)  
[warshaw1955@gmail.com](mailto:warshaw1955@gmail.com)
- \*Secretary** open
- \*Treasurer** Thelma Valdez 559/323-8962 (h)  
[yucca37tv@yahoo.com](mailto:yucca37tv@yahoo.com)
- Membership** open
- Field Trips** Jane Pritchard 559/765-9954  
[xxiii\\_xx@yahoo.com](mailto:xxiii_xx@yahoo.com)
- Newsletter Editor** Laura Castro 559/643-6012  
[lacastror@outlook.com](mailto:lacastror@outlook.com)
- Hospitality** Madeleine Mitchell 559/638-2784 (h)  
[madeleine43@comcast.net](mailto:madeleine43@comcast.net)
- China Creek** Warren Shaw 559/451-1256 (h)  
[warshaw1955@gmail.com](mailto:warshaw1955@gmail.com)
- Education** Warren Shaw 559/451-1256 (h)  
[warshaw1955@gmail.com](mailto:warshaw1955@gmail.com)
- Rare Plant** Jane Pritchard 559/765-9954  
[xxiii\\_xx@yahoo.com](mailto:xxiii_xx@yahoo.com)
- Plant Sale** Thelma Valdez 559/323-8962 (h)  
[yucca37tv@yahoo.com](mailto:yucca37tv@yahoo.com)
- Conservation** Jeanne Larson 559/243-0815 (h)  
[jrjlars@aol.com](mailto:jrjlars@aol.com)
- Chapter Council Rep** Reece Riley  
[rreece523@gmail.com](mailto:rreece523@gmail.com)
- Webmaster** Thelma Valdez 559/323-8962 (h)  
[yucca37tv@yahoo.com](mailto:yucca37tv@yahoo.com)

**Next Newsletter: October 2019**

Send newsletter suggestions to Laura Castro at [lacastror@outlook.com](mailto:lacastror@outlook.com). The deadline for submissions to the next newsletter is **Monday, September 23, 2019.**



**JOIN THE CALIFORNIA NATIVE PLANT SOCIETY RENEW**

Membership includes the quarterly CNPS journal, *Fremontia*; the quarterly *Bulletin* which gives statewide news and announcements of Society activities and conservation issues; and our chapter newsletter, *Carpenteria*.

I wish to affiliate with the Sequoia Chapter.

Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_  
 State: \_\_\_\_\_ Zip: \_\_\_\_\_

- Student, Fixed Income ..... \$25
- Individual ..... \$50
- Plant Lover ..... \$120
- Supporter ..... \$500
- Patron ..... \$1,000
- Benefactor ..... \$2,500
- Steward ..... \$5,000
- Guardian ..... \$10,000

Make your check payable to "CNPS" and mail with this form to:

- New Member       Renewing Member

**California Native Plant Society**  
 2707 K Street, Suite 1  
 Sacramento, CA 95816-5113

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 increase understanding and appreciation of California's native plants and to preserve them in their natural habitat through scientific activities, education, science, and conservation.

# CARPENTERIA

September 2019

## CALIFORNIA NATIVE PLANT SOCIETY SEQUOIA CHAPTER

c/o Jeanne Larson ♦ 3457 Redlands ♦ Fresno, CA 93726

### CALL FOR VOLUNTEERS

©2016 Zoya Akulova



We are looking for volunteers to help with the 2019 fall plant sale. Volunteers are needed on Thursday, October 17; Friday, October 18; and Saturday, October 19. Please take a moment to look at the details below. Perhaps you will have a bit of time to help out your local Chapter. We would sure appreciate the help, even if it just a couple of hours. If you can't volunteer, come out and shop for natives!

Date	Hours	Volunteer Tasks
Thu Oct 17	12pm to sunset	unload plants, insert prices into each pot, place plants in designated locations.
Fri Oct 18	early AM to 12pm	set up canopies over plants, set up twine "fencing" and hang plant description sheets and photographs, finish pricing plants if not finished on Thursday
Fri Oct 18	1pm to 4 pm	help customers with plant selection (best if you have some experience with native plants in your own garden), staff the membership and information table-this may end up being a table near the plants
Sat Oct 19	9am to 1pm	help customers with plant selection (best if you have some experience with native plants in your own garden), staff the membership and information table located outside the CBG entrance gates
Sat Oct 19	1pm to 3 pm	load unsold plants into Intermountain Nursery's truck, take down plant descriptions and photos and disassemble twine "fencing", collapse canopies, tables, general cleanup

If you would like to volunteer, please email Thelma Valdez at [yucca37tv@yahoo.com](mailto:yucca37tv@yahoo.com) with the dates and hours you can help.