

CALIFORNIA NATIVE PLANT SOCIETY MARIN CHAPTER

June 2021 Newsletter

Marin Chapter Meeting: "Identifying Grasses for Novice Enthusiasts" Guest Speaker: Bruce Homer-Smith

June 14 @ 7:30 pm via Zoom
[Register for this meeting here.](#)

Grasses have the reputation for being hard to differentiate. Bruce will show you a novice-friendly approach to grasses that uses PlantID.net as a teaching tool. You enter what you know – your location and easily distinguished features of your grass - to create a short list of possible grasses. PlantID then helps you compare and learn about those species

[Read more...](#)

Here are two very different grasses that PlantID.net will help you identify.

California Canary Grass has
A spike-like inflorescence.
Florets are hidden.
It has no bristles (aka awns).



Photo by Toni Corelli

California Brome has
A branched inflorescence.
Florets are visible.
It has bristles (aka awns).



Photo by Wilde Legard

To get started on identifying Marin grasses now, read this article further introducing the PlantID grass tool. Getting Started with Marin Grasses

by Bruce Homer-Smith












Grasses have a reputation for being difficult to learn. Their parts are small and have specialized names. There are hundreds of species, and many look similar to the untrained eye. However, PlantID.net now has tools to help you learn your local grasses. With a little patience, you can start distinguishing significant differences in grasses, just as you learned to identify flowers and other plant.

PlantID's simple searches, comparison tools, and illustrated genera descriptions will help you learn about grasses and develop an eye for how their general forms and flower parts differ. Even if you don't always get to species, you'll start to notice features you used to miss.

Grasses are complex, which is wonderful, if seemingly daunting. They reward close attention and study. Start using <http://PlantID.net> grass tools by focusing on one particular grass. Learn how to use the options and explore all the information about that species.

Have fun with it!

This part of the Ring Mountain search page in PlantID.net lets you focus on a small group of grasses.

| Grasses | | | | | |
|---------------------|----------------|---|---|---|---|
| <u>Introduction</u> | Type |  |  |  |  |
| | | Bunch Grass | Single-Stem Grass | Rush | Sedge |
| | Typical Height |  |  |  | |
| | | 1 foot | 3 feet | 5 feet | |
| | Inflorescence |  |  |  |  |
| | | Spike-Like | Branched | Has Awns | No Awns |

Marin Chapter Field Trips

New Guidelines: With COVID 19 thankfully receding, we can now allow 15 participants on each outing. Additionally, state CNPS has instituted an online system for liability waivers, which is really very easy to use. Please sign up for any hikes you wish to attend by emailing Susan Schlosser at scschlosser52@gmail.com. She will send you a link to the waiver.

Saturday, June 5 - 10 am to 2 pm - Mt. Tamalpais: Bootjack to West Point Loop. As summer arrives, so do some of Marin's loveliest plants, including the precious and gorgeous *Lilium pardalinum* (leopard lily). Lily plants can be found in some of the riparian zones on upper Mt. Tam. Many other interesting and beautiful native plants abound along the trails in this loop. The route passes through several serpentine areas, where we can look for jewelflower, Tiburon buckwheat, and other endemics. At a higher altitude than the rest of Marin County, wildflowers will hopefully have weathered the late May hot spell with aplomb! In any event, we will enjoy a really easy hike with views that people travel from all over the world to experience.



Monardella sinuata ssp. *nigrescens*
By John Longstreth



Lilium pardalinum - leopard lily
by John Longstreth

Meet at the Rock Spring parking lot on Mt. Tam, located at the intersection of Ridgecrest and Pantoll Roads, approximately one mile uphill from the ranger station at Pantoll. For

those unfamiliar with the area, Pantoll is located on Panoramic Hwy. The road uphill to Rock Spring is directly across the road from the Pantoll Ranger Station. **Leader:** Kristin Jakob

[Tuesday, July 13 - 9 am to 3 pm - Woodward Burn Scar, Point Reyes National Seashore.](#) With the Seashore gradually reopening trails, we can now have a look at the burn scar from the Woodward Fire of last August and September!

The route will be a 5.5-mile loop starting at the Bear Valley Trailhead, continuing up the Meadow Trail,



Polystichum munitum - western sword fern
resprouting along Meadow Trail By Ann Elliott

south on a reopened portion of the Sky Trail and back to Divide Meadow on the Old Pine Trail. The fire occurred in Douglas-fir forests, coastal scrub, hardwood forest, Ceanothus-dominated coastal chaparral, along riparian forests and

in grasslands. We can see fire effects such as holes in the ground where trees used to be, superficially burnt areas, re-sprouting of coyote brush, re-establishment of some plants, and areas of burnt and unburnt vegetation. Although the drought makes it unlikely we will see fire-following annuals, maybe there will be some surprises!

Meet at Bear Valley Trailhead, which is just up the access road from the Point Reyes National Seashore Visitor Center. Bring lunch and water. **Leader:** Susan Schlosser

[Saturday, July 24 - 10 am to 2 pm - Summer Botany at Bull Point, Point Reyes National Seashore.](#) The moist, coastal climate of Point Reyes makes this one of the few places in Marin to enjoy a diverse array of wildflowers during the summer. With most of Marin County showing signs of summer dryness, here you can explore habitats ranging from freshwater marsh to coastal dunes. Although Bull Point looks to most like just another cow pasture, for weeks in summer, it turns into rare plant central, with the fragrant and rare *Horkelia marinensis*, large stands of the rare *Linanthus grandiflorus*, not to mention orchids and lilies!



Leptosiphon grandiflorus
By Vernon Smith

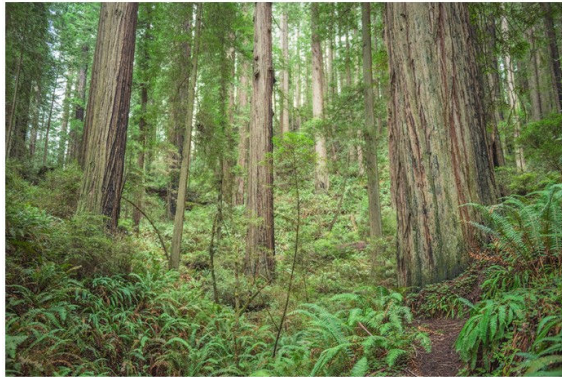
Meet at the Bull Point trailhead in Point Reyes National Seashore. **DIRECTIONS:** From Hwy 101 in Larkspur, take the exit for Sir Francis Drake Blvd west 20.4 miles to Olema. Turn right onto Hwy 1 and go 2 miles. Turn left onto Sir Francis Drake Blvd and go 11.7 miles. Trailhead is on the left (before the North Beach turnoff). Bring lunch and water and dress in anticipation of possible cold, wind, and fog.

We are thrilled that former Marinite, Amelia Ryan, is returning to lead this outing. Amelia is a plant ecologist who formerly worked at Point Reyes National Seashore and is an expert on the plants at Bull Point! **Leader:** Amelia Ryan

[Upcoming field trip details can be viewed here.](#)

What's Up with the Sword Ferns? By Kate Wing

Thrip composite What's Up with the Sword Ferns?



↓ Sword fern leaves showing contrast between healthy leaves and unhealthy ones.

← Redwood forest with healthy sword ferns at Westfall Ranch. Photo by Mike Shoys of Save the Redwoods.



↑ Typical sword fern showing effects of drought and thrips.



← Thrip (in red circle) on sword fern frond.



↑ Dead sword fern.



← Christopher Cook, Inspector with the County of Marin Dept. of Agriculture, collecting thrips from sword ferns.



← Closeup of thrip. Photo by Jesse Rorabaugh in iNaturalist.

All photos by Kate Wing unless noted.

by Kate Wing
Western sword ferns (*Polystichum munitum*) usually form a lush evergreen understory in redwood and mixed evergreen forests. They are well-adapted to periodic droughts, and like redwood trees, have leaves that can absorb dew and the fog drip which falls from trees year-round. [Dawson 1998] This winter though, many of the sword ferns looked silvery, brownish, or in severe cases, appeared to be entirely

dead. What is going on?

In dry years, sword ferns photosynthesize less, grow fewer leaves, and produce less of the chemicals that they use to protect themselves from pests. Over the past two years, Muir Woods has had half its normal rainfall, and there has been a 33% reduction in the number of foggy days compared to 70 years ago. [Johnstone and Dawson 2010] It seems likely that drought stress has made the ferns more vulnerable to damage by thrips, very tiny sucking insects that live on the underside of the leaves. If you were to turn over a frond, (and put your reading glasses on if necessary!), you could just barely see the thrips as long thin black spots on injured fronds.

With the assistance of Christopher Cook, Inspector with the County of Marin Dept. of Agriculture, thrips were collected in Muir Woods. Michael Forthman, an entomologist with the California Dept. of Food and Agriculture, recently identified them as greenhouse thrips (*Heliethrips haemorrhoidalis*), an invasive species native to South America and introduced to the U.S. prior to 1870. As a non-native species, greenhouse thrips have the potential to cause greater damage to ferns than native thrips because there are fewer natural predators present to keep their populations under control and the ferns have not had time to develop specific defenses against them.

According to Mia Monroe of the National Park Service, there have been previous episodes of fern dieback in Muir Woods, most recently in 2012-2014. However, sword ferns are known to be remarkably resilient [Baer 2016] in part because they store carbohydrates in their crowns and rhizomes. In the prior cases, within a year or two after the damage occurred, the ferns sent out new croziers (unfurling fronds) from their surviving crowns and recovered.

In Muir Woods, we were happy to see fresh fronds emerge this April. If we get adequate rainfall next winter, the ferns should be out of the woods, figuratively speaking. If the drought continues, it is possible that further reduction in the crowns' energy stores could cause permanent dieback of some of the weaker plants. Longer term, climate change might expose the ferns to continued drought stress. Beyond hoping for a rainy winter, sword fern survival may depend on our efforts to reduce climate change.

References

Alex Baer, James K. Wheeler, and Jarmilla Pittermann. Not dead yet: the seasonal water relations of two perennial ferns during California's exceptional drought. *New Phytologist* Vol. 210, Issue 1, pp 122-132 April 2016.

T.E. Dawson. Fog in the California redwood forest: Ecosystem inputs and use by plants. *Oecologia* 117: 476– 485. 1998.

James A. Johnstone and Todd E. Dawson. Climatic context and ecological implications of summer fog decline in the coast redwood region. *PNAS* March 9, 2010 107 (10) 4533-4538; <https://doi.org/10.1073/pnas.0915062107>

Emily B. Limm and Todd E. Dawson. *Polystichum munitum* (Dryopteridaceae) varies geographically in its capacity to absorb fog water by foliar uptake within the redwood forest ecosystem. *American Journal of Botany* Volume 97, Issue 7 July 2010.

US Forest Service. Fire Effects Information System, *Polystichum munitum*. <https://www.fs.fed.us/database/feis/plants/fern/polmun/all.html>

Stalking the Elusive Adder's Tongue By Betsey Crawford

The first year I saw nothing but handsome, corrugated leaves with irregular brown markings. They reminded me of the trout lilies in my native northeast forests, so I looked forward to the flowers that would show up. But they didn't. Though the leaves looked like the type that would accompany flowers, forests have lots of plants that leaf but don't bloom, so I wondered if that was the case. Or was it an off-year for that plant? Were they biennials, which bloom every other year? Or had I missed them?



Scoliopus bigelovii - fetid adder's tongue
by Betsey Crawford

I was new in California and a friendly woman in a yoga class had welcomed me and filled me in on a few nearby trails, including a two-mile loop at the top of King Mountain. It wasn't a regular hike for me, so I could easily have missed the flowers. I determined that I'd go earlier the next year, which I did. That year I saw stems. The bloom having finished, the stems now curved over the edges of the leaves and were producing a seed pod that would drop its seeds handily onto the forest floor. So now I knew I had a



flowering plant and was determined I would stalk them the next year, starting in January, to see if I could see the flowers.

They are not easy to find. The picture below was taken in a well lit spot about 18 inches above a couple of plants with eight blooms between them. They are small and their dark purple and cream striping produces a speckling which blends easily with the surrounding variegated scene. As do the

delight, I

bigelovii.



curved foot, Bigelovii is John Milton with to

But let's ignore that uninspiring term for now, because nothing can beat its common name: fetid adder's tongue. Part of its charm is that it doesn't make much sense, unlike a name like buttercup, which describes a yellow, cup-shaped flower. Adder's tongues have a particular affinity for redwood forests, which are indigenous to California. But the state, home to ten different types of rattlesnakes and even a few boas, doesn't host adders. All snakes' tongues are forked, but there are no obvious forks here. The reference is to the divided tip of a stolon, or runner, that travels underground, connecting plants and starting new ones. So fetid is the only part of the name with some immediately apparent facts behind it.

Fetid implies the plants have an unpleasant smell. It doesn't permeate air around them. Since they're only a few inches off the ground, I had to sniff a lot to find one that smelled like anything rich forest floor of humus and slowly composting redwood and fern stems.



the
few
few
but a

Eventually, I found a flower with a distinctive odor. Not terrible, but certainly not something you'd choose. It reminded me of having a wet dog in the back of the car. A smell which must appeal to the fungus gnats that pollinate adder's tongues in the chilly months before bees are active.

Two years ago I moved onto the side of King Mountain. To get to my apartment, you drive up a steep hill for a quarter of a mile. To get to the loop from there you hike up a steep fire road for another quarter of a mile. So now it's my backyard hike, which means it's been an almost daily walk in these covid-quiet times. All of the loop is forested. About a third is redwood forest, and the adder's tongues start and stop at the boundaries of that section.

This year, as if consoling us for all we've been through, wildflowers are abundant. Delicate milkmaids, vivid blue houndstongue, bold white death camas are all blooming more than usual. The adder's tongues have gone mad. No need to keep stalking. Because those curving stems drop their seeds next to the plant they're from, they grow in colonies. Helpful ants, who thrive on the nutritious elaiosomes of the seed, pick some up and carry them away to their nests, thus creating new colonies. This spring they are spread out on the forest floor in one place after another. It's hard to imagine the years when I could barely find them. They seem to be looking for me at this point.

Which is not much of a stretch now that we know plants have ocular cells in their leaves. As I bring my eyes close to them, are they looking back? We know they have the ability to sense and respond to their surroundings. That they communicate with the forest around them. Am I, bending over them with my camera, considered an attacker? Do they send chemical signals to other plants that I'm a danger? Or do they read my love for them? Plants can learn and remember. They create relationships. When I come to visit, day after day, do they get used to me? Do they learn the chemical signals I give off? Are they always slightly wary, or do they welcome me after a while?

I give them the greatest gifts I have to offer — love and the desire to pay deep attention. I watched their green shoots push out of the dried leaves and redwood twigs on the forest floor. I watched them curve open, watched the pointed oval buds slowly rise on delicate stems and the striped sepals open. Saw their spiky petals rising above the anthers and stamens, lending a somewhat gothic air. I never saw the fungus gnats, but



when bright yellow pollen was spilled on the sepals I knew they had been there. Then I watched the sepals slowly fade as the weight of the swelling ovaries brought the stems curving to the ground.

Now, though wistful at the flowers' fading, I am watching for the ripening of the fruits as **they open and release their seeds**. The leaves get longer and more pointed as they age, and will eventually disappear. In this quiet cycle in the heart of the forest, they are giving me the greatest gifts they have: life, beauty, mystery, a

glimpse of the deepest creative forces of the cosmos, wonder, awe. Though these blessings are particularly comforting after **the losses of the past year**, the earth offers us such profound nourishment all the time.

YouTube Channel for CNPS Marin Chapter



Marin Chapter has launched a YouTube channel for public access to recordings of Chapter Meetings and other events. Check out the Chapter's last few "meetings" at the link below, or while in YouTube search for CNPS Marin. Hit the **SUBSCRIBE** button to be notified of new postings. https://www.youtube.com/channel/UCi7yQqf4y_RSUWlt9kGV1KQ

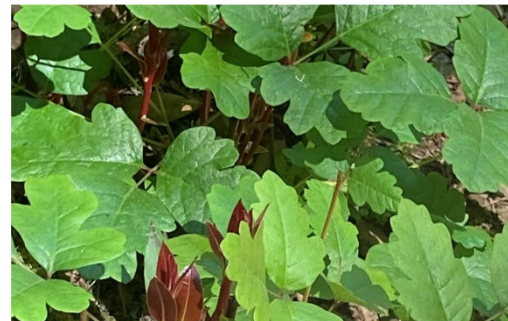
Got Broom?

It's still not too late to remove broom. Broom and other fire-prone invasive shrubs pose a fire danger **in open landscapes** and act as "ladder fuels" from a ground fire to the tree canopy **in wooded areas**. [Borrow up to seven wrenches](#) to help prevent further spread. There is one large wrench - about 11 lbs. with a jaw capacity of 2.5 inches. Contact Eva Buxton (Conservation & Invasive Species Chair) at evabuxton@sbcglobal.net



Kid's Corner (for the young at heart)

"Leaves of three, let it be" is a saying used to help novices learn to avoid poison oak (*Toxicodendron diversilobum*), as most people have an allergic reaction to touching it, getting a mild to severe rash. However, many other non-toxic plants have leaves of three. Take this quiz to see if you can recognize poison oak and to learn about some of these other "friendly" three-leaved plants.



Toxicodendron diversilobum - poison oak
by Ann Elliott

[Click here to take the "Leaves of Three" quiz.](#)

Upcoming Marin Chapter Events - 2021

June

5 Field Trip - [Mt. Tamalpais: Bootjack to West Point Loop](#) - Sun. @ 10 am

14 [Chapter Meeting](#) "Identifying Grasses for Novice Enthusiasts" Guest Speaker: Bruce Homer-Smith @ 7:30 pm [Register here](#).



Aesculus californica - buckeye by Woody Elliott

July

12 Chapter Meeting "Sea Level Rise Impacts to SF Bay Wetland Plant Communities" Guest Speaker: Peter Baye @ 7:30 pm [Register here](#).

13 Field Trip - [Woodward Burn Scar, Point Reyes National Seashore](#) - Tues. @ 9 am

24 Field Trip - [Summer Botany at Bull Point, Point Reyes National Seashore](#) - Sat. @ 10 am

Check CNPSMarin.org for upcoming field trips and events as they are scheduled.

Marin Chapter Board Meetings generally occur on the first Monday of each month. To attend, contact co-President David Long sfdlong@ix.netcom.com

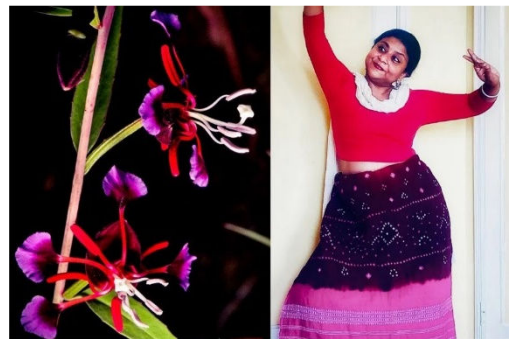
Join CNPS Events - Statewide & Organized by Other Chapters

Peruse the [CNPS Calendar of Events](#) that includes virtual talks and virtual garden tours. Below are a few which you might like.

Fire Resilient Landscaping with Native Plants, a talk by Nikki Hanson June 2 @7:30 pm With increasing drought and fire risk, gardening and land management in the wildland urban interface (WUI) can seem daunting. In this talk, Nikki will address six elements of firesafe landscaping to consider when trying to tackle this hot topic: where to plant, what to plant, spacing between plants, break up continuity in the garden, maintenance, irrigation. Presented by Santa Clara Valley Chapter [This talk will be live streamed here on YouTube](#).

Naturehood Gardening: Gathering Plants and Creativity June 3 @ 5:30 pm [Register here](#). Three speakers:

- **Kat High, of Hupa Tribe descent** - She cultivates a garden that provides a host of native food, medicine and basketry materials as well as living connections to Indigenous legacies and lifeways.
- **Barnali Ghosh**, an immigrant storyteller and California landscape architect, has taken the native plant world by storm with a series of fashion self-portraits bridging home and homeland – re-creations of California native flowers, using fabrics and dance forms from India.



- **David Bryant** will share his new book, *California in a Vase*, a showcase of native plant flower arranging created at The Gottlieb Native Garden and California Botanic Garden.

Southern California Monarch and Milkweed Conference June 5 @ 9:00 am - 2:00 pm [Register here](#).

Weeds After Wildfire and What YOU Can Do to Help! June 8 @ 12:00 pm Join Joey Algiers, Restoration Ecologist at the Santa Monica Mountains National Recreation Area, and Andrea Williams, Director of Biodiversity Initiatives, California Native Plant Society [Read more...](#)



Children's Gardens with San Francisco Native Plants June 26 @ 1:00 pm [Youtube Live link](#):



Dudleya Legislation - [CNPS continues its support of AB 223](#) to stop Dudleya poaching. On June 1, AB 223 passed the Assembly with a vote of 78 to 0 and moves on to the CA Senate.



[Fire Followers](#) iNaturalist collaboration continues.

- Visit a recent burn area
- Make observation with iNaturalist
- Increase our knowledge of CA biodiversity

Spread the Word About CNPS

Enjoy posting on social media? Consider posting CNPS and Marin Chapter issues and events (field trips, meetings, plant sales) for the Chapter. Expand the awareness of and beauty of California native plants and communities. Please contact Ann Elliott at annonfire@gmail.com.



Horkelia marinensis - Point Reyes horkelia
by Vernon Smith

Submissions of articles, events, and art are welcome to Ann Elliott, Newsletter Editor annonfire@gmail.com. Thank you! p.s. I have changed the sending email account to marincounty@cnps.org. Please add it to your contact list.

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California Native Plant Society