The Pipevine
Newsletter of the Mount Lassen Chapter
CALIFORNIA NATIVE PLANT SOCIETY

General Meeting
MARCH 7, 2018
Wednesday 7:00 pm
Butte County Library, Chico

A NATIVE PLANT a Day

a Snapshot of Northern California’s Plant Diversity

Presented by TIM HANSON

With over 6,500 native plants, California has a pretty incredible botanical diversity. In 2017 local botanist Tim Hanson embarked on a simple personal challenge to explore just a small portion of the state’s native plants, post a picture online (on Instagram and Facebook) of a different California native plant every day for a year. His goal was to foster an appreciation for California’s amazing flora and learn a few new plants along the way. Tim will present a fast-paced slideshow showing over 100 photos from his year of California native plants. The photos will focus on plants occurring in the wide-ranging habitats of northern California, from the north coast, to the central valley, and into the foothills and mountains of the CNPS Mount Lassen Chapter. Get ready to learn some new plants for the 2018 wildflower season!

Tim is currently a consulting botanist at Stantec in Chico and has previously worked as a seasonal botanist for Plumas National Forest and as a vegetation mapper for California State University, Chico. He is currently a board member for the Friends of the Chico State Herbarium.
President’s Message
by PAUL MOORE, President

I am very pleased to be able to serve as the President of the Mount Lassen Chapter. This is a very productive and involved organization of local citizens dedicated to preserving and increasing knowledge about our local plants. While we have made lots of progress in a number of ways and locations, the challenges remain. With that in mind, I would like to encourage existing and potential members to step up to the challenges and opportunities we and our community have. All of the good work we do occurs because “we” step forward to meet the challenges and serve our communities. I look forward to working with you.

Welcome back Paul!

Executive Board Meeting
MARCH 21, 2018
TBA
ALL CNPS MEMBERS WELCOME!

Workday
ALICE HECKER
NATIVE PLANT GARDEN
CHICO CREEK NATURE CENTER
BIDWELL PARK
MARCH 22 Thursday 8 - 10 am
Rain cancels
Contact ANN ELLIOTT
Annonfire@gmail.com 530-521-4402

Field Trips

UPPER YAHI TRAIL
UPPER BIDWELL PARK
March 10, Saturday
Meet at 9 am in Upper Bidwell Park at Rifle Range parking lot. We’ll carpool up the rocky park road 1.7 miles to Parking Lot 7 at the Diversion Dam. Bring lunch, water, insect/sun protection. Wear sturdy shoes. Hike the scenic Yahi Trail in a majestic canyon with spectacular vistas. We’ll follow Big Chico Creek where it flows through a diverse selection of scenic natural features. The trail transects grassy flats, open oak savanna, slopes and canyon walls covered with trees and shrubs. The trail crosses through shady and moist riparian woodlands in side drainages. We’ll walk about 2 1/2 miles one way and return along the park road to Lot L. Leader: Marjorie McNairn 530 343-2397

NORTH TABLE MOUNTAIN ECOLOGICAL RESERVE
March 18, Sunday
Meet at Chico Park & Ride (Hwy 99 & 32) leave by 9 am Or meet at Reserve Parking Lot on Cherokee Rd at 9:45 am. Hopefully, wildflowers and waterfalls will be showing this year of sparse rainfall. Otherwise, we can see the spectacular view across the Sacramento Valley and the effects of last year’s Cherokee Fire on oak woodlands in the canyons. For info see Conservation Page at http://mountlassen.cnps.org/. Bring sturdy shoes and lunch for 2 mile RT walk to Phantom Falls. Leader: Woody Elliott 530 588-2555, woodyelliott@gmail.com.

SPOTTED FAWN LILY & MCNAB CYPRESS LASSEN NATIONAL FOREST
March 24, Saturday
Meet at 9 am at Chico Park & Ride west lot (Hwy 32/99). Bring lunch, water, sun/insect protection, and money for ride sharing. Wear sturdy shoes. We will hike about 1-1/2 miles down a serpentine slope to a head dam on the West Branch of the Feather River for lunch. Under the cypresses are masses of yellow and white spotted fawn lilies and along the trail penstemon and fritillaria. Call for alternate meeting place. Leader: Marjorie McNairn 530 343-2397
It was a lovely warm February day when fifteen eager participants searched for the early bloomers along the lower Yahi Trail from the Horseshoe Lake parking area to the old Day Camp and back along the lower trail. Prominent species in bloom were (left) California pipevine (*Aristolochia californica*), (right) California bay (*Umbellularia californica*) and (bottom) milkmaids (*Cardamine californica*). Note that all three of these species share the same descriptor of “californica.” This pipevine is found only in California (endemic) and the others above are native to California but the bay laurel (as it is called there) is also found in southwest Oregon, and the milkmaids are found in Oregon and also Washington. Although the bay and the pipevine are two very different types of plants they have a couple of things in common. Each is the only representative of its family in Bidwell Park, and they both developed very early in the evolutionary pathway of flowering plants. In contrast, milkmaids is included in a group of flowering plants that evolved later, and it has about 24 members of its family (*Brassicaceae*) both native and non-native living in Bidwell Park.

California Bay is a member of the Lauraceae or laurel family, which includes avocado, and the fruit looks similar. When the fruit is just ripe it is edible, with a large pit inside similar to an avocado. With age, it can turn very potent, similar to the leaves of the tree. Native Americans used the fruit and the roasted pit for food, and tea made from the leaves for medicinal purposes. Although its leaves may be used for flavoring, it is stronger and more pungent than the bay leaves used for culinary purposes.

Milkmaids bloom from December to April (depending on the year) with a delightful white/pale pink early spring flower. This plant is characterized by four petals arranged in a cross. The previous family name of this plant was Cruciferae, an apt description. The dainty petals close up for the night, and when it rains the flower nods to protect the pollen from becoming wet. I won’t tell you it’s edible because I do not want anyone to pick it for that purpose. Better to pick some miner’s lettuce, also a native plant and usually more abundant.

Other flowering species observed along this route included the manzanita (*Arctostaphylos manzanita*), an important winter food source for Anna’s hummingbird, which does not migrate, a couple of early blooming blue dicks, and some yellow-blooming field mustard (*Brassica campestrostris*) a non-native cousin of the milkmaids. In a still-moist drainage was meadow nemophila (*Nemophila pedunculata*) a white flower resembling meadow foam but belonging to a different family.
Approaching the large manzanita, \textit{(Arctostaphylos manzanita)} I realized my timing was perfect. It was in full bloom, flowers scattered evenly throughout the shrub - not all on top, out of reach of my camera as many often are. Even from twenty feet away the sporadic activity of flying insects could be seen, along with the pleasing (to me) sound of buzzing - a strong indicator of a plant at peak bloom with warm enough temperatures to attract a variety of flower visitors.

Not all bees buzz, in fact I would guess that most don’t. On this particular day there was something - a bee or a fly that was flying rapidly above the manzanita. It was loud, persistent and very difficult to discern who or what it was. I’d seen and heard them around other manzanitas in past years and had been unable to see one visit a flower or land anywhere. Today was my lucky day to make the acquaintance of a Habropoda - one of the digger bees. It is a large hairy bee, greyish-tan, the size of a small bumble bee. It is an extremely fast flyer and the buzzing is much louder and higher pitched than honey or bumble bees. Plus it has the ability to hover, which most other bees do not. The face is broad and flat with the male having a discernable ivory color to the face which could be occasionally glimpsed as they zipped around and through the plant in search of females. To be in the company of flowers is to be at a gathering point for insects looking to mate.

Manzanitas hedge their bets regarding how their flowers are pollinated. A whole host of potential pollinators visit the flowers - bees, wasps, flies, hummingbirds, butterflies - not all with the same purpose, some are there for nectar, some for pollen, some for both and how they manage this varies. The individual flowers are urn shaped, with the constricted opening facing downward. The flowers are approx 1/4 inch long and not quite as wide. If one is sliced in half top to bottom the cutaway will show the burgundy colored stamens held close to the base (on the pedicel end) circling the narrow, elongated stigma which points towards the opening in the flower. Manzanitas, like many flowering plants, offer up nectar and pollen as rewards to encourage flower visitors. Nectar is produced at the base of the flower.

Pollen is not easy to access in manzanitas. For one thing they have poricidal anthers. These are tube-like anthers with a small opening at the tip requiring vibration to shake loose the pollen. This is called sonication or buzz pollination - a technique that only some bees are capable of performing. 8% of all plants require sonication - examples being the shooting stars, and many plants in the solanum family such as tomatoes. This is not a physical shaking of the flower but a sonic vibration. Tuning forks are even used in some scientific studies to release the pollen. The higher the pitch the more pollen is released. (shown in some studies on shooting stars.) continued on page 5.
In my observing manzanitas I’ve noted 5 bees that collect pollen in this manner. The bumble bees are the most obvious. They are tireless, methodical workers moving from one flower to the next. You can hear their low buzzing, then be quiet for a few seconds and then the buzz starts up again as they search for the next flower to collect pollen. The bumble bees clasp onto the flower upside down vibrating their flight muscles for a few seconds. I can’t pick up any sound, but the shimmering of their body and wings is noticeable. The worker Yellow-Faced Bumble Bees (*Bombus vosnesenskii*) are small this time of year. Later in the season when there are more resources they are noticeably larger. The Habropoda was more erratic in its flight pattern than the bumble bee, often briefly hovering then abruptly changing directions. When it came to a flower it locked in on the flower like two opposite poles of a magnet - rarely staying as long as two seconds with no noticeable vibration of sound. These pollen collecting females tended to stay on the inside of the shrub, which I surmise was a way to avoid the aggressive males. The smaller gold colored Andrena was easy to spot and could be heard making a distinctive tchtchtchtch buzzing sound when sonicating. The other two I’ve observed briefly are species of *Osmia* and *Eucera*.

Honey bees while always around manzanitas, are not capable of sonication, so they are not actively collecting pollen, but mostly visiting for the nectar. Honey bees have relatively short tongues, and in the insect world, when it comes to gathering nectar, tongue length can matter depending on the flower. On manzanita flowers the bee’s tongue may or may not be long enough to nectar satisfactorily, so they resort to another strategy by becoming what is disparagingly called a secondary nectar thief! Other words used in the literature to describe this behavior are exploiters, cheaters, thieves, robbers – primary nectar robbers, secondary nectar robbers and florivores.

A primary nectar robber makes a hole at the base of the flower near the nectaries. Nectar can then be taken without interacting with the stamens and stigma, thus not contributing to a chance at pollination. Once a hole in the corolla is made by a bee or wasp, then other insects have easy access to the nectar. Even many of the insects that engage in ‘legitimate’ pollination will use this method to nectar. While the terms used to describe nectar robbing are clearly negative, and suggest they are depriving the flower and the plant, there must have been a balance achieved long ago between the plant and its diverse flower visitors. The manzanitas in our foothills are abundant, thriving and full of life.
SNOW GOOSE FESTIVAL
Thank you to the following members that staffed our table at this year’s Snow Goose Festival: Marjorie McNairn, Cindy Weiner, Dody Domish, Roxane Canfield, Nancy Hawley, Ann Elliott, Kathy La Shure, KarroLynn Yells and Nancy Groshong. Your enthusiastic help with outreach is greatly appreciated.

CHICO SCIENCE FAIR
We will be participating as judges at this year’s Chico Science Fair (February 27-March 2). Hesh Kaplan will again serve as one of our judges and would like one or two others to join him to help evaluate student experiments for plant science merit. You can contact either Hesh or Janna if you can help with the judging on Tuesday, February 27 from 1 to 4 pm.

NEXT EVENTS CHAIR
On a personal note, as of May 2018 I will step down as Events Chair. I look forward to someone (or two?) to be our chapter’s next Events Chair.

SAVE THE DATES

VERNAL POOL LANDSCAPES
PAST, PRESENT, AND FUTURE

APRIL 11, 12, AND 13, 2018

Vernal Pool Landscapes: Past, Present, and Future, a conference that will be held in Chico, California on Wednesday and Thursday, April 11 and 12, 2018 at the Sierra Nevada Brewing Company in Chico. Eminent scholars, agency representatives, and other professionals will present research and case studies regarding plant and animal species dependent on vernal pool landscapes, conservation efforts, legal cases, and management techniques that have been used to enhance the economic and biological viability of certain lands.

Field trips will take place on April 13, 2018. The number of participants is limited. Registration will be available starting in mid-December and will be placed on the AquAlliance web site along with program updates at: www.aqualliance.net.
April 14
IDENTIFYING LICHENS TO GENUS
Join lichen expert TOM CARLBERG to learn how to identify common lichens of the Sierra Nevada/Cascade foothills.

April 21
INTRODUCTION TO KEYING MANZANITAS
(ARCTOSTAPHYLOS, ERICACEAE)
A group considered difficult by many people, the 90+ California manzanitas are actually easy to identify once you understand the characters and how they vary. Join authors TOM PARKER and MIKE VASEY to learn about this iconic group of Western North American plants.

For information about upcoming workshops please contact: www.friendsofthechicostateherbarium.com/eventsviewcalendar/

For more information about registration please contact the Biology office at (530)898-5356 or ssholten@csuchico.edu

MEMBERSHIP MLC
If you have changed your . . .
address, phone number or e-mail
or leave temporarily
please notify Mount Lassen Chapter CNPS
Membership Chair, MERYL BOND at
530 487-7312 or merylbond@sbcglobal.net

This will help eliminate returned Pipervines from the Post Office.  Thank You

Keep up with MLC Activities
on our website and Facebook
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Send Membership Application to:
CNPS
2707 K STREET, SUITE 1
SACRAMENTO, CA 95816-5113
mountlassen.cnps.org

Phyllis would say
Join Today!

Student / Limited Income ............... $25
Individual .................................... $45
Family / Library ............................ $75
Plant Lover ................................. $100
Patron ...................................... $300
Benefactor ................................. $600

Calendar 2018

March
27 - 2 - Chico Science Fair
7 - General Meeting
10 - Upper Yahi Trail
18 - North Table Mountain
21 - Ex Board Meeting
22 - CCNC Garden Workday
24 - WB Feather River

April
4 - General Meeting
11 - 13 - Vernal Pool Con
18 - Ex Board Meeting