Evening Programs

The Redbud Chapter of the California Native Plant Society is pleased to announce our community education "Passion for (Native) Plants Lecture Series" for 2015, FREE to members and non–members alike.

We offer our community an excellent lecture every other month throughout the year, alternating between the Auburn/Placer Co Library and the Nevada County Library. So, mark your calendars to reserve the dates in April, June, August and October to mingle with fellow native plant enthusiasts, hear from speakers who are passionate about our natives and eager to share their expertise with you.

Further details are on the back page of this newsletter.

We will alternate lectures between the Madeline Helling Library in Nevada City and the Auburn Library, 350 Nevada St., Auburn.

April 29 (Fri, NC): Arctostaphylos: Miracles and Manzanita
Jeff Bisbee, Botanist, Photographer

June 30, (Thu, Aub): An Intimate Relationship–Botany and Geology–How Rocks Define Our Plant Communities
Professor Richard (Dick) Hilton, Paleontologist Geologist, Educator

Aug 26, (Fri, NC): The Physics of Flora: Light, Color and the Science of Beauty
Evan Jones, Physicist, Adventurer and Educator

October 28 (Thu, NC): Creating a California Pollinator Garden
Nancy Gilbert (CNPS)

Oct 28 (Fri, Aub): Wonders of Fall: How and Why Native Flora Display So Splendidly
Professor Shawna Martinez, Botanist, Educator

Sierra College Science Speakers Series
May 10 (Tues, Sierra College–Grass Valley): Conservation Genetics of Stebbin’s Morning Glory
Sandra Nemoff & Denise Della Santina, CNPS President

For more information, visit our web site or call Leslie Warren, our Program Chair at (530) 878-0738.

Field Trips

All of our field trips are free, and are open to non-members as well as members. Unless stated otherwise, we walk slowly, identifying and appreciating the plants as we go. Children are always warmly welcome (please arm them with a whistle!). Please don’t bring dogs, unless they are service dogs.

We suggest ride sharing, as parking space at most trailheads is limited. We also suggest that you contribute some money to the driver for gas -- perhaps $5 for less than 40 miles round-trip, and $10 for more than 40 miles round-trip...

To allow for more flexibility around changing weather and spontaneity, many of our field trips are not included in this newsletter, but will be advertised on our Web Page (www.redbud-cnps.org/) and our Yahoo Listserv. To join our listserv, please go to our Web Page and click on “YAHOO! Groups Join Now!” on the left side of the page. You’ll receive an email one or two weeks prior to each trip. You can also check our Facebook page (Redbud Chapter—California Native Plant Society).

* Always bring water, and lunch/snack, hand lens, wildflower book (Copies of our books “Wildflowers of Nevada & Placer Counties” and “Trees and Shrubs of Nevada & Placer Counties” are available in most bookstores and many nurseries in the area.), sun protection and/or rain gear as needed. Most trips are led by more than one botanist.

* Trees, Shrubs, and Wildflowers Walk to Illinois Crossing
** Sunday, April 10**
Leader: Roger McGehee

Meeting Time and location:
9 a.m. to 3 p.m.
For car-pooling, meet at the Full Circle Demonstration Garden at the Nevada County Government Center (Rood Center) on Maidu Ave, just off of Highway 49 in Nevada City at 9 a.m.

Duration: 6 hours, 9 a.m. to 3 p.m.
Description: We will carpool up to the parking area for the South Yuba Trail at the South Yuba Campground on North Bloomfield Road between Edward’s Crossing and Malakoff Diggins. We will start off in a grove of Knobcone Pines, cross a creek beside a small waterfall, traverse through a forest, and head down to the river on an exposed slope with lots of good views of the river canyon below. This trail is known for its diversity of trees and shrubs, as well as wildflowers. It is about one mile from the parking area to the river at Illinois Crossing. There is a bathroom at the parking area, and an outhouse at the river. Bring lunch, water, sunscreen, your Wildflower book, and your Trees & Shrubs book. If heavy rain is predicted, this trip will be cancelled, but light rain is fine!

If you wish to meet us at the parking area, from Nevada City, follow Highway 49 to North Bloomfield Road and travel ten miles to South Yuba Recreation Lands. From the one lane bridge at Edwards Crossing it is approximately 1 & 1/2 miles on a dirt/gravel road to the parking lot just before the campground. Plan to arrive by 9:30AM.

Robie Trail, Middle Fork American River, El Dorado County
Sunday, April 17
Leader: Diane Cornwall

Meeting time and location: 9 a.m. at the entrance of Auburn Lake Trails. Take 49 to Cool and turn onto 193 towards Georgetown for about 1 mile, the entrance is on the left and the parking lot is just past the mail entrance in front of some buildings.

Description: This 3 mile loop wildflower walk begins within Auburn Lake Trails in Cool. We will be taking the Buckeye, Hawthorne, Robie and Lovers Leap Trails through a serpentine area, oak woodlands, chaparral, and conifers. A plant list is available via email.

Level of difficulty: This is a moderate hike with about 700 feet of gain and loss and two small creek crossings.

Bring: Hat, sunscreen, water, bug repellent, lunch and sturdy shoes (a hand lens is optional). We invite you to share any expertise you have in natural history, this is not just a wildflower walk.

Contact Diane Cornwall: dancingwildflowers@me.com or 530-888-1404. Rain cancels.

Olmstead Loop/ Lukens Mine Trail, Cool, El Dorado County
Saturday, April 30
Leader: Diane Cornwall

Meeting time and location: 8:30am, at the Cool Auburn State Recreation Area Staging Area behind the fire station in Cool. We will carpool to the trailhead.

Duration: plan on 5 hours, 8:30 a.m. to 130 p.m.

Description: Join us for an easy to moderate 5 to 6 mile wildflower walk on the southern part of Olmstead Loop to the Lukens Mine Trail and various trails back. We go through lots of grassland then blue oak woodland and some deeper mixed forest habitats. A plant list is available via email.

Level of difficulty: the gain and loss of elevation is about 500 ft.

Bring: Hat, sunscreen, water, bug repellent, lunch and sturdy shoes (a hand lens is optional). We invite you to share any expertise you have in natural history, this is not just a wildflower walk.

Contact Diane Cornwall: dancingwildflowers@me.com or 530-888-1404. Rain cancels.

Mother’s Day Wildflower Walk: South Yuba Trail
Near Washington
Sunday, May 8
Leader: Roger McGehee

Meeting time and location:
For car-pooling, meet at the Full Circle Demonstration Garden at the Nevada County Government Center (Rood Center) on Maidu Ave, just off of Highway 49 in Nevada City at 9AM.
If you wish to meet us at the trailhead, drive through the town of Washington, cross over the bridge and head straight up Gaston Road. Within 0.3 mile, turn left (west) onto Relief Hill Road. Drive west to Poorman Creek Bridge (1.7 mile). Then continue 0.1 mile to the signed access road to the South Yuba Trail dropping sharply to the left. Some cars may have a difficult time getting back up this hill, so if you are in doubt, it is best to park on the road and walk down.

(continued on page 3)
Plan to arrive at the trailhead by 9:30 a.m.

**Duration:** About 6 hours, 9 a.m. to 3 p.m.

**Description:** This trail follows a beautiful stretch of the South Yuba River. We will walk about 3 miles in and 3 miles out, enjoying the river and wildflowers as we go! We will stop for lunch beside a small stream. The water will probably be too high, cold, and swift for swimming or wading, but we should see LOTS of wildflowers! Bring water, lunch, sunscreen, and mosquito repellent.

**Drum Powerhouse Road, Dutch Flat, Placer County Sunday, May 29**

**Leader:** Jeanne Wilson

**NOTE:** Due to limited parking, reservations are required to limit the number of people on this trip to 15. Please send your reservation to Jeanne at: jxwmotes@icloud.com

Meeting time and location: Monte Vista Inn parking lot just north of I-80 at 9:30 a.m. If you miss the group, or are the driver, continue on Ridge Road.

To get there: Take the Monte Vista-Dutch Flat exit from I-80 and go north of the freeway on Ridge Road. At the sign to Dutch Flat, go left onto Sacramento Street, cross the railroad tracks, and continue through the historic village of Dutch Flat. Go right onto Main Street and onward several miles to Nary Red Road on the left. Look for the Drum Powerhouse Road turnoff on the left. Once on Drum Powerhouse, travel a few miles past the homes to the beginning of the open area.

**Description:** The rock gardens and mossy seeps along the Drum Powerhouse Road are home to Leopard Lilies, Pacific Sedum, Bleeding Hearts, Stream Orchids, and a wonderful diversity of flowering shrubs. The paved 6-mile-long road ends at the Powerhouse and usually has little traffic. Our group will park at turnouts and walk along segments of the mostly level road that overlooks the forest-covered Bear River canyon. Redbud member, Jeanne Wilson, has created a fantastic Web site with photographs of dozens of plant species found along the road. The address is: http://www.marable-family.net/DutchFlatWildflowers_db/.

Bring water/ snacks/sun protection. The going is level and easy. This field trip is not suitable for children younger than 12 years. The road presents hazards for children. There is a steep drop-off from the road plus loose overhead rocks in many places.

**Duration:** 3 hours, 9:30 AM to 12:30 PM

**Butterfly Valley Botanical Area Saturday, June 11**

**Leader:** Joe Willis

Meeting time and location: Mt. Hough Ranger Station, 39696 State Highway 70, Quincy, CA, located 3.5 miles north of Quincy (allow two hours from Nevada City). If you wish to car-pool or can take others with you, please email me at rogm@sbcglobal.net with your location and I will pass your information along to others in your area. See you there, I hope!

**Description (per Forest Service):** “The Butterfly Valley Botanical Area, the home of the California Pitcher Plant (Darlingtonia californica), is an Eden of natural splendor. The California Pitcher Plant is a rare and unusual carnivorous plant that only grows in scattered boggy areas from southern Oregon down through northern California where the Sierra and Cascades meet. Also known as the Cobra Lily, Darlingtonia has a unique leaf adaptation that allows it to capture and digest insects to gather nutrients for the plant. In addition to the rare California Pitcher Plant, there are three other species of insectivorous plants (common and lesser bladderwort, and round-leaved sundew), 12 species of orchids including lady slipper, 24 species of plants in the Lily family, nine species of ferns and fern relatives, as well as poppy, buttercup, and wild rose. The list of vascular plants found here exceeds 500 species.”

Joe Willis is a local naturalist who knows the area intimately. Learn more at his blog: http://blackoaknaturalist.blogspot.com/2011/06/butterfly-valley-botanical-area.html

**Duration:** About 5 hours, 10 a.m. to 3 p.m.

**Level of difficulty:** involves driving to various parts of the Botanical Area and then hiking short distances.

**Onion Valley near North Fork Campground Sunday, June 26**

**Leader:** Roger McGehee

Meeting time and location: to car pool, meet at the Full Circle Demonstration Garden at the Nevada County Government Center (Rood Center) on Maidu Ave, just off of Highway 49 in Nevada City at 9 a.m.

If you wish to meet us at Emigrant Gap, park at the end of the Emigrant Gap Exit on the south side of I-80. Plan to be there by 9:30 a.m.

**Description:** we will drive down Emigrant Gap Road and Texas Road past North Fork Campground to a consistently flowery meadow, then visit a bog filled with Leopard Lilies and Lemmon’s Ginger. This area is a real wildflower hot-spot! Bring lunch and water, and be prepared for mosquitoes.

**Duration:** 6 hours, 9 a.m. to 3 p.m.

If you’d like to lead a field trip, please send Roger (rogm@sbcglobal.net) your write-up at least two weeks prior to the date of the walk and he will see that it gets posted. If you know of a good area for a field trip, please volunteer to lead it, even if you don’t know all of the plants. Usually the members of the group can collaboratively identify most of them. The write-up should include the date, location, and time of the meeting place, things that the participants should bring, the length of time that we will be out, and the distance that we will travel. You might also mention what makes the area special to you, and what people might expect to experience there.
Monarch Butterflies and Milkweed Seminar

We are hosting a Monarch Butterflies and Milkweed seminar on June 9, 2016. As you may have seen in a recent article in the Union, there is a movement to save the Monarch butterfly.

For your information, the Nevada County Master Gardeners Annual Plant Sale on May 7, 2016 will have local milkweed plants for sale—before our seminar! We don’t want you to miss out on an opportunity to find this plant.

Jan Blake
Nevada County Resource Conservation District
(530) 272-3417 x 103

State CNPS 2016 Workshops

Registration: [http://www.cnps.org/cnps/education/workshops/](http://www.cnps.org/cnps/education/workshops/)

May 3-5: Intro to Plant Identification
Location: Dye Creek Preserve, Los Molinos (between Redding & Chico)
Instructor: Josie Crawford

May 18-20: Wetland & Riparian Plant Identification
Location: Ojai
Instructor: David Magney

Jul 19-21: Vegetation Rapid Assessment/Relevé
Location: White Mountains
Instructors: Jennifer Buck-Diaz, Julie Evens

TBA: Vegetation Mapping
Location: Bay Area TBA
Instructors: Julie Evens, Todd Keeler-Wolf, John Menke

TBA: Intro to Plant Identification
Location: Bay Area TBA
Instructor: TBA

TBA: Intro to Plant Identification
Location: Southern CA TBA
Instructor: TBA

Note that some details, including price and exact locations, are subject to change. The CNPS State website (above) will show the latest information as it becomes available.

Questions? Contact: Becky Reilly, Education Program Director, California Native Plant Society
2707 K St, Suite 1
Sacramento, CA 95816-5113
(916) 447-2677 ext 205
breilly@cnps.org
The big question: is there anything you can do to protect your trees?

These days, you see the signs of bark beetle infestation everywhere in Nevada and Placer counties -- the needles of one, several, or even dozens or hundreds of Ponderosa pines first turn grey-green, then “blond,” then rusty red.

It happened without warning on our 10 acres in Dutch Flat; soon after the rains started in October, I discovered what appeared to be a pocket of a couple dozen pines that were clearly dead or dying. A registered forester came to look at the trees in early November; he confirmed that they had been killed by bark beetles, and that they would need to be removed as soon as possible. He said they had probably been dead for months, and that there were more dead that weren’t yet obvious, including several that had most of their bark pecked off by woodpeckers.

Photo: Bark damage on felled Ponderosa

The forester arranged for a logger to look at the trees and bid on the work. Several weeks later (it was now late December), the logger said there was no value to the trees as timber because they were beetle-killed and likely the wood was stained blue by the fungus that the beetles spread.

Photo: Blue stain on cross-section of Ponderosa log The logger said we would have to pay out of pocket to have the trees cut & removed, but he couldn’t do the job because of the difficulty in getting to the trees (there is no road close to the trees, they are down a steep hill, and the wet weather had made the ground too wet). By this time, there were dozens more trees that were obviously dead. Ultimately, we have had to have over 100 beetle-killed trees cut down.

Bark beetles are native to this area and play an important role in maintaining forest health by removing stressed trees. But when all the trees are stressed, the beetle population explodes, and instead of taking 2000-2500 beetles to kill a tree, it takes as few as 2 dozen. The tree is dead, and the beetles have moved on to attack more trees, before there are visible effects on the needles/canopy. The only clues are the tubes created when the tree tries to drown the beetles with pitch.

Photo: White spots are beetle pitch tubes showing infestation

Drought-stressed trees can’t produce enough pitch to push the bugs out—see picture (pitch is reddish colored with sawdust).

How did this happen? Why here, why these trees, and is there anything that can be done to save other trees? While I’m no expert, my understanding is that there are several factors at work. First, drought – the lack of water has put heavy stress on the forests over the past 4 years. The amount of rain we’ve had this winter is helpful, and may stall the beetle attack, but without more action it is not enough to prevent the kind of widespread destruction – the death of millions of acres of trees – that has occurred all across western North America, from Arizona to the Yukon, from the Rockies to the Coast Ranges over the past 10 to 20 years (see resources below).

Second, even with normal rainfall, the overcrowding of live trees, rampant invasives such as broom and blackberries, and heavy accumulation of dead wood & pine needles on the forest floor, pose a continuing threat to forest survival, not to mention a deadly risk of fire. Trees must be thinned—removing stunted, small, and suppressed trees to give adequate room and access to water/nutrients for larger trees. Similarly, invasives and other “ground fuel” must be removed, or the rain and snow never reach the roots of the trees. Instead, they are trapped in the canopy and in the water-soaked dead wood, and sucked up by broom etc.

Third, the policy of suppressing all fire for well over a hundred years is undermining the health of our fire- and drought–adapted forests. Because of the suppression of fire, the forests are more heavily populated than probably at any time in the past – not only does this increase the competition between trees (for water and nutrients), but it also makes it harder for the water to reach the ground. Often, less than an inch of rain falls at a time; that rain is caught in the canopy or in the needles/duff, and never actually reaches the ground. It is clear that the last four years of drought have put heavy stress on the forests, and made the trees vulnerable to attack. It is important to chip or burn the slash, and to broadcast burn under trees, so that nutrients can be returned to the soil, rain can penetrate the earth and recharge ground water, and fire-adapted plants are renewed.

We have come to regard the loss of our trees as a much needed lesson on the critical need for diversity, and an opportunity to improve the over-all health of our forest. As the ponderosas are removed, we are saving black oaks and canyon live oaks that have been shaded out and were dying, as well as dogwoods, coffeeberry, bitter cherry, gooseberry, and other shrubs/small trees that had been severely suppressed but will now provide food and habitat for wildlife. Sugar pines and douglas firs now have room to flourish. Herbaceous plants are returning, providing food for wildlife that cannot survive on pinenuts alone. This spring, our native Goldenrod, Piperia, Spotted Coralroot, Phanom Orchid, Rattlesnake Plantain, Sierra Iris, Milkwort, Prince’s Pine, White-veined Wintergreen, Grand Hound’s Tongue, Soap Plant, Pine Drops, Mountain Strawberry, Tongue Clarkia, bleeding heart, and many more annuals and perennials are coming up in greater numbers than ever before, and I am planting many more that now will have the sun they need. Even if the worst case happens, and we end up losing 50 to 80% or more of our Ponderosa pines, as has happened elsewhere, we will still have a forest, one that will be healthier and that can be sustained on the natural resources available.

Jeanne Wilson

(continued on page 6)
they can have up to three generations per year. Generally, the first flight of beetles is late spring, and...the many volunteers who worked so hard to make this one of our best plant sales ever. The wide array of insect pollinator costumes worn by Redbud Chapter volunteers as they buzzed about helping customers really added a lot of fun and panache to the sale. We hope the 2016 fall plant sale will be just as successful, and encourage all Redbud Chapter members to volunteer a little of their time to this fun and important chapter event.

Nancy Gilbert

Note: we urgently need an organizer for the coming Fall plant sale, in the footsteps of Cyndi Brinkhurst and doing what she did to make the event such a success. Cyndi is willing to do this job ‘every now and then’, but certainly not every year! If you are organized and energetic, please consider stepping forward. You don’t have to start from scratch, Cyndi and the others who have taken on this important role are eager to pass on what they have learned. If you are interested, please contact any Board member to find out more. Remember, the earlier you start, the less pressure there will be at any one time—especially as the date of the sale approaches—so NOW is not too early!  

The Brandegees

(This is the second part of a series about some of the botanical pioneers of California).

Katherine Layne Curran was born in western Tennessee in 1844 and the family move to gold country in El Dorado County in 1853 when she was 9 years old. She spent most of her late childhood and her teen years growing up in the Folsom area.

After the death of her first husband Hugh Curran in 1874 she went to medical school in San Francisco at the University of California and obtained her M.D. in 1878. She was one of the first women to graduate with a medical degree in the state.

During her studies she took botany under Dr. H.H. Behr and worked with the botanical curator Albert Kellogg of the California Academy of Sciences. She began botanical collecting in 1882. She collected profusely in Placer County and the Truckee region for a large part of her career. This was because she took advantage of the easy access that the new Transcontinental Railroad provided to what is now the I-80 corridor.

She eventually became the California Academy’s curator of botany when Kellogg retired in 1883. While she was there she helped start the Bulletin of the California Academy of Sciences and also started the early biological journal Zoe.

Townshend Brandegee was born a “Connecticut Yankee” who fought in the Civil War. After that he studied civil engineering at Yale. After graduation he headed for Colorado and New Mexico where he put his engineering skills to work. During this period, he used his spare time to...
explore and develop a large botanical collection. Asa Gray, the famous Harvard botanist heard of Brandegees work and recommended him for a job as assistant topographer and botanical collector with the Hayden expedition to southwest Colorado in 1875. He then went to Southern California to collect on the islands off the coast and in 1888 he settled down in California and began to specialize in the unique plants of the Baja California area. This was done in association with the California Academy of Sciences which led to his meeting the curator, Katherine Layne Curran.

She met her husband Townshend Brandegee when he was 46 and she was 45. He had recently received an inheritance and they were married in San Diego on May 29, 1889 and for a honeymoon they walked back to San Francisco, collecting on the way.

Katherine resigned from the Academy in 1892 with Alice Eastwood taking her place. The Brandegees moved back to San Diego where they continued an extensive herbarium, botanical library and garden. Twelve years later in 1906 they moved to Berkeley where they donated their herbarium and library to the University of California and both volunteered in the University Herbarium.

The herbarium records show that they together made one of the most productive collection teams to ever study the botany of the Highway 80 corridor locally along with their extensive collections of the rest of California and the Baja Peninsula. The couples’ personalities reflected the lifestyle in which they were raised. Townshend was raised in reserved New England and Katherine was raised in the rough and tumble gold country in the foothills to the east of Sacramento. Townshend Brandegee had the reputation of being a gentle and kind gentleman where as his wife Katherine had a reputation of being coarse and very outspoken.

Some of the species named for the pair in California are, but not limited to: Brandegea bigelovii, Clarkia biloba brandegeae, Eriastrum brandegeae, Fritillaria brandegei, Salvia brandegii (Note the different spellings—that suggests another article on Latin names!)  
Bill Wilson

New Research into Population Genetics of Stebbins’ Morning-glory

Report by Sandra Namoff, Graduate Student, Claremont Graduate University and Rancho Santa Ana Botanic Garden.

In the foothills along the western slope of the Northern Sierra Nevada is a special chaparral habitat that hosts a suite of eight rare species restricted to mafic soils, mostly of the Pine Hill Complex. One of the rarest among them is Calystegia stebbinsii or Stebbins’ morning-glory, which is listed as endangered by the Federal Government under US Endangered Species Act and by the State under the California Endangered Species Act. This species has very specific ecological requirements and can only be found in nine locations, in Nevada and El Dorado Counties. Stebbins’ morning-glory is shade intolerant, and fire is needed to maintain openings in the chaparral overstory. In the absence of fire, it is out-competed by shrubs. Luckily it produces seeds that can remain viable in the soil’s seed bank. In response to fire, these seeds germinate, rejuvenating the population.

In an effort to understand how populations of Stebbins’ morning-glory, are responding to habitat alteration and environmental change, I used population genetic data to characterize genetic diversity. Generally speaking, high genetic variation is good because it allows species to respond to environmental change. Genotyping of occurrences representing three distinct populations showed that the Salmon Falls population in El Dorado County has the highest genetic variation. This result makes sense because it is the largest population, with thousands of individuals. Plants from Salmon Falls are genetically intermediate between the northern most occurrences in Nevada County and southern most occurrences in El Dorado County near Shingle Springs. Genetic data also indicates that the Nevada County occurrences have the lowest genetic diversity relative to the occurrences in El Dorado County. The Nevada County sites have fewer individuals than other sites. If, in the future, it becomes necessary to augment the Nevada County occurrences, the Salmon Falls plants would be the most appropriate source of genetic material.

In addition to looking at the genetic composition of Stebbins’ morning glory, I made conservation seed collections from each population. These conservation seed collections are carefully stored in a regulated environment in the Rancho Santa Ana Botanic Garden seed bank. Seed banking ensures that seeds will remain viable for a maximum amount of time. If a catastrophic event were to negatively affect a Stebbins’ morning-glory site, the conservation seed collection could be used to reestablish the population. To collect these seeds, I placed inconspicuous mesh bags over developing fruits. Fully developed seeds were released into the bags as the fruit capsules dehisced. In the Nevada County population many of the seed collection bags went missing. Observations suggested that the thieves where most likely deer, leading to the conclusion that deer might be responsible for reduced
Lava Cap Wildflower Fields

Jennifer Buck-Diaz, Vegetation Ecologist and Botanist for state CNPS, recently evaluated research at Hell’s Half Acre and three other lava caps near Grass Valley. Her article is in the Winter 2016 issue of Grasblands, the Journal of the California Native Grasslands Association (vol. 26, no.1). The following is an excerpt from Jennifer’s article:

“In 2009, the Redbud Chapter of the California Native Plant Society (CNPS) launched a project to document their local lava cap habitats. A vegetation sampling workshop was organized to train staff and volunteers. Through this workshop and other efforts, 23 plots were surveyed across four separate lava cap formations within a ten-mile radius. The statewide CNPS Vegetation Program compiled and analyzed the data along with more than 800 other herbaceous plots from the Great Valley and Carrizo Plain (Buck-Diaz et al. 2013). The analyses revealed that lava cap wildflower fields are uniquely distinct from other types of grassland and meadow types in California (and may be a candidate for global and state recognition as a rare natural community).

Lava cap vegetation falls within a new provisional community, named as the Festuca microstachys–Allium amplectens Association, [Small Fescue-Paper Onion Association] based on important indicator species. This newly defined type is nested under one of the most widespread native herbaceous communities in the state, the Lasthenia california–Plantago erecta–Festuca microstachys Alliance [California Goldfields-California Plantain-Small Fescue Alliance]. This alliance represents a triad of native species that have a broad tolerance of adaptation to California’s Mediterranean climate. Virtually all high-quality examples of this community are on shallow, rocky, or otherwise nutrient-deficient substrates. Prior to the introduction of non-natives into California, this alliance was presumably much more widespread.”

The entire article will not be available on the CNGA web site until 2017. Contact Karen Callahan (penstemon@nccn.net) for a digital copy. The Grasslands Journal and the CNGA penstemon@nccn.net

Secret Meadow: Bumblebees and Penstemons

This past summer, thanks in part to funding from a scholarship provided by CNPS, I spent nearly every day in a meadow conspicuously labeled on maps with the seductive and oh-so-clandestine name, “SECRET MEADOW.” I had set out into this area of the Tahoe National Forest to begin to understand the foraging and dispersal movements of a familiar California bumblebee species, Bombus vosnesenskii, or the Yellow-Faced bumblebee. Essentially, by capturing individuals and genotyping them, you can know which sisters are related to each other, and so estimate the distances they may typically fly from their home nest when foraging for pollen and nectar (and therefore pollinating the plants in the process). Knowing these distances not only tells us something about the needs of the bees themselves, but perhaps of their effectiveness in pollinating distant plants and “rewarding” the flowers for their showy displays.

My sights were set on capturing individuals within Secret Meadow, where I had earlier observed massive amounts of Penstemon rydbergii in bud. Since I wanted to collect many individuals from a small area, I began daily visits to Secret Meadow and small open patches in the surrounding forests. Much like the bees themselves, my plan was to move my study area as different patches of flowers came into bloom. What I did not plan for, however, was how early and quickly the drought would cause penstemon and other meadow plants to flower and set seed. Seemingly within a few days, a frantic race was on with the bumblebees collecting pollen and nectar from the tubular flowers, and me hastily collecting the bees in turn (it’s worth noting I don’t kill the bees, I just remove a single leg and GPS the location…but that’s another article). As the days rolled into weeks, and the penstemon began to look crispy, the numbers of bees I was observing began to drop drastically. However, what I did not expect, is how many bumblebees I would begin observing in areas I was unprepared for.

Initially I had intended to track small meadows in forest openings around Secret Meadow, expecting to capture bumblebees from penstemon within those patches. However, these areas dried up and ceased blooming (or at least the bumble bee friendly plants did) around when Secret Meadow had. What I instead found was that the plants blooming within the semi-shaded understory of the conifers or in rocky openings, such as mountain pennyroyal (Monardella odoratissima) and ball-headed phacelia (Phacelia hydrophylloides), became the main forage for the bumblebee. While this may not seem like a resounding observation to the astute wildflower enthusiast, from the perspective of a bee researcher, this seemed to buck conventional wisdom, or at least published research.

Well, where do bees go when the meadow dries up either due to drought or just seasonal cycles? What do bees forage on when the meadows offer nothing good to eat? And, if we’re underestimating the abundance of a given bee species because we’re looking only in meadows, are we...
undervaluing the resources these non-meadow plant species provide for bee communities? Just because these more dispersed blooms don’t offer the same concentrations of bees in one sunny location does not mean they are not necessary forage for keeping bee populations healthy.

While most bee research will remain meadow (or more particularly, agriculture) focused, lending themselves to replication for scientific experiments and dense areas of blooms and bees, tracking where bees go and the plants they use when the meadows are sub-par should be given a strong look. In the face of drought, climate change, and land-use changes (such as water diversions that dry up meadows), the seemingly marginal patches of flowers offered by forest edges, riparian zones, or rocky openings in forests may be the safe harbors that bees rely on either in transit between meadows or as their primary source of forage. Or in more emotional terms, while you will always find me and my dog traipsing around a sunny meadow with a bug net, you will surely now find me enjoying the shade of some trees as I follow the bees to their favorite forest flowers.

You can find more information on this subject at “johnmola.weebly.com”.

John Mola, PhD student, UC Davis

Our chapter propagation group has agreed to follow these same BMP’s in our home-based native plant propagation efforts so that we can rest assured that we will not inadvertently introduce this lethal plant pathogen into landscapes via our plants, which we exchange among ourselves and offer at the chapter’s fall plant sale.

Our entire group was very favorably impressed with the nursery and many of us took the opportunity to buy some of their healthy and beautiful native plants to take home with us. I recommend that anyone interested in growing native plants make a visit to the nursery.

For more information, visit their website: http://www.sacvalleycnps.org/index.php?option=com_content&view=article&id=4&Itemid=110

Nancy Gilbert

Plant Propagation Group Report

On February 29th, the members of our Redbud Chapter Plant Propagation Group visited the Sacramento Valley Chapter’s Elderberry Farms Native Plant Nursery, located at Soil Born Farms, along the American River Parkway, in Rancho Cordova, CA. Nursery directors, Chris Lewis and Robin Rietz, led us on a tour of the nursery growing and potting areas, which includes a well-designed container nursery under a shade structure, a greenhouse with adjacent garden office, a native plant garden area and a Water Harvesting Butterfly Waystation, which is part of the farm’s Outdoor Classroom. Chris and Robin enthusiastically shared their growing methods, the mission, history and development of the nursery, and their volunteer program, as well as answering our many questions. A major topic of discussion was the threat of Phytophthora tentaculata, a recent exotic stem and root rot disease that has been threatening many native plant nurseries around the state. Luckily it has not found Elderberry Farms and Robin, as Propagation Director, has already instituted several ‘Best Management Practices (BMP’s) which include:

• Commercial organic soil blend only - stored in a bin so that no soil touches the ground or wood.

• Pots do not touch ground – whether planted or not, pots are only on gravel, cement blocks or benches

• New or sterilized pots only - they are now buying their 1 gallon pots and sterilizing all others that are reused.
Education Chair Report: Educational Grants

1. Placer Nature Center
Linda Desai, Education Director of Placer Nature Center, submitted the final report for the programs our grant supported the following four separate areas:

• School Field Trip Subsidy — $2000
  Of the $3500 awarded to PNC, $2000 was spent on school field trip subsidies. The Placer Nature Center charges $7/student for a field trip on one of our many thematic programs. 10 different schools received partial or full subsidies from these funds enabling 576 children to visit the center.

  These students represented 1st through 6th grade and the programs included Habitat, Life Cycles, Field Studies (birds, plants and bugs), Learning from the Land, Wetland Munchers and Stream Swimmers. All children had a hands-on experience with their outdoor environment as plants and animals weaved through their theme.

  The rest of the $1500 was spent to support these projects at Placer Nature Center.

• Maidu Garden
  The Maidu garden was fully mulched and in the fall after the plant sale some new plants added to the garden.

• Native Bee Garden
  The native bee garden was purged of its exotic weeds and planted. Many of the plants were bought at the Native plant sale for this garden. The resources Nancy sent were very helpful in picking the right plants for our location. The garden is mapped and labeled for visitors and school groups. We are so excited to see it fill out and grow and watch for the native bee visitors!

• Pond Renovation
  The pond area was completely renovated. It was leaking, so we needed a new liner and the non-native flag iris was taking over our pond. With much volunteer help from 4-H and the California Conservation Corps, the old liner was removed along with the rocks and a new one was put in place. We bought additional native plants for the pond area that we are planting. Now we have a larger pond with only native plants in it ready for the frogs this spring!

2. Grass Valley Charter School
Alex Ezzel is the Adventure and Service teacher at Grass Valley Charter School and is implementing a native plant propagation and restoration program using the grant funds from our chapter. Our chapter is helping to fund this year’s native plant propagation and restoration program. Here is the financial breakdown from Alex:

2016 Native Plant Propagation Budget:
Shade structure: $700-$1100
Irrigation: $200
Tables: $500-$900
Soil/Fertility: $400
Seeds: $200-$300
Seed Cleaning: $100
Heat/Sand Table: $200-400
Total: $2300-3400

The school has built a brand new 16 x 24 ft greenhouse and is bringing in electricity for fans and heater. With our grant funds, Alex built five redwood propagation tables. At a recent workday the posts were dug and poured for their 20’X20’ shade structure, which should be complete by the end of the school year. They have also built redwood bender board seedling trays, and have purchased some basic watering implements.

Alex met with Erin Tarr of Bear Yuba Land Trust and once the trails are completed at their Rice’s Crossing South site, the 4th and 5th grade students will be installing the native plants they have grown themselves at the school nursery. This should take place in the coming school year once our nursery facility is fully operational.

Important news about the California native habitat garden at the Briar Patch retention basin…

In January of 2016, we learned that the Redbud Habitat Garden was going to be demolished to make way for a much needed parking lot expansion that will cover the present garden location. Nancy Gilbert, the garden coordinator, put out a call for volunteers to rescue the wonderful native plants we have worked so hard to establish there. Parking lot construction is to begin at the beginning of June, so Redbud chapter, Briar Patch Food Coop volunteers and Bear Yuba land Trust volunteers worked together during January and February to remove and relocate hundreds of native plants and decorative rocks and boulders from the habitat garden to home gardens, the larger Briar Patch landscape, and Land Trust restoration sites. The relocation effort included digging up over 20 mature Humboldt Lily bulbs which turned out to be located up to foot deep and required patience and precision to avoid injuring them. This was the second rescue for these lilies, since we relocated them to the habitat garden from the Highway 49 improvement project several years ago.

With all the March rain, the chances are excellent that all the relocated plants will thrive in their new homes. Mission accomplished!

Nancy Gilbert
Welcome New Members (Feb 2015 – March 2016)

We extend a warm welcome to the following new members:

xxx

And thank you to all of our loyal renewing members!

California Native Plant Society, Redbud Chapter
Board of Directors

April, 2015

Officers:
President: Denise Della Santina (clearcreeknatives@gmail.com) 650-888-6392
Vice President: Jeanne Wilson (jxmotes@icloud.com) (530) 570-8009
Treasurer: Jeanne Wilson (jxmotes@icloud.com) (530) 570-8009
Secretary: Cyndi Brinkhurst (clbrinkhurst@gmail.com) (530) 274-1924
Newsletter Editor (acting): Ames Gilbert (nancyames@spiralemail.com) (530) 272-4775

Committee Chairs:
Membership Chair: OPEN
Membership Chair: Bob Johnson (johnsonbb1524@gmail.com) (530) 262-7036
Program Chair: Leslie Warren (leslie@wizwire.com) (530) 878-0738
Field Trips Chair: Roger McGehee (rogm@sbcglobal.net) (530) 264-8555
Fall Plant Sale Chair: OPEN
Publicity Chair: OPEN
Education Chair: Nancy Gilbert (nancyames@spiralemail.com) (530) 272-4775
Rare Plant Specialist: Karen Callahan (penstemon@nccn.net) (530) 272-5532
Invasive Plant Specialist: Dan Lubin (Dan.Lubin@parks.ca.gov) (530) 272-0298
Conservation Chair: David Magney (david@magney.org) (530) 273-1799
Book Marketing Chair: Julie Becker (jbecker@infostations.com) (530) 265-8197
Horticulture Chair: Nancy Gilbert (nancyames@spiralemail.com) (530) 272-4775
Webmaster: Bill Wilson (wilson@yosemite.edu) (530) 265-8040
Chapter Council Delegate: Denise Della Santina (clearcreeknatives@gmail.com) (650) 888-6392
Hospitality Chair: Susan Chalpin (sgchalpin@saber.net) (530) 277-3914
Hospitality Co-Chair: OPEN
Publications: OPEN
Member at Large: OPEN
Member at Large: OPEN

Note: The job of a “Member at Large” is to advocate the interests of the members to the Board. This is a great way to ‘dip your toes in the water’ as a volunteer!

NEEDED: A FEW GOOD VOLUNTEERS

An organization is only as effective as its members. Do any of the OPEN or Acting positions above appeal to you? Will you volunteer? If you are interested, come to any public meeting, Board meeting, or contact an officer above, and find out more! Are particular qualifications needed? NO (though your experience and expertise are certainly welcome!)—just a love of our native plants, enjoying working with like-minded folks, and the willingness to have fun! Most positions are very flexible, you can work on the schedule that suits you. For example, the Board meets about ten times a year (see actual dates on our website) to set goals and guide the direction of our chapter, but it is not necessary to come to every meeting. And you’ll have great mentors!

As you may know, Redbud is in the process of making a new edition of the “Wildflowers of Nevada and Placer Counties” book. This is absorbing most of the time of the members of the editorial board. It takes an enormous amount of work to produce a book, and this leaves little time for other Redbud activities and responsibilities—we’ve already had to drop the Spring Plant Sale, for example. So, we really need new volunteers from amongst our membership to step up and close the gaps. Thanks!

Page 11
Join us for our 2016 Lecture Series, Passionate About (Native) Plants!

April 29 (Fri, NC): Arctostaphylos: Miracles and Manzanita
Jeff Bisbee, Botanist, Photographer

June 30, (Thu, Aub): An Intimate Relationship—Botany and Geology—How Rocks Define Our Plant Communities
Professor Richard (Dick) Hilton, Paleontologist, Geologist, Educator

August 26, (Fri, NC): The Physics of Flora: Light, Color and the Science of Beauty
Evan Jones, Physicist, Adventurer and Educator

October 28 (Thu, NC): Creating a California Pollinator Garden
Nancy Gilbert (CNPS)

Sierra College Science Speakers Series

Nevada City—Madeline Heling Library, Rood Center
Auburn—Placer County Library on Nevada St.

Visit www.redbud-cnps.org for more details and directions.

Membership Renewal

Your label shows your membership expiration date. You can renew your CNPS membership online—it's quick and easy, and reduces renewal mailing costs. Go to CNPS.org and click on the JOIN button!

www.redbud-cnps.org
CA 95959
Nevada City
P.O. Box 2662
CNPS-Redbud Chapter