

Carpenteria

CNPS SEQUOIA CHAPTER



November/December 2017
www.cnps-sequoia.org

THE SCIENCE OF PLANTS

Bacterial DNA Does Not Fix Nitrogen

--Jane Pritchard

I was prepping for the plant sale the Friday it rained and cleaned the air. Hikers reported beautiful scenery and great fragrances. Last Friday's hike was great but nothing caught my eye to photograph.

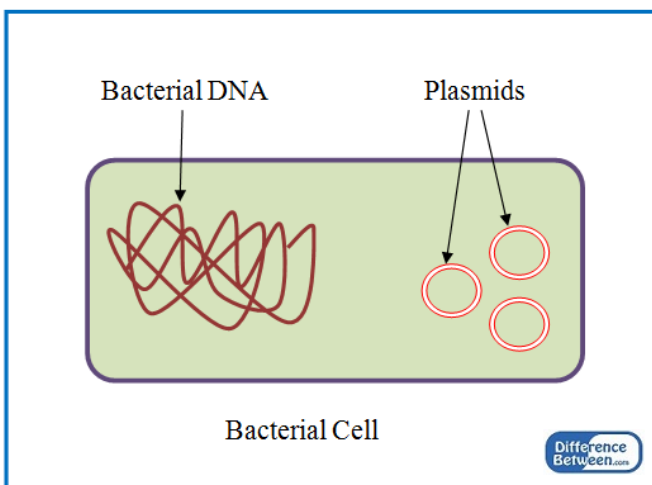
In an article written in Science News 191(7), pg. 26, Rosie Mestel states that *Rhizobium leguminosarum* and other rhizobia pull nitrogen from the air and make it available to plants because of genes on plasmids in the cytoplasm of the bacteria.

Plasmids are very small pieces of DNA separate from the bacterial DNA. Plasmids typically carry genes that help the bacteria survive a given environmental state; for example, natural or human-caused antibiotic resistance, resistance to heavy metals in polluted water and hospital disinfectants, presence of proteins toxic to other organisms, and an ability to utilize other organic compounds when nutrients are scarce.

Each bacterium may contain one to thousands of plasmids. Multiple types of plasmids may be transferred simultaneously. Three main mechanisms transmit plasmids from one bacterium to another (even of another species):



-Nodules made by *R. leguminosarum*-
Peter Young (<https://www.york.ac.uk>)



transformation = through the cell membrane from the surroundings;
conjugation = transfer between two bacteria in direct contact;
transduction = injection into the host bacterium by a bacteriophage virus.

It has been known that bacteria form nodules in the roots of legumes and other plants, and that those bacteria fix nitrogen. Now it is known that genes in plasmid DNA actually fix nitrogen.

OBSERVATIONS

Check Out the Blue Curls

--Thelma Valdez

I have watched the blue curls' (*Trichostema lanceolatum*) annual growth cycle for many, many years. The young leaves that emerge in late spring are now easy to spot. I always worry that the young plants that start to bloom in July will never get any bigger, and think "Maybe this year they'll just stay small". And then before I know it, the plants are healthy and many have gotten quite substantial! They cast a lavender-blue haze across our back field and along open fields where they've been left alone.

This summer was the first year I saw hummingbirds visiting the blossoms. Hummingbirds?! You'll have to take my word for it as I was more interested in watching them than going back in the house to get my camera.

In autumn I wait for the finches to flit in and out of the dry stems, picking seeds out of the still-upright stems or scratching the ground for more. It's already November and some plants still have many blossoms. The lavender-blue seems even more intense, or maybe it's just the autumn light.

I'm sure many of you are fans of this beautiful annual California native—the leaves, the blossoms, the strong scent. If you haven't stopped to look up close at the blossoms or experience their scent, make sure you check them out next summer (or check out the photos on the photo page of the emailed newsletter). You won't be disappointed!



Photo by Thelma Valdez

2017 PLANT SALE SUMMARY

--Thelma Valdez

The previous day's light rain cleared the smoky air and cooled our Valley temperatures. By the morning of the sale, the plants looked fresh after a dewy night and morning. We never felt the need for canopies as shoppers enjoyed the sun as it slowly warmed the day.

A gigantic thank you to the volunteers who spent parts of their Friday and/or Saturday helping with setup, sale, and breakdown. This work is always made lighter with many hands and it sure is a lot more enjoyable when like-minded folks come together.



The Clovis Botanical Garden (CBG) was in fine shape thanks to many CBG volunteers who started preparing as early as Wednesday. We are thankful to CBG for allowing us to partner with them on this annual event. The CBG is a great venue for the sale and it's a win-win for them, CNPS, and customers looking for California native plants and plants from other Mediterranean climates.

We sold 14 member-grown plants, which helped us make more profit this year even though we sold fewer plants than last year. Your volunteer efforts at growing a few native plants can be a big help. Please consider doing this for next year's sale.

CHINA CREEK REPORT

--Warren Shaw

It was, as predicted, a classic fall day to be in the Park, a bit crisp at eight, with most of us in tee shirts by break time at ten.

We concentrated again on the north area, flagging valley oak (*Quercus lobata*) seedlings to be caged before the spring grazing begins, and removing cages from trees no longer needing them. We also, of course, continued hunting and killing yellow starthistle (*Centaurea solstitialis*) and bullthistle (*Cirsium vulgare*) plants.

In addition, some of us treated *Ailanthus* root sprouts, brushing herbicide on the freshly cut main stem of each plant, hoping to see the last of these persistent pests, but prepared to do whatever is necessary for as long as it takes, to completely eradicate them. Tree of Heaven indeed!

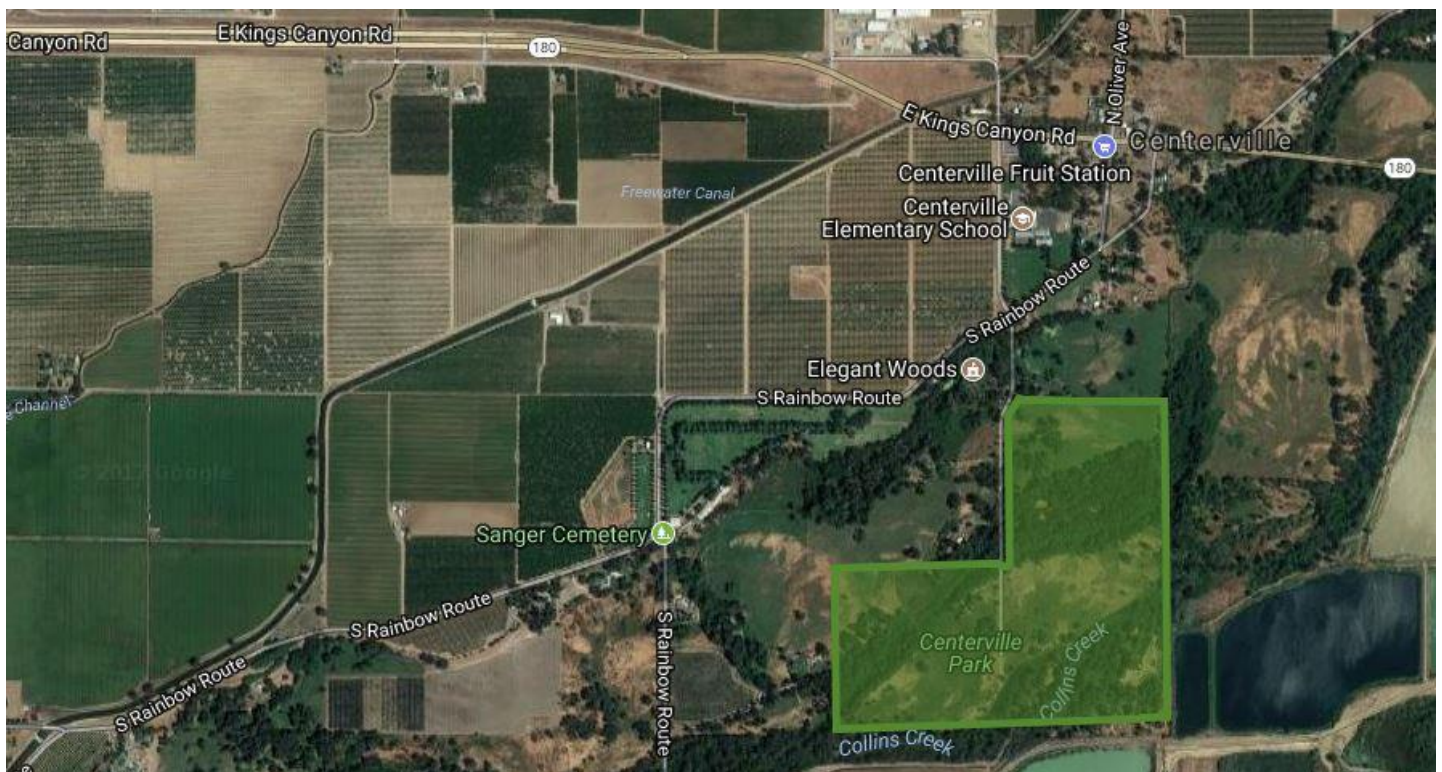
Our November work party will be Saturday November 18, when we hope to get most of the newly flagged seedlings caged. We also need to check out the trail, perhaps whacking weeds on the more overgrown sections.

We'll end the day and the China Creek year at the Blossom Trail Cafe, where the Chapter will express its gratitude to all those who have contributed in any way to progress on the China Creek project. Please plan to join us.



China Creek Park is located on the west side of Centerville, 16 miles east of Fresno on Highway 180. To get there, drive east on Kings Canyon/ Highway 180, 16.5 miles to Centerville. Turn right (south) on Smith Road and drive 0.2 miles to Rainbow Drive. Continue straight, 0.5 miles down the small road to the Park gate at the end of the road.

Oh, and please check out our new China Creek Facebook page at <https://www.facebook.com/chinacreekproject>.





Upcoming Events and Classes in 2017

•December 5, 8:00am to 4:30pm Calflora Training

Location: Encinitas

Audience: Professional and student botanists, ecologists, Calflora Professional Users, land and resource managers, restoration volunteers, WMA participants, and conservationists.

- Will discuss applications of collecting data in the field using Calflora apps for Android and iOS devices.
- Create history stack to track changes over time.
- Will learn how Calflora data are used for rare plant and mapping projects.
- Much of the class will take place in a private residence, and then will collect plant data in Rancho La Costa Reserve.
- Participants should have an initial understanding of the subject matter and basic plant identification and/or GIS skills.
- Class filling up, so register soon if interested.



Cost: \$45 for Calflora Professional Subscribers/ \$60 for other users

Questions: contact Cynthia Powell at cpowell@calflora.org.

To see a more detailed description and register go to <http://www.calflora.org/newsletter/Encinitas.pdf>

Local Landscape Rebate Programs

Fall is here and it is a good time to put plants into the ground. If you are looking to create a drought tolerant landscape in your yard, the following are potential rebate programs that may provide an incentive to get it done:

- **City of Madera**
 - Turf Relacement Rebate
 - Smart Irrigation Controller Rebate
 - Drip Irrigation Rebate
 - Mulch Rebate
 - Rain Barrel Rebate
 - Hose Bib Faucet Lock Rebate
 - Laundry to Landscape Rebate
 - Graywater System Rebate

Information: City of Madera Water Conservation Program: 661-5466; email: lmcperson@cityofmadera.com or visit website at www.cityofmadera.org or <https://www.cityofmadera.ca.gov/home/departments/public-works/water/#tr-water-rebates-239904> and click on 'Water Rebates'.

- **City of Fresno**
 - Lawn to Garden Conversion
 - Micro (Drip) Irrigation Retrofit
 - Rain Sensor Rebate
 - Rainwater Harvesting
 - Smart Irrigation Controller Rebate
 - Soil Moisture Sensor Rebate
 - Sprinkler Nozzles Rebate

Information: City of Fresno Water Conservation Program: 621-5480; email: waterconservation@fresno.gov or visit website at www.fresno.gov/water or <https://www.fresno.gov/publicutilities/water-quality-delivery-testing/rebates-coupons/>

- **WE CAN San Joaquin Valley**
 - Turf Conversion Rebate

Information: email: turf@saveourwaterrebates.com or visit website at www.SaveOurWaterRebates.com
Or <http://www.wecan.lgc.org/>

Applications may no longer be accepted but there is pertinent information.

- **California Department of Water Resources**
 - Turf Replacement Rebate

Information: email: turf@saveourwaterrebates.com or visit website at www.SaveOurWaterRebates.com or <http://www.saveourwaterrebates.com/turf-replacement-rebates.html>

**SEQUOIA CHAPTER OFFICERS*
AND COMMITTEE CHAIRS**

Membership

John LuValle

Thanks to new and renewing members.

If you require corrections or additions to your membership information, contact John LuValle at jluvalle@mcn.org.

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 and click on the JOIN button.

Next Newsletter: January 2018

Send newsletter suggestions to Laura Castro at lacastror@outlook.com. The deadline for submissions to the next newsletter is **Friday, December 22, 2017.**



- *President** open
- *Vice-Pres.** Warren Shaw 559/451-1256 (h)
warshaw1955@gmail.com
- *Secretary** open
- *Treasurer** Thelma Valdez 559/323-8962 (h)
yucca37tv@yahoo.com
- Membership** John LuValle jluvalle@mcn.org
- Field Trips** Jane Pritchard 559/765-9954
xxiii_xx@yahoo.com
- Newsletter Editor** Laura Castro 559/643-6012
lacastror@outlook.com
- Hospitality** Madeleine Mitchell 559/638-2784 (h)
madeleine43@comcast.net
- Horticulture** open
- Education** Warren Shaw 559/451-1256 (h)
warshaw1955@gmail.com
- Rare Plant** Jane Pritchard 559/765-9954
xxiii_xx@yahoo.com
- Plant Sale** Thelma Valdez 559/323-8962 (h)
yucca37tv@yahoo.com
- Conservation** Jeanne Larson 559/243-0815 (h)
jrjlars@aol.com
- Directors at Large** Michele LuValle jluvalle@mcn.org
Belinda Gilbert belinda@sti.net
- Webmaster** Thelma Valdez 559/323-8962 (h)
yucca37tv@yahoo.com



JOIN



THE CALIFORNIA NATIVE PLANT SOCIETY



RENEW

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

I wish to affiliate with the Sequoia Chapter.

Name: _____
 Address: _____
 City: _____
 State: _____ Zip: _____

- Student, Limited Income _____ \$25
- Individual _____ \$45
- Family, Group, or Library _____ \$75
- Plant Lover \$100
- Patron _____ \$300
- Benefactor \$600

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

November/December 2017

CALIFORNIA NATIVE PLANT SOCIETY SEQUOIA CHAPTER

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

ANNOUNCEMENTS

Letters to the Editor

Have you had some native plant experiences you would like to share, or do you have plant questions you'd like to ask? If so, please send a letter to the editor at lacastror@outlook.com.

Suggestions to the Editor

Are there topics we currently aren't covering that you would like read or learn about in the newsletter?

Do you have suggestions or feedback for articles?

Do you know about some plant related classes in the Fresno-Madera-Kings County area that readers would benefit from?

Are there changes you would like to see to the newsletter that would make it more effective, readable, or pertinent to your needs?

If so, please send an email to the editor at lacastror@outlook.com.





Black Oak
(Quercus kelloggii)



Black Oak
(Quercus kelloggii)

November 2017 ❖ Sequoia Chapter CNPS



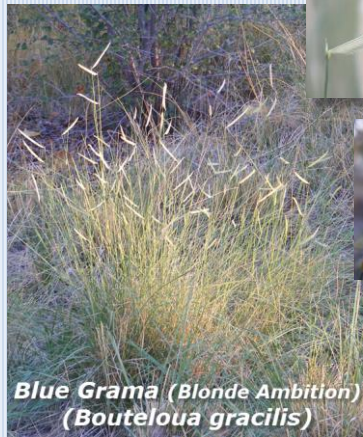
Pacific Mountain Dogwood
(Cornus nuttallii)



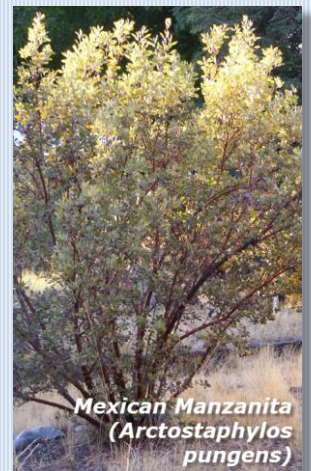
California Fuchsia
(Zauschneria canum) ...or is it Epilobium canum



Annual Fireweed
(Epilobium brachycarpum)



Blue Grama (Blonde Ambition)
(Bouteloua gracilis)



Mexican Manzanita
(Arctostaphylos pungens)



Blue Curls
(Trichostema lanceolatum)



Blue Grama
(Bouteloua gracilis)



Time to prune the Cleveland Sage
(Salvia clevelandii)

Eileen Bennett:

- Markwood Meadow Road @ Stevenson Creek: Black Oak, Dogwood

Thelma Valdez:

- Blue Curls, Annual Fireweed, Mexican Manzanita, Blue Grama, California Fuchsia, Cleveland Sage