



CALIFORNIA NATIVE PLANT SOCIETY

San Diego Chapter Newsletter

CNPS-SD VOLUNTEER REQUEST: ONLINE EVENT MANAGER: NATIVE GARDEN TOUR 2022

Join our team of fantastic planners making the Spring Native Garden Tour happen in 2022! We are looking for someone who can manage online event software for ticketing and scheduling for Garden Tour customers and volunteers. Volunteer skills are best geared towards data entry and compilation, managing ticketing and payment processing software like Eventbrite, Ticketstripe, Square, and / or PayPal.

Variable hours asked would be primarily up front in the setup and communications phase (12+ hours in February), fewer in the maintenance phase while customers purchase tickets (8 hours in March), and somewhat heavy right before and during the Garden Tour (12 hours first week of April). Perks include 2 complimentary tickets to the Garden Tour and any other perks for volunteers decided along the way. If you are interested, contact **Christine Hoey** at 100starfish@gmail.com and CC **Justin Daniel** at president@cnpsd.org.

CNPS 2022 CONFERENCE

Rooting Together Restoring Connections to Plants, Place & People



Dates: October 20-22, 2022, with workshops and field trips on October 18 & 19.

Location: The DoubleTree by Hilton in San Jose.

Find more info at: [Conference Home - CNPS Conference](https://conference.cnps.org/) or <https://conference.cnps.org/>

The call for presenters is open: [Call for Presenters - CNPS Conference](#). Topics are:

- Plant Science
- Horticulture
- Conservation
- Education

For sponsorship opportunities, visit: [Sponsorship-Opportunities - CNPS Conference](#)

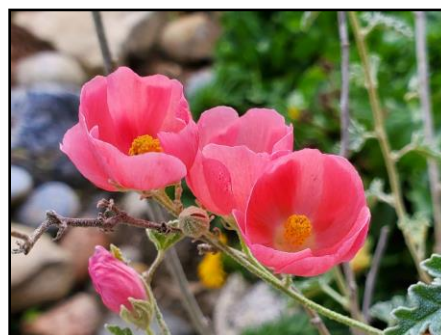
Registration for the conference will open in May 2022.

NATIVE GARDENING COMMITTEE

February Native Garden Committee Meeting on Hold

Happy February! We are taking a break this month for planning events, and meetings will resume in March. In the meantime, don't miss these monthly webinars from state CNPS. February's webinar does a deep dive into how to prune natives. You can register for one or all of their webinars here:

<https://www.cnps.org/gardening/webinars>



'Louis Hamilton' Desert Mallow (*Spharalcea ambigua* 'Louis Hamilton') Photo Credit: **Christine Hoey**

Greg Rubin's Zoom presentation "**New Innovations and Plants in Native Landscaping**" at the January NGC meeting did not disappoint. From ground covers to small trees, Greg showcased almost 20 of his favorite new and lesser-known natives he likes to use in his landscapes. In addition, Greg presented effective treatment methods for pathogens and new irrigation technology to round out his talk. In case you missed it, you can see Greg's presentation on the CNPS San Diego YouTube channel here:

<https://www.youtube.com/watch?v=yIFOITH9om8>

Bird Park Update

We are now in the maintenance phase of taking care of the garden and despite the gophers and rabbits, most of the native plants have settled in nicely. We are now looking into installing native plant ID markers for public awareness with hopes to inspire visitors to add native plants in their own gardens.



(Left: Bird Park Signage. Photo credit: **Christine Hoey**)

San Diego Parks and Recreation is upgrading the irrigation and they have been very supportive of the work the NGC has completed so far. **Lucy Warren** continues to play an important role overseeing the Adopt-

A-Plots for Balboa Park and there may be an opportunity to expand into the other areas. If you are interested in joining our Bird Park volunteers, sign up here: [Bird Park Workgroup](#).

Native Garden Tour 2022 Update

**“Circling Back to Nature –
California Native Gardens of East County”
Saturday, April 9, 2022**

We have a wonderful selection of private and public gardens for this year’s tour. Early Bird tickets will go on sale later this month, so stay tuned for more information. **Christine Hoey**, **Judie Lincer** and NGC volunteers will be involved with directing the tour.



2022 Garden Tour: **Nick Basinski’s** front yard.
Photo credit: **Christine Hoey**.

Join the Native Garden Committee

If you love gardening with California native plants and would like to join the Native Garden Committee (NGC), sign up here: [Join NGC](#). A separate monthly email is sent out to members with meeting announcements, volunteer activities, workshops and

early bird sign-ups that don’t always make it into the Chapter newsletter. We would love to see you!

Natively Yours,
Christine Hoey

Overlooked Native Plants for the Garden Update on *Cneoridium* Phytotoxins by **Lee Gordon**

After my January newsletter article on *Cneoridium* came out, **Fred Roberts** emailed me with more and better information about its alkaloid phytotoxins.

I had thought that some people were more sensitive to the alkaloids than others. Instead, the alkaloids cause a reaction only if they penetrate your skin, and then after exposure to the sun. Merely touching or handling *Cneoridium* is no problem, but it can be trouble after it penetrates your skin. Fred is confident that none of us are immune to its effects.

Clay Tschudy and **Greg Rubin** spend many hours working in the gardens they have created, and before they became aware of *Cneoridium* phytotoxins, they could easily have been scratched by the plants. Fred, Greg, and Clay all report that *Cneoridium* blisters are seriously painful. Fred reports further that even after you heal from the blistering, residual alkaloids in your skin can produce yet another reaction when you are exposed to the sun!

In spite of their experiences, Clay and Greg still use them in their landscapes because they look good, they fill an important niche, and because a little care prevents problems. I’ll reiterate that you should keep them away from paths, and far from where children play. The good news about *Cneoridium* in gardens is that its niche as an intermediate foundation plant would normally separate it from passersby.

Fred’s information is particularly valuable for me because *Cneoridium* is all over my hillside, and because work I do in open spaces often has me crashing through chaparral. Now I understand that I need to be careful.



Bush rue (*Cneoridium dumosum*)
Photo: Calscape website

CNPS-SD BOARD NEWS

February 2022 Board Meeting

Wednesday, February 2, 6:30 – 9:00ish p.m. The meeting will be via Zoom. To add an issue to the agenda, or to get the link to the meeting, please email president@cnpsd.org.

January Board Meeting Summary

The board approved the following:

- Appointment of **Christine Hoey** as a member of the board.
- A \$500 mini-grant for the Groundworks Earth Lab.

Other items discussed by the board included: a proposal for a mini-grant from the Julian Beer Company; de minimus volunteer gifts; the use of Square for selling tickets to events; the Winter Native Plant Sale on January 22, and the Spring Garden Tour on April 9. The meeting adjourned at 9:11 pm.

~ **Bobbie Stephenson**, Chapter Secretary

OAKS OF SAN DIEGO COUNTY

Part 1: Oaks Red and Gold

Oaks appear to be one of the more popular native plants in California. There seem to be plenty of San Diego CNPS members that think so just based on the number of oak t-shirts I sold at the CNPS Chapter Plant Festival last fall and the number of people who have recently asked how the second edition of my oak book is coming along.

Oaks are indeed an interesting group and the identification of most species we find in San Diego County is pretty straight forward, even if at first glance they do not appear to be. One complex is not. The line between Engelmann's oak (*Quercus engelmannii*), California scrub oak (*Q. berberidifolia*), and Muller's oak (*Q. cornelius-mullerii*) is a bit blurry, as is the relationship of the name Torrey's scrub oak (*Q. X acutidens*) to all three of them. I thought it high time that I write something about the oaks of San Diego County. There is enough to say that I decided to present this in three parts. Originally, I was going to try to do this in two but realized even then I might just fill an entire newsletter. So, three it is.

This first part sets the stage and focuses on our most straight forward species. The second part will delve into a bit of the history of oaks of San Diego County, which seems like it might help readers understand the relationship of the three oaks I called out by name earlier in this paragraph. The third part will be about the relationship of our most challenging white oaks (the four named above).

As a simple refresher, our oaks come in three main flavors, or sections as they are formally called: the red (or black oaks; it

seems the "red oaks," a name more widely used back East, has become the more widely used name), the intermediate or golden oaks, and the white oaks. If you can tell which section an oak is from, it goes a long way toward simplifying your identification task.

The red oaks are characterized by scaly acorn cups, leaves that have a bristle at the apex of teeth (if the leaves have teeth), and being densely hairy or silky on the inner surface of the acorn. With the exception of coast live oak (*Quercus agrifolia*), our red oaks require two years for the acorns to mature.

The golden oaks have thickened acorn scales that are mostly tuberculate (warty) and embedded with silky hairs, the leaves lack a bristle at their tip, and the inner lining of the acorn is glabrous (without hairs). The upper surface of the leaf is glabrous but the lower leaf surface is sometimes covered with waxy hairs. If it is, the hairs are golden hued or silvery. The acorns mature in two years.

The white oaks have tuberculate acorns that mature in one year. The leaves are typically toothed but lack spiny bristles at the tips of the teeth. In San Diego County our species are mostly evergreen though a couple semi-deciduous. All white oak leaves have minute trichomes, though these are sometimes deciduous and may only occur on the underside of the leaf.

It is important to remember when identifying virtually any oak, the leaves may not be at all characteristic of the species if the shrub or tree is resprouting after a fire or the branches have otherwise been cut. The leaves can then be very weird or unusual. Immature oak leaves can be hairy even in species that generally are without hairs when the leaves mature. For white oaks especially, minute star-shaped hairs, known as trichomes, can make or break an ID or lead even experts to complete bewilderment. Hybrids are common in oaks, but they do not cross section lines. Red oaks cross with red oaks. White oaks cross with white oaks. Golden oaks cross with golden oaks. There are no red oak/white oak crosses.

Within those restrictions, oaks can be promiscuous. They do not fit the old Darwinian concept that when species cross, their offspring will be sterile. In oaks, the hybrids are often quite fertile and backcrossing like crazy. I guess you could still make it work if you only wanted to recognize three wildly variable species of oak in North America but that would be a poor reflection of the diversity and genetic richness of these species.

Today, we recognize at least 10 species, two varieties, and three named hybrids in addition to several un-named hybrids in San Diego County. This is more oak taxa than any other one county in California. It makes San Diego County the best place to host an oak class in California and the easiest place to run an oak field trip. The list is long enough though, that it can also make San Diego County one of the more challenging places in California to put a name on an oak specimen.

A list of the species and named hybrids goes like this:

Red Oaks

- Quercus agrifolia* var. *agrifolia* – Coast live oak
- Q. agrifolia* var. *oxydenia* – Southern coast live oak
- Q. kelloggii* – California black oak
- Q. wislizenii* var. *frutescens* – Scrub live oak
- Q. wislizenii* var. *wislizenii* – Scrub live oak
- Q. X ganderi* – Gander’s oak (*Q. agrifolia* var. *oxydenia* x *Q. kelloggii*)
- Q. X morehus* – Oracle oak (*Q. kelloggii* x *Q. wislizenii*)

Golden Oaks

- Q. cedrosensis* – Cedros Island oak
- Q. chrysolepis* – Canyon live oak
- Q. palmeri* – Palmer’s oak

White Oaks

- Q. berberidifolia* – California scrub oak
- Q. cornelius-mulleri* – Muller’s oak
- Q. dumosa* – Nuttall’s scrub oak
- Q. engelmannii* – Engelman’s oak
- Q. X acutidens* – Torrey’s oak (*Q. engelmannii* x *Q. cornelius-mulleri*)

The red oaks and golden oaks of San Diego County are not especially numerous or problematic.

Red Oaks

For the red oaks, there are three species. Coast live oak, already mentioned, is our most widespread species and is a familiar part of coast live oak woodlands and gallery forests across the county from the coast to the top of the mountains. There are two varieties, *Q. agrifolia* var. *agrifolia* and *Q.*



agrifolia var. *oxydenia* (sometimes referred to as southern coast live oak or peninsular coast live oak).

Coast live oak is an evergreen tree with a rounded crown and distinctive convex (bubble-shaped) leaves with bristle-tipped teeth, and a dense patch of hair in the vein axils along the midvein. The acorns are long and spindle shaped, often striated (striped), and have a distinctly scaled acorn cup. The common form, found far into the northern California Coast Ranges, is otherwise glabrous (without hairs) on the lower side of the leaf. Southern coast live oak, which has been found as far north as the foothills of the San Gabriel and San Bernardino Mountains but is most characteristic of the foothills and mountains of central and



southern San Diego County, has dense, white tomentose (woolly) hairs on the underside of its leaves.



In the higher mountains, the Laguna, Cuyamaca, and Palomar Mountains, we find California black oak (*Q. kelloggii*), a tree with deeply lobed leaves, each lobe with a long bristle tip. The leaves of California black oak are deciduous, emerging in the spring and falling off in the winter. California black oaks add a delightful splash

of color to our mountain forest as their leaves turn yellow. The yellow gradually transfers to carpet the ground below the trees as the yellow leaves drift down, leaving the branches bare. The acorn is large, somewhat barrel-shaped and with scaled acorn cups.

Mixed in with the California black oaks and in the chaparral belt a band lower, there is scrub live oak, ours mostly shrubs (*Q. w.* var. *frutescens*) with relatively flat, planer leaves, and widely spaced spine-tipped teeth. The acorn on this scrub live



oak is only of moderate size with scaled cups. The mature leaves of scrub live oak are glabrous (without hairs). In central California, the tree form (*Q. w.* var. *wislizenii*) is quite abundant. These typically have larger leaves and acorns, and sometimes stalked acorn cups. The tree form is uncommon in

the mountains of San Diego County. The two forms of scrub live oak seemingly blend together and it may be that the difference is more ecological than truly genetic. Shrubs that haven’t burned in a very long time and have adequate moisture may eventually become trees. Those that burn more frequently or live on dry slopes may just stay shrubs. Farther north, where there is more moisture, trees are far more common. A similar situation occurs in canyon live oak but the two forms are not recognized as distinct taxa.

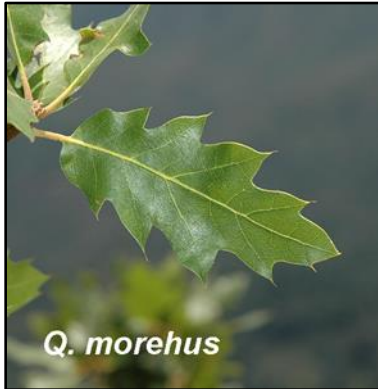
Here is some oak trivia for you. While I was aware that coast live oak had acorns that mature in a single season, I was not aware that was special until circa 1998 when a book customer from Israel wrote me a letter. He was aware of only one species of Mediterranean red oak that had fruit that matured in a single season and was intrigued that coast live oak also developed fruit annually. Indeed, coast live oak is one of only five species of red oak that share this character out of 35 species in Canada and the United States.



All three of our red oaks hybridize. However, hybrids are typically spotty and uncommon and occur where both parents come into contact (or once did). The hybrids of red oaks clearly show characteristics of both parents. Gander's oak in San Diego County is a hybrid of *Q. agrifolia* var. *oxydenia* and *Q. kelloggii*, and has evergreen leaves,

fairly shallow, bristle-tipped lobes, the acorns of California black oak, and the white tomentose underside of the leaf of southern coast live oak. There is a really nice one along SR-79 several miles north of Santa Ysabel.

Oracle oak (*Q. X morehus*) is a hybrid of *Q. kelloggii* and *Q. wislizenii*. Mostly it is between the shrub form here, and the resulting hybrid is a shrub or arborescent, leaves are green and glabrous (without hairs) with moderate lobes, and acorns similar to those seen on California black oak. There is a tree form of the Oracle oak, but it is scarce in southern California, with scant reports in San Diego County and the San Jacinto Mountains. I first saw one in the Santa Cruz Mountains in 2012, over a decade after I wrote Illustrated Guide to the Oaks, and my first in southern California within the San Jacinto Mountains a year later.

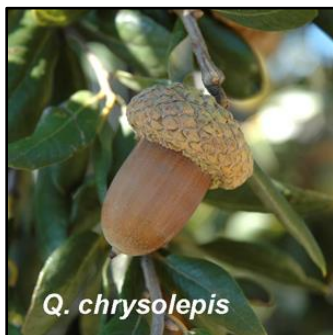


Golden Oaks

As for the golden oaks, the most widespread in San Diego County is canyon live oak (*Quercus chrysolepis*), a mountain species. On dry slopes it is a shrub but in deeper canyons and on mesic north-facing slopes it is a tree. The characters that set it aside are a deep green upper leaf with



contrasting whitish to grayish underside; golden or silvery waxy hairs, at least on new growth foliage; and large, thick-cupped, warty acorn



cupped, the tubercles of which are embedded in short silky hairs. The scrub form has relatively small-toothed leaves while the trees have fairly large leaves with entire (smooth) margins.



On the desert slopes, most easily found in the vicinity of Boulevard and the McCain Valley, is Palmer's oak (*Q. palmeri*). This is an evergreen scrub oak with wavy, leathery or brittle leaves with teeth, each tooth tipped with a relatively sharp bristle. The

acorns are moderate size and have an over-sized thin cup that appears almost as if it were a mushroom cap. I often tell students if in doubt, squeeze a leaf in your hand. If it is quite painful, you've got Palmer's oak. Actually, I don't recommend doing it though it does seem to work as an ID character.



Finally, there is Cedros Island oak (*Q. cedrosensis*). This is a bit of a non-descript oak in that it has a distinctive gestalt, but its characteristics are not so distinctive. The leaves are generally less than 25 mm (one inch) long. Like canyon live oak, it typically has green upper leaf surfaces, though these are somewhat yellowish gray green, and a whitish under side. The leaves can have teeth or not. The acorn doesn't at all appear distinctive. The acorn



matures in two years. One of its more distinctive characteristics is that it will grow roots at the branch nodes where it touches the ground. You don't see this often in San Diego oaks though as many are erect. A classic Cedros Island oak, however, is a bit matted and on these you can find this node rooting characteristic.

While undoubtedly Cedros Island oak has been here all along, it was only recently discovered in San Diego County. The first vouchered specimen was made on Otay Mountain in 1996. It is relatively common on the south side of the San Ysidro Mountains and Tecate Peak. Although reported at a couple sites farther north, I am suspicious of the identifications of these individuals. I examined one at the San Diego Natural History Museum a few years ago. I am certain it is a white oak. I am just not certain which white oak.

While technically, these three golden oak species can hybridize, we haven't seen clear evidence of it in San Diego County.

Thus, the red oaks hybridize a bit, the golden oaks not much, but the white oaks are an entirely different matter. Before we get into the white oaks, the most abundant, diverse, and maddening group in San Diego County, it might be a good idea to step back and look at the history of oaks in San Diego County in next month's newsletter.

~ Fred M. Roberts, CNPS-SD Rare Plant Botanist

CONSERVATION

Conservation Committee Meeting

Contact conservation@cnpsd.org for meeting information.

More Rocket Science

That bit of irreverence might become my theme for 2022. Environmental planning is "rocket science," not because it involves complex equations, but because it involves planning for and managing a complex program that takes years to plan, execute, and manage. MSCPs, for example, run for 50 years, and the North County MSCP has been in preparation for almost 25 years now. Working with projects on these timespans is not simple.

In talking with today's planners, I get the sense that a fair number of them think of their jobs as primarily reading and writing documents, mostly from a legalistic, rather than scientific, perspective. To be fair to them, when their bosses are lawyers, this is a sane approach. Unfortunately, this leads to problems in the physical world, where we need those programs to actually work.

What follows are two examples of what I mean, from issues I'm currently dealing with.

De Anza Cove/ReWild Restart

This is mixed news. On the very good side, the City of San Diego has restarted the CEQA and planning processes on De Anza Cove. January 11, they released a new plan for De Anza Cove and a new Notice of Preparation (NOP) to kick off a new CEQA process, this for a programmatic EIR. The new plan has substantially more wetland. While I'm not sure it's quite the "wildest" plan that the ReWild coalition had put out, it's a massive improvement from the last iteration. So, genuine kudos to the City for recognizing that they need more wetlands in that corner of Mission Bay, both to buffer the shoreline and to store carbon.

You knew the "but" was coming somehow? In this case, it's sea level rise, which is mentioned in the NOP in the following sentence: "De Anza Natural would also include updates to the Master Plan to ensure consistency with the Climate Resilient SD Plan, and to plan for sea level rise, emphasizing nature-based solutions to climate change." They've said informally that they

thought it was inappropriate to put more in an NOP. Most of the environmentalists disagree, for the simple reason that ReWild has already done quite a bit of sea level rise modeling for the project site.

The hard part with sea level rise isn't the modeling, although the acceleration of polar ice sheets breaking up suggests that, once again, our models are possibly too conservative. No, the problem instead is that sea level rise threatens the project, just as it threatens everything that happens on our coasts. In the absence of some really good planning and management, much of Kendall Frost and the new De Anza is going to be lost when it gets inundated. So long as people live nearby, it will be difficult for the marsh to do the normal thing and migrate inland, because that route is blocked by people's yards, houses, roads, and a school.

In general, our municipalities seem to be a bit too squeamish about talking about the mess that rising seas are going to make to everything from the airport and convention center to the Del Mar cliffs. Again, this is normal human behavior, but not planning for it won't make it easier to deal with it.

The rocket science here is working from a base of rising seas, and trying to plan out the least destructive future for the project. It's hard, of course, but it's less hard than pouring money into building a marsh, only to have it predictably scoured away because attempts to do better were blocked by cautious politics and popular inertia.

Organic Waste Composting

If you live in San Diego County, you're either already doing it, or you soon will be—notionally putting all your food and garden waste in a green bin for composting, to keep it out of landfills.

On one level, this is a necessary thing. Landfills with decaying organic matter have the bad habit of generating methane, which is a serious greenhouse gas. Worse, even though landfills have collection pipes to collect the gas and pipe it off to do something with it, the decomposition of garbage slowly warps collection grids until they spring leaks. Worst of all, methane is far from the only gas landfills emit, and it often costs more than the methane is worth to filter out all the contaminants and sell the methane. So, slowing methane production from landfills is a good thing.

If only it were that simple. Here's the rocket science part. We'll start at your end. Perhaps you, like me, have a compost bin? A worm bin? Excellent. So...what currently goes into your greenwaste bin? Palm leaves? Well, no, those used to be trashed, because they don't compost well, but...Basically my green bin gets all the stuff that I don't feed the worms: wood, tough and/or poisonous leaves, weed seeds, infected plant material, fibrous grass, all the annoying stuff. Multiply that by a county and it looks like the composters are going to have some fun getting it all to break down. That's even ignoring the 1 percent of us, the [expletive deleted] who throw their trash in green bins, so the greenwaste stream needs a modicum of

sorting, to keep the used needles, pesticides, and batteries out, if nothing else.

Unfortunately, it gets worse. There are a fair number of weeds (like cheeseweed, *Malva neglecta*), pests, and pathogens whose propagules pass intact through even hot composting. Because of this, compost made from promiscuously collected trash, compost that is in turn spread promiscuously throughout the County (and beyond), has real potential to be an ongoing superspreader system for any species that can survive the trip.

Previously, the California Department of Agriculture had a strong compost certification system to help farmers control the spread of pests through compost. Unfortunately, I don't see them anywhere in this new system. And I'm not sure what anyone's going to do about it. The County staff in charge get a bit of "deer in the headlights" look when this comes up, which is rarely a good sign.

Here we are getting to something that's as complex as rocket science. On one side, we absolutely do have to get our methane emissions down as far as possible. On the other, at least one-third of California counties are under agricultural quarantine for pests, so it requires only a minimally dismal imagination to wonder how much further these will spread under the new system. Trying to compost huge quantities of waste and keep that waste even minimally safe for use is not easy. I sincerely hope our best and brightest take a swing at trying to make it work.

I could go on, but hopefully this makes the point. We really do want smart, skilled planners, people who know the science and can deal with the politics. San Diego is complicated and takes time to learn. We do need to hire the best, and we need to keep them here. That may require its own administrative rocket science.

~ Frank Landis, Conservation Chair

RESTORATION COMMITTEE

Restoration continued to focus on treating acacia, eucalyptus, and palm trees in the San Dieguito River Valley.



Here are **Joseph Rivera** (left), Associate Conservation Manager for the San Dieguito River Valley Conservancy, taking a



photograph at a photo point, and Committee co-chair **Arne Johanson** (right), happy to be

back with us, with a handful of invasive acacia seedlings that he had just pulled up.

IN THE FIELD

Native Plants and Honeybees in Balboa Park's Nature Exploration Area By David Peery



I took these photos with my iPhone while hiking through Florida Canyon between storms shortly before January 1. It was early morning and very cold and damp, and only a few bees were buzzing around.



There are many beehives in Balboa Park. On the West Mesa (near 6th Ave), I found a hive in an oak last year (below),



but someone charred it earlier this year (below).



The Nature Exploration Area is located in the Morley Field area of Balboa Park (2221 Morley Field Dr, San Diego, CA 92104), directly south of the Balboa Park Tennis Club and about 1/2 mile east of the San Diego Zoo.

CONTRIBUTE A STORY

The articles and stories in our chapter newsletter come from our members and friends. Have an idea for an article or story on a native-plant-related topic? Please write it up and send it to newsletter@cnpssd.org.

CNPS EVENT

Pruning 101 Webinar Thursday, February 3, 2022, at 5:30 pm. CNPS is offering free monthly native gardening webinars for novices to experienced native gardeners. There is always something new to learn. To sign up, visit this link: <https://www.cnps.org/gardening/webinars>

CNPS BRYOPHYTE CHAPTER

Bryophyte Issue of Madroño

The special bryophyte issue of *Madroño*, A West American Journal of Botany, published by the California Botanical Society (CBS), Volume 68, Issue 3, 2021, is now available. Order here <https://calbotsoc.org/order-issues/#bryoflora>

Liverworts and Hornworts of San Diego County

Andy Pignoli will give a talk on the Liverworts and Hornworts of San Diego County to the Torrey Pines Docent Society on Saturday, **February 12, 2022** at 3 p.m. at the Torrey Pines State Natural Reserve. The event is free (with parking fee) and open to the public. Meet at the pavilion area near the Torrey Pines State Natural Reserve Lodge and upper parking lots. For more information and updates, please email Andy at lagunaenv@aol.com

Introduction to Bryophytes Workshop Saturday, March 12, 2022

Brent Mishler's Virtual Workshop, "Introduction to Bryophytes," is a good complement to "SO BE FREE," the symposium described below. At the March 12 (9:00–12:00 & 1:00–4:00) workshop, Brent Mishler will lead a virtual workshop, "Introduction to Bryophytes," hosted by the Jepson Herbarium. This is a virtual reincarnation of the famous in-person Jepson workshop offered every other year since 1994, and like its predecessors will provide participants with the opportunity to learn more about the evolution, ecology, and systematics of mosses, liverworts, and hornworts. It will also cover introductory topics on how to identify them. Given the virtual format, we will not be able to have the hands-on microscope sessions and field trip we have traditionally

included, but we will cover some useful techniques through demonstrations.

Find more info at:

<https://bryophyte.cnps.org/index.php/newsletter>

26th Annual SO BE FREE

March 25–28, 2022!

This year's SO BE FREE will take place in the stunning Mojave Desert—while the desert might not be the first destination you associate with all things bryological, the Mojave supports a number of fascinating and resilient bryophytes, if you know where to look! Our home base for this excursion will be the Desert Studies Center in historic Zzyzx, CA. Nestled amongst several natural springs on the edge of a dry soda lake, Zzyzx and its surrounding habitats has been a draw for humans and wildlife for thousands of years. The Desert Studies Center is also situated within the Mojave National Preserve, where we will explore habitats hosting desert mosses and liverworts.

For registration and fees for SO BE FREE, visit:

https://bryophyte.cnps.org/images/pdf/2022_SBF_Flyer.pdf.

PLANT ARTICLES

Lost birds and mammals spell doom for some plants: Animal-dispersed plants' ability to keep pace with climate change reduced by 60%

In one of the first studies of its kind, researchers have gauged how biodiversity loss of birds and mammals will impact plants' chances of adapting to human-induced climate warming. Read more at: <https://www.sciencedaily.com/releases/2022/01/220113151354.htm>

Possible non-invasive tool to track biodiversity

The air in a zoo is full of smells, from the fish used for feed to the manure from the grazing herbivores, but now we know it is also full of DNA from the animals living there. Two research groups have each published an independent proof-of-concept study showing that by sampling air from a local zoo, they can collect enough DNA to identify the animals nearby. This may prove to be a valuable, non-invasive tool to track biodiversity. Read a summary at:

<https://www.sciencedaily.com/releases/2022/01/220106111549.htm>

Air pollution significantly reduces pollination by confusing butterflies and bees in natural environment

A new study finds pollination reduced by almost a third when diesel fumes and ozone were present - the negative impact of these common air pollutants on pollination were observed in the natural environment. Read the summary at:

<https://www.sciencedaily.com/releases/2022/01/220119194035.htm>

RELATED ACTIVITIES

Outlook for the Desert Bloom

As of the writing of this February newsletter, organizations were not speculating about how good the desert bloom will be this year.

Water Conservation Garden That's Swale – Virtual Wednesday, February 16, 2022

3:00 – 4:00 pm

Before you install plants, rain tanks, and grey water systems, be sure your landscape can handle and harvest as much water as possible – passively. Learn to slow, spread, and sink water through earthwork applications like swales and basins with Landscape Contractors, Wild Made Design. Sponsored by the County of San Diego. Free.

Zoom link: <https://us02web.zoom.us/j/87237045696>

Meeting ID: 872 3704 5696

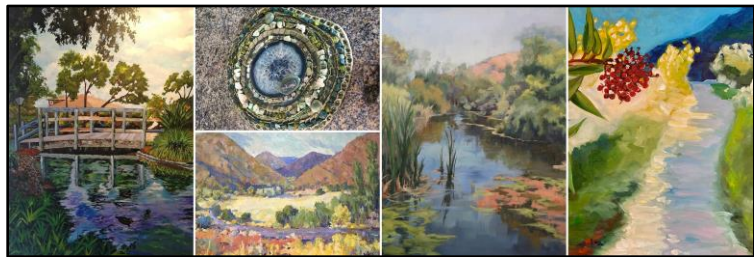


Check the CNPS-SD website for activities and/or events that may have been scheduled after this newsletter was completed:

<https://www.cnpssd.org/events>

Mission Trails Regional Park Foundation

“Nature’s Abundance” Exhibition on view through February 11, 2022



MTRP is pleased to present its first exhibit of works by local artists at the MTRP Visitor and Interpretive Center in nearly two years. The MTRP Visitor and Interpretive Center is located at One Father Junipero Serra Trail, San Diego, CA 92119, and it is open daily from 9:00 a.m. – 5:00 p.m. Admission is free.

The CNPS-SD Newsletter is generally published 12 times a year. The newsletter is not peer reviewed and any opinions expressed are those of the author identified at the end of each notice or article. The newsletter editor may edit the submittal to improve accuracy, improve readability, shorten articles to fit the space, and reduce the potential for legal challenges against CNPS. If an article, as edited, is not satisfactory to the author, the author can appeal to the board. The author has the final say on whether the article, as edited, is printed in the newsletter. Submissions are due by the 10th of the month preceding the newsletter; that is February 10 for the March newsletter, etc. Please submit items to newsletter@cnpssd.org



Mission Manzanita (*Xylococcus bicolor*) – blooming season is now. Photo: Jürgen Schrenk

CNPS-SD Activities Calendar February 2022

2/2: Board Meeting via Zoom, p.3

MEMBERSHIP APPLICATION

<https://www.cnps.org/membership>

___ Student/Limited Income \$25; ___ Individual \$50; ___ Plant Lover \$120; ___ Supporter \$500; ___ Patron \$1,000; ___ Benefactor \$2,500; ___ Perennial Monthly Sustainer Memberships starting at \$5/mo. provide much needed predictable income for our programs. Your indicated gift will be automatically repeated each month. Pls see <https://www.cnps.org/membership> to sign up for this membership level.

Name(s): _____
Address: _____
Phone: _____ e-mail: _____

Mail check payable to "CNPS" and send to: CNPS, 2707 K Street, Ste 1, Sacramento, CA 95816-5113.

CALIFORNIA NATIVE PLANT SOCIETY

San Diego Chapter
C/o San Diego Natural History Museum
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February 2022 Newsletter

Dedicated to the preservation of the California native flora
CALIFORNIA NATIVE PLANT SOCIETY – SAN DIEGO

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To join, email: CNPSSanDiegoDiscuss+subscribe@groups.io

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