



The Shooting Star



Thursday, February 2nd at 7:00 pm:

Restoration of Mountain Ladyslipper on the Stanislaus National Forest.

Margaret Willits, Botanist, Stanislaus National Forest.

Tuolumne County Library, 480 Greenley Road, Sonora, CA 95370

Photo: mountain ladyslipper (*Cypripedium montanum*). Margaret Willits

Restoration of Mountain Ladyslipper on the Stanislaus National Forest

Margaret Willits (BA Environmental Studies, Swarthmore College; MA biology, Humboldt State University) has worked as a botanist on the Mi-Wok Ranger District since 1999. Before that she worked for the Forest Service, National Park Service, and a consulting firm in Montana, eastern Oregon and Washington, and in California.

The mountain ladyslipper (*Cypripedium montanum*) is near the southern end of its range in the Sierra in our area. The Rim fire affected all but one occurrence on the forest. Margaret will talk on what we learned from monitoring this orchid after fires and

our efforts to protect and restore it.

Spring Native Plant Sale in San Andreas this April

This year's Spring Native Plant Sale will be in San Andreas. We will have the same selection of rare high quality plants for sale as well as a fine selection of books and material that every gardener and native plant lover should have in their personal library. Stay tuned for more details.

If you would like to volunteer or if you have any questions, please contact Stephanie Garcia at sjgarcia@mlode.com or Judy Dean at goldrushdean@yahoo.com.

CALENDAR

Sunday, January 22

Gardening with Natives Symposium Planning Meeting from **1:00 to 4:00 pm**. Location: Starbucks in the Junction Shopping Center in east Sonora

Thursday, February 2

CNPS Sierra Foothills Board Meeting at **6:00 pm** (members welcome) and General Meeting at **7:00 pm**

Location: Tuolumne County Library, 480 Greenley Road, Sonora, CA 95370

Program: Restoration of mountain ladyslipper on Stanislaus National Forest by Margaret Willits

Saturday, February 4

2017 Field Trip Meeting from **1:00 to 4:00 pm**. Location: Tuolumne County Library, 480 Greenley Road, Sonora, CA 95370

If you change your mailing or e-mail address, be sure to send a note to Jennie Haas. This will keep your newsletter on time!

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Sierra Foothills Chapter
www.sierrafoothillscnps.org

Dedicated to the Preservation of California Native Flora.

2017 Gardening with Natives Symposium

Mark your calendar for Saturday, September 9th, the day of this year's Gardening with Natives Symposium. The planning committee had a very productive first meeting in December. It appears that, regardless of how much rain might fall this year, state mandated water conservation is here to stay. Water-wise native landscapes is the logical solution to provide a balance between having an attractive garden and water conservation. The theme of this year's symposium will be "Native Gardening in the Mother Lode – the New Normal." The committee is working on a list of topics that we'd like to offer and matching quality speakers to the topics.

Our next meeting will be Sunday, January 22 at the Starbucks in the Junction Shopping Center in east Sonora, 1pm to 4pm. Join us if you would like to help with the planning or contact Jennie Haas at jhaas953@gmail.com or 209-962-4759 to make a suggestion.

--Jennie Haas,
Field Trip and Membership Coordinator

Field Trips

If the rainy weather continues into the spring, we should have a great wildflower year. With that in mind, it is time to convene our ad hoc Field Trip Committee and plan our 2017 field trips. We'll have our annual field trip planning meeting on Saturday, February 4th, 1pm to 4pm, at the Tuolumne County Library meeting room, 480 Greenley Road, Sonora. All interested members are welcome to join us or send Jennie your suggestions. If you'd like to lead a field trip, by all means, let us know. For more information or to offer up a suggestion, contact Jennie Haas at jhaas953@gmail.com or 209-962-4759.

--Jennie Haas,
Field Trip and Membership Coordinator

MILKWEED PLANTS AND MONARCH BUTTERFLIES

We know that plants play a major role in the oxygen and carbon cycles and are the first link in the food chain, but did you know that plants play a role in the evolution of insects? Some insects survive by mimicking the shape and color of leaves. In other cases, bitter organic chemicals such as glycosides and alkaloids present in some plants can protect insects. Through natural selection, these insects evolved distinctive color patterns, behaviors, and other adaptations.

The milkweed of genus *Asclepias*, family (Asclepiadaceae) are named because they possess a white sap, but there are other California natives that also have milk sap: bitter dogbane (*Apocynum androsaemifolium*) in the dogbane family (*Apocynaceae*) and prostrate spurge (*Chamaesyce spp*) in the spurge family (Euphorbiaceae). *The Jepson Manual* lists 15 species of *Asclepias* in California. In the Sierras of central California, these species may be found: California milkweed (*A. californica*), purple milkweed (*A. cordifolia*), narrow-leaf milkweed (*A. fascicularis*), and showy milkweed (*A. speciosa*). Milkweeds are easily identified by their distinctive flowers in which the petals and sepals are reflexed. Flowers are clustered in an umbel-like inflorescence.

The milky-sap of milkweeds contains a bitter-tasting glycoside that is toxic to vertebrates, thus explaining the abundance of milkweed plants in horse pastures. But, while milkweeds are eschewed by equines, they attract female Monarch butterflies who lay their eggs on the under surface of the leaves. What is bad for the horse is good for the butterfly. When the caterpillars hatch, they eat the leaves and thrive because the consumed glycoside is not toxic to them. In addition to a food source this milkweed diet protects the caterpillars and resulting butterflies. As the caterpillars feed, they incorporate the glycoside into their tissue, which remains during their metamorphosis into a butterfly.

The showy black and orange Monarch is readily visible to bird predators. This normally would be disadvantageous but in actuality it protects the species from predation by birds. Birds become ill from the glycoside after eating a couple of Monarchs thereby rejecting more butterflies with this warning (aposematic) coloration, a special example of protective coloration. By sacrificing a few individuals, the vast number of the population are protected because female Monarchs have the genetic predisposition to lay their eggs on milkweed plants. The Monarchs that overwinter in Pacific Grove on the Monterey Peninsula sip nectar from native plants. After mating in early spring, female Monarchs lay their eggs on Milkweed, then, like the males, they die.

The resulting adults continue their migrations, stopping to repeat this cycle until subsequent generations of butterflies reach their summer range. The black and orange color pattern of Viceroy butterflies resembles the Monarch but the Viceroys have no association with milkweed plants and possess no glycoside. They are protected because they have the same showy appearance as the Monarchs and are not eaten by birds who have experienced the negative effects of a Monarch meal. This is another example of protective coloration called mimicry, especially Batesian mimicry. For this mechanism to protect Viceroys, Monarch butterflies must be present. Without glycoside-containing milkweed plants, Monarch and Viceroy butterflies probably would not have evolved their showy patterns. Here are two fascinating examples of how plants play a role in insect evolution. The next time you see Monarch butterflies, think of the milkweed plants that gave them protection.

--Wayland Ezell- Education Chair

Traditional Uses of *Umbellularia californica*

Many Native Californian people used *Umbellularia californica*, or California Bay tree. It has also been called Myrtlewood, California Bay, and Pepperwood, among other names. It is an evergreen shade tolerant tree that grows up to 100 feet, and lives from sea level up to 5000 feet in elevation. Leaves are shiny green on top, and dull grey-green on the underside. They are lancet-shaped and up to 3cm x 10cm in size.

They can be used in cooking like those of Sweet Bay (*Laurus nobilis*), but are much more pungent. The flowers are yellowish-green and in an umbel form. The fruit is the bay nut and it is olive-shaped, purple, and about 2.5 cm long. The flesh and nut of the fruit were used as food. There is only a brief window when the flesh is palatable; if overripe, the volatile oils are too strong for edibility. The shelled pits were roasted to remove pungency and eaten whole, or roasted and made into cakes for immediate use or winter storage. Nuts were also ground to make a bitter beverage, somewhat like coffee.

Medicinally, the scent of the crushed leaves was inhaled for headache relief, although it can also cause headaches. A poultice of leaves was sometimes applied to the head for headaches, and other areas of the body to treat shingles. Leaves were boiled and the steam used for colds and sinus infections. Tea was used for sore throats and colds. Leaf oil was used for earaches, sores, and Spring allergy prevention. A decoction was used to treat head lice, stomachaches, and menstrual cramps. A poultice of the flowers was used to reduce swelling. Smoke from burning leaves fumigated homes after sickness, and was also used as an insecticide and flea repellent in homes and granaries.

Leaves were stored with basket and feather-work to repel insects. The leaves were rubbed on hunter's bodies to mask the human odor. The wood was used for bows and instruments. Today, "myrtlewood" is used for both for its visual beauty and its acoustical value in instruments like guitars and violins. One cautionary note: California Bay is the main host of *Phytophthora ramorum*, the fungus that causes sudden oak death.

--Stefani Reichle

Source: Tree Girl: Intimacy with Nature

CNPS Shooting Star Newsletter:

Send your native plant observations and reflections in 2017!

In this digital age, it is easy to quickly upload a photo to the CNPS Facebook Page. I love seeing what others are finding but then it is time for me to quickly move on to what is next! However, it is also nice to sit with a cup of warm tea or coffee and take in the monthly Shooting Star newsletter and share with each other what our native plant findings have been for the current time of year. Please consider submitting an article or even just photos for the Shooting Star newsletter in 2017. We rely on each other to know what is blooming in our Chapter area not only for our love of native plants but also for conservation of native plant species in our back yard and beyond. And, as a community, it is always fun to hear from the membership and to share how others enjoy native plants.

Guidelines: Material must be original (please cite sources if referencing literature). If you use scientific names, please check USDA Plants Database to verify the current accepted taxonomic name, <http://plants.usda.gov/java/nameSearch>).

Topics: Anything related to native plants such as plant walks, gardens and pollinators, landscaping, ecological discussions, conservation, and species' accounts. Original photos and sketches are encouraged. Please submit articles which are *400 words or less*. Articles are **accepted until the 10th of each month**, for publication in the following month's newsletter (or later if we have several articles). Send questions to quinnyoung26@gmail.com

-- Quinn Young, Newsletter Editor

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