



CALIFORNIA NATIVE PLANT SOCIETY
San Diego Chapter Newsletter

CHAPTER MEETING

**Tuesday, February 18; 7 p.m.
Room 104, Casa del Prado
Balboa Park**

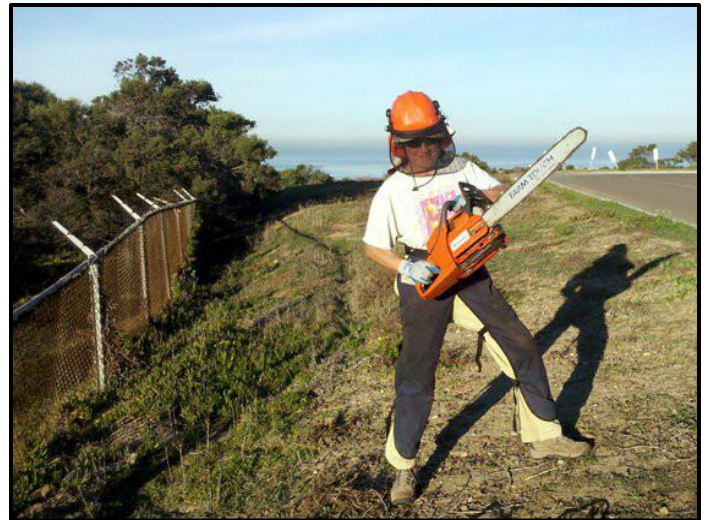
**Defending the Rarest of the Rare:
Habitat Restoration and Research in
Support of *Chorizanthe orcuttiana* at
Naval Base Point Loma**

Chorizanthe orcuttiana (Orcutt's spineflower) is an inconspicuous annual in the Polygonaceae, and is endemic to extreme coastal San Diego County. It was presumed extinct for many years until a small population was re-discovered in Encinitas in the early 1990s. Between 1997 and 2003, three populations were located on Naval Base Point Loma (NBPL). The Soil Ecology and Restoration Group (SERG) at San Diego State University began habitat enhancement projects in 2000 to protect this species, which have continued to the present. These projects have mainly been concerned with the removal of non-native species, including iceplant (*Carpobrotus edulis*), acacia (*Acacia* sp.), and natal grass (*Melinis repens*). Removal of iceplant at the second population in 2003 resulted in over 200 Orcutt's spineflower individuals surviving in 2005, and the site has continued to support this species since.

Other SERG activities in support of Orcutt's spineflower have included annual monitoring, both of the plant and its habitat; installation of erosion control materials and native shrubs; and site maintenance. In recent years, SERG research efforts have focused on GIS mapping to determine other potential population sites on NBPL and Cabrillo National Monument; surveying these potential sites for Orcutt's spineflower; and pollination biology.

Michelle Cloud-Hughes is a botanist and restoration

ecologist with the SERG since 1997. She began working with *Chorizanthe orcuttiana* in 1998, and has been the SERG Project Manager for the Orcutt's spineflower projects at NBPL since 2006.



Michelle Cloud-Hughes with chainsaw, performing habitat restoration work to protect Orcutt's spineflower populations at Naval Base Point Loma.

6:30 p.m. – Natives for Novices: Contact Sue Marchetti for info (nativesfornovices@cnpsd.org).

7:00 p.m. – refreshments, browsing, socializing.

7:30 p.m. – presentation.

Chapter meetings are free and open to the public. They are held in the Casa del Prado, just west of the San Diego Natural History Museum in Balboa Park.

RECEIVE YOUR NEWSLETTER ONLINE

To receive your newsletter via email, please contact us at:

enewsletter@cnpsd.org

Save the environment by not receiving a paper copy. AND your newsletter will be in **COLOR** and have embedded links!

BOARD MEETING

Wednesday, February 5, 6:30 - 8:30 p.m. 4010 Morena Blvd, Suite 100, San Diego (Thomas Guide 1248 C4). CNPS-SD Executive Board meetings are always the first Wednesday of the month, except when the 1st falls on a holiday. Members are welcome to attend as observers. If you wish to discuss an issue, please email president@cnpsd.org to get your issue on the agenda.

CNPS San Diego and Orange County

Spring Plant Sale

and Membership Day

Tree of Life Nursery, San Juan Capistrano

Saturday, March 8, 2014,

9:00 a.m. – 4:00 p.m.

We need help with booth set up and take down, staffing the membership table, and guiding people with their plant purchases. If you can help, please contact Kristen Olafson at:

springplantsale@cnpsd.org

FIELD TRIPS

Explore Nature's Gardens

Mark your calendars for these field trips! More details will be provided in the March newsletter.

Sunday, March 9, 9:30 a.m. to 1:00 p.m. (first day of Daylight Savings Time) South Crest Preserve to see rare plants and native plant restoration with leaders **Jessie Vinje** and **Jonathan Applebaum**. The out-and-back route will be about 3.5 miles, with an elevation gain of 300 or 400 feet, mostly on a single-track path and a bit off-trail.

Saturday, March 22, all day. "See as Much of Otay Mountain as We Can" field trip with Leader **Joyce Schlachter**. This will be an all-day trip, caravanning and stopping, then hiking to go see plants at a number of sites away from the road. A population of Mexican flannelbush (*Fremontia mexicana*), several endemic species whose common names reflect their origins on Otay Mountain, and of course Tecate cypress (*Cupressus forbesii*) will be among the highlights.

Saturday, April 5, 9:00 to 11:30 a.m. Native Flowering Plants of Rattlesnake Canyon, Poway.

General Information: Everyone is welcome. We use botanical terms, keys and photos to try to identify plant we don't know by sight. We'll start the trips with a short brush-up on terms that will help identify the plants we expect to find that day. Rain at your home at 7:00 a.m. will cancel a trip. Call **Kay** at **619-917-2668** if in doubt.

TECOLOTE CANYON NATURAL PARK



February 2; 9 a.m. to noon. Meet at the Tecolote Nature Center on the first Sunday of the month. Wear sun protection and comfortable walking shoes; bring water. Rain at 8 a.m. cancels the walk. Directions: exit I-5 at Seaworld / Tecolote exit. Go east (away from Mission Bay) on Tecolote, past the ball fields, along the driveway to the very end. Free and open to the public, and parking is also free.

Public Outreach Hikes

If you would like to lead a hike or two, help in leading a hike or two, or just train to be a hike leader, contact **Paul Hormick** at 619-297-2957 or fieldtrips@cnpsd.org. All it takes is a little enthusiasm, and you can do it!

CONSERVATION

On The Uses of Drought

A few weeks ago I started wishing I had real, working rain drums, or knew the old Chumash ritual where I could spend four days out at a sacred petroglyph calling in the rain clouds. It started when I was looking at a road pool up on Del Mar Mesa (again!), a narrow but deep tire rut that held just enough water just long enough to foster a few fairy shrimp. As I crouched there, in a pause between the cyclists (the trail is open to the public), I heard a rustle behind me. I turned to see what it was and scared off a California thrasher that had crept out behind me to sneak a drink from the other end of the pool. A thrasher sneaking a drink? That's dry. I hope the bird drank after I left. Unless it was after a shrimp cocktail, that is.

When it's this dry, it's natural for us to want the rain to come, but is it the right thing for the native plants? The native plants seem to handle the drought better than many weeds, after all. That's one of the principles of ecology, actually. Plants don't grow where they do best, they grow where they do better than the other species around them. It's fairly common to find that plants do better in some environment (like your garden) that's very different than where they're found in nature. For the native plants, drought has its uses.

Plants deal with drought in a large number of ways. Some, like the oaks, send roots tremendously deep, searching for every last bit of water. Others, like the *Cerastes* subgenus of *Ceanothus*, have shallow roots but are built to withstand drought, with thick cell walls and specialized stomata that keep as much water inside their leaves as possible. They can withstand three or more times as much water stress as the average plant, but when their roots run out of water, they fry. Then there are the plants that shed their leaves. This is a classic strategy for desert plants such as ocotillos. On the coast, spineshrub (*Adolphia californica*) does the same thing, as do cacti. Plants lose more water through their leaves than through their stems, so shedding leaves is a great way to save water. It means they can't photosynthesize as much, but in an area with abundant sunshine, this isn't as much a problem as water loss. There are also plants that shed their leaves twice a year. This is a common strategy in coastal sage scrub species that have big, soft winter leaves and small summer drought leaves. Finally, there are the perennials which die back to the ground to avoid the wrong season, and annuals which use a wide variety of cues to come up and complete their entire life cycle in whatever is the right season for them.

Then there are the non-plants. Fairy shrimp eggs can sit in the dust for decades, along with the propagules of many other vernal pool species. Spadefoot toads can aestivate (the summer version of hibernate) for multiple years, and our local Beechey ground squirrels aestivate every summer. All told, I have no idea how many different mechanisms San Diegan plants, animals, fungi, algae, and others have for coping with the unpredictable droughts we face here.

It's a nice natural history list, but so what? That's the question I'm trying to answer. See, there's another climate that's very much like coastal San Diego: not too hot, not too cold, and very dry most of the time. It's called a laboratory. What could researchers learn from studying all our drought-adapted species?

For example, researchers study Arctic ground squirrels because they hibernate really well in Alaskan winters. They're a great research animal if you're trying to

understand how to keep transplantable tissues alive longer by chilling them. Thing is, our local Beechey ground squirrels "hibernate" (aestivate) much closer to room temperature. It'd be kind of useful to figure out how to keep transplantable tissues alive longer at room temperature, wouldn't it? Fairy shrimp eggs are basically a bundle of stem cells, but very much unlike the stem cells used in medical research, fairy shrimp eggs can survive for decades without care. How do they do it? As Greg Rubin has found, our local natives can stay hydrated on a lot less water than water-saving plants from elsewhere. How do they do it? I haven't a clue.

Imagine vaccines, medicines, and research materials that don't need to be refrigerated. When I was a grad student, our department collectively panicked when the power went out one day. We were calling everywhere for dry ice to save the samples in the -80°C freezers. Some samples were from plants that had gone extinct, and there was no way to replace them if they thawed. It would be *really* nice to have some solution, derived, perhaps, from a local *ceanothus*, to keep DNA and tissue samples viable indefinitely at room temperature. Think of all the power we'd save, not having to use so many expensive freezers.

I've debated for months about whether it's worth telling the local biotech mavens about all of San Diego's drought-tolerant species. Would the biotech sector be willing to speak up for the value of native species, help us keep them around so that they have species to study and yes, experiment on? We could use more allies to help us conserve San Diego's native plants, and the biotech sector is growing in San Diego.

Or not? After all, it can take a decade or three for scientific research to make its way to the marketplace, so it's not clear that any of today's biotech companies will even be around to profit from protecting species now. It's something they would have to do as a group, protect native diversity as a common resource for the industry. There's no certainty that any of them will profit from helping us.

Is it even ethical for us? Not everyone's comfortable with biotech research. Do we want them on our side, or is this a pernicious form of genetic contamination that we should oppose?

That's my question. I think the biotech sector could learn a lot from drought-adapted species. They could be a valuable ally for conservation. Should we reach out to them, or not?

What do you think? Let me know at conservation@cnpsd.org.

~ Frank Landis, Conservation Chair

The Joys of Taxonomy

John Manning, one of South Africa's best and best-known field botanists, complained to me a while ago about one of his country's problems – too many new species and not enough taxonomists. Here in North America we do not have this dilemma, and our taxonomists therefore have enough time to rearrange and rename long known species and lump or split established genera over and over again.

Much of this undoubtedly reflects our better understanding of relationships, but other cases seem to follow trends (not to say, fads) that may or may not last. While my doubts will be considered plain heresy by some, let me give you a few concrete examples.

When I first moved to Southern California about 40 years ago, all monkeyflowers were in the genus *Mimulus*, whether they were annuals, perennials or shrubs. When we came back 25 years later, the shrubby ones had become *Diplacus*, which we dutifully learnt. To be up to date now is easier – all are *Mimulus* again (though now in a different family, Phrymaceae, instead of Scrophulariaceae).

A similar fate awaited our lowly mat-forming *Euphorbia* species. In the U.S., they were elevated to the separate genus *Chamaesyce*, which lasted for several years, just long enough to update floras and field guides. The rest of the botanical world did not go along, however, and today your old books are current again – everybody is back home in *Euphorbia*.

Our familiar bladderpot (*Isomeris arborea*) started out as the only local member of the exotic family Capparidaceae (then streamlined to Capparaceae), before it became just an ordinary Brassicaceae. Its new name, *Peritoma arborea*, did not quite make up for this insult – so it now is again a member of a more distinguished family, Cleomaceae.

Rearrangements at the family level often involve splits along the lines of former subfamilies and only give more weight to differentiating characteristics versus commonalities. Take Liliaceae for example, which gave rise to a whole series of new –aceae: Alli-, Antheric-, Amaryllid-, Asphodel-, etc., leaving us with only a few Liliaceae *sensu stricto*. On the other hand, lumping of course also occurs: No more Sterculiaceae (absorbed into Malvaceae, where you will now find our lovely flannelbush).

Some of these rearrangements actually leave individual species homeless. Thurber's pilostyles (*Pilostyles thurberi*), an uncommon parasite of our desert shrub Emory's indigobush (*Psorothamnus emoryi*), for instance, is no longer a Rafflesiaceae, but the tribe it belongs to (Apodantheae) is now in no man's land between the orders Malvales and Cucurbitales.

Many of the more recent developments are based on DNA sequencing, which is at present deemed to be the only technology able to elucidate phylogenetic relationships, which of course should be the basis for all systematic treatments. California fuchsia (*Epilobium canum*), quite different from fireweed (*Epilobium brachycarpum*) and other *Epilobium* species, lost its separate genus status (*Zauschneria*), since its genetic similarities to *Epilobium* are considered more important than its obvious morphological differences. Let's be careful with that judgment though, as we humans are genetically awfully close to (the other?) great apes, and even specialists don't always agree on the weight of certain characteristics.



California fuchsia (*Epilobium canum*) in Rattlesnake Canyon, Poway. Photo by Dr. Jürgen Schrenk.

A local example would be a particular barrel cactus, first described as an endemic species from Baja California, *Ferocactus tortulispinus*. Over the previous years and decades, experts have agreed to reduce its status to that of a subspecies of *F. cylindraceus* (which some of you might still know as *F. acanthodes*). Now that a healthy population of it has been discovered in Anza Borrego and similar individuals occur elsewhere, one has to wonder if this phenotype is not simply part of the variability of our familiar desert barrel cactus and does not deserve any taxonomic recognition at all.

All this uncertainty and back-and-forth is of course not limited to botany, as the birdwatchers amongst you have noticed. Once upon a time (actually not that long ago) there were Baltimore and Bullock's Orioles, which then were blended into one species, the Northern Oriole. If you were slow to catch up, never mind – now Baltimore and Bullock's are back again. The human urge to unambiguously label every organism and place it in a clearly marked drawer is ubiquitous, even if evolution is still in the making (and trust me, it is).

Should all this really bother you, if you are a fellow non-specialist? Not really, unless your ambition is to always use the now current nomenclature. Any botanist will understand you, if you talk about *Sarcostemma* instead of *Funastrum*, or *Viguiera* instead of *Bahiopsis*, and who knows – maybe you are just prescient. Keep in mind that much of the present upheaval in systematics and taxonomy has been caused by the discovery of the powerful tool called DNA sequencing by traditional biologists. Just wait what will happen, once they become aware of the more recent field of epigenetics, which deals with the secondary modification of genes and their expression by other cellular molecules such as soluble nucleic acids or proteins (the code for which is also in your genes) and environmental factors, often leading to significant differences between sequence-related organisms. The resulting molecular chicken-and-egg discussions are going to be at least as much fun to watch as the present situation...

~ Dr. Jürgen Schrenk, Member

Classifying Plants

Kingdom
Division*
Class
Order
Family
Genus
Species

Plant taxonomy is the science that finds, identifies, describes, classifies, and names plants. Botanical nomenclature is governed by the [International Code of Nomenclature for algae, fungi, and plants](#) (ICN). It was formerly called the **International Code of Botanical Nomenclature** (ICBN); the name was changed at the [International Botanical Congress](#) in Melbourne, Australia, in July 2011 as part of the *Melbourne Code* which replaces the *Vienna Code* of 2005.

* (Division for algae, fungi and plant species; Phylum for other species)

San Diego County's Native Walnut

Juglans californica or Southern California Black Walnut has a known range from roughly Santa Barbara County to San Diego County, and is even found on Santa Catalina Island. In the "Inland Empire" around Chino and northern Orange County, it forms groves on north facing slopes. Its relative *Juglans hindsii* (Northern California Black Walnut) occurs from San Luis Obispo County northward to Tehama and Mendocino Counties, and is mostly associated with riparian habitat.

Juglans is an old genus of small trees with fruits that are

well known to contain meaty nuts inside a hard shell. Outside of the hard shell is a covering of a leathery green husk. Anybody who has dealt with walnuts directly from a tree is familiar with the fact that they also have another characteristic. The fluids from the husks turn black as the husks decay and they stain anything that comes into contact with them, clothing and human skin alike.

Members of the genus *Juglans* are widely distributed across the world, from Asia to Europe to both eastern and western North America and South America. There are 21 species of *Juglans* in the family Juglandaceae. The common name walnut is supposedly derived from old English meaning foreign nut. The scientific name of the genus refers to a portion of the ancient Roman god Jupiter's private parts. Throughout the world, walnuts are used by native people as food. In fact, the native California walnuts, especially *J. hindsii*, have been planted and used as the base stock for grafting commercially grown and domestic walnuts, so that the original distribution of *J. hindsii* has been obscured to some degree. Fossils of walnuts have been found in Oregon from 41-49 million years ago from near the time that is estimated for the genus to have diverged from its ancestors (Aradhya 2007), and Nevada from 20-25 million years ago (Callahan 2008).

At one time, it was thought that the *J. hindsii* was actually a semi-domesticated variety of *J. californica* that had been carried up to Northern California by the original native inhabitants of California. That concept was extensively discounted by Thomsen (1963) after a thorough discussion indicating that it is, in fact, a native entity that was naturally occurring there with an understanding that it may have been moved around by the early inhabitants and even more modern inhabitants. Several genetic studies have now indicated that *J. hindsii* may be more closely related to *J. major* of the Southwest than to *J. californica* (Callahan 2008, Aradhya et al. 2007, Aradhya et al. 2008) with *J. californica* representing a more ancestral form. *J. californica* has smaller fruits and nuts than *J. hindsii* and the trees are generally smaller as well, growing up to 49 feet tall generally (forest trees), but one that was planted in Chico, California, far outside of its normal range, is 112 feet tall (Cal Poly Big tree Registry, 2013).

Walnut Creek, California is in Northern California and was named for the presence of *J. hindsii*. Walnut, California is located in eastern Los Angeles County. The name for the town was changed from Nogales, the original name for the area. It was named due to the presence of *J. californica* and nogales is the Spanish translation of the word walnut.



Juglans californica
(Southern California
Black Walnut)

J. californica has pinnately compound leaves with 9-17 leaflets down both sides of a petiole and one at the end. The leaflets are shaped like long ovals with a pointed end and range from 1.5-3.5 inches long. The fruits are round, more round than domesticated walnuts, and grow from just under an inch to an inch and a third in diameter, and the hard woody shell is much smaller and thicker than the shells of domesticated walnuts. *Juglans* wood, in general, is highly prized for its use in creating wood products like gun stocks and finely carved furniture because it has interesting color and grain patterns. However, *J. californica* trees are generally not large enough to be cut for wood. In addition, both of the walnuts (*J. hindsii* and *J. californica*) have softer wood than that of the domesticated walnuts and those walnut species that naturally occur in the Eastern United States.

For all of the native walnuts, there are questions about the original distribution because they have been planted at different places and they hybridize with other domesticated species. There are also questions about the original distribution in San Diego County. Southern California Black Walnut has been found growing in riparian areas in a number of locations far from what is often considered the native or natural distribution. In San Diego County, based on collections listed in the Consortium of California Herbaria and the San Diego Natural History Museum Plant Atlas site, it grows in the DeLuz area where the general consensus is that it naturally occurred, but also in a variety of locations including the southern end of Jamacha Road near the namesake location for a large Indian village, Banner at the base of Banner Grade, the Sweetwater River southeast of El Cajon, Boden Canyon north of Ramona, Viejas Creek near Alpine, and as far south as Dulzura Creek. While there is an assumption that many of the isolated trees or locations in Southern California and San Diego County have been planted more recently, the question would be why. *J. hindsii* has been planted because it serves as the grafting stock of domesticated walnuts, it has larger fruits and larger nuts than *J. californica*, and it grows larger and has therefore been more important for wood production. *J. californica* is smaller, the fruits and nuts are smaller, which means they are not as productive for edible nuts, and it probably was not the first choice for grafting domesticated trees.

When one thinks of walnuts, one might assume that their primary value to a group of native inhabitants would be as a food source since their meaty nuts are highly nutritive and easily transportable. In order to provide enough food for a village, however, it might be expected that there would be a need for groves of trees to produce plentiful and adequate nuts. However, if conditions in a location were not favorable to grow an entire grove, there is still an important use for walnut trees and walnuts. That is for the use of their husks as a dying agent. Local San Diego cultures died smooth-stemmed plants, such as rushes (*Juncus* spp.) used for weaving baskets, by using walnut husks (Susan Hector personal comm. 2013). If the real value to a village of a walnut tree was for dying baskets, it would not be necessary to grow an entire grove of trees. The fact that a few of the trees grow near the village of Jamacha near the Sweetwater River may not be the result of modern activities but they could have been originally planted by the local inhabitants.

With this in mind, the question then becomes what would be considered a natural distribution or natural occurrence. It seems that any location that existed prior to European contact would be considered natural and if it was used as a dye by native people in prehistoric times, it should be considered a natural occurrence. If they were planted by local inhabitants prior to European contact, maybe many of the locations in San Diego County should qualify as natural and native, not just those from De Luz. So when you are out walking in some riparian area in San Diego County, keep your eyes open for walnut trees. If you find one, remember that it may have been put there by the original people of the area.

~ **Tom Oberbauer**, Chapter President

- Aradhya, M. K., D. Potter, and C. J. Simon. 2006. Origin, evolution, and biogeography of *Juglans*: a phylogenetic perspective. Eds. M. E. Valvolti and D. Avanzato Acta Hort. 705, ISHS 2006. Proc. Vth Int. Walnut Symp. pp. 85-94.
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- Thomsen, H. H. 1963. *Juglans Hindsii*, The Central California Black Walnut, Native Or Introduced? Madroño 17:1-10.

NATIVE GARDENING

Old Town Pre-contact Native Plant Landscape

Saturday, February 8, 1:00 to 3:00 p.m. Give an **Early Valentine to Earth - Weed the Non-Natives in Old Town.** The Native Plant Pre-Contact Landscape is a mini-park at the western entrance to Old Town State Historic Park. This CNPS-guided project introduces thousands of visitors entering the Park to California native plants that were useful to the original Native American residents before Europeans arrived.

Exotic grasses and other weeds continue to germinate but volunteers have been making a huge difference: every year there are fewer weeds than the year before. Weeding is a simple pleasure – volunteers who weed in the sunshine, chatting with the other volunteers, are always pleased to see how their simple labor helps. Come and see if you agree!

Bring gloves and your favorite weeding tool or borrow ours. Have water and sun protection. The Landscape is at the west end of Old Town, where Congress and Taylor Streets meet. If you take MTS to the Old Town station, cross at Taylor Street and enter by the big adobe welcome sign under the trees. If you drive, park in the CalTrans lot across Taylor from the Landscape (free on Saturdays and Sundays). If it is raining, some of us will wear rain gear and weed. Questions? contact Kay fieldtrips@cnpsd.org

Point Loma Native Plant Garden

February 1 & 16, 9:00 a.m. – noon. Rain cancels; bring water; no facilities; tools/supplies provided. Usually the first Saturday and third Sunday of each month. Contact: Richard@sandiegoriver.org

INVASIVE PLANTS

Our restoration areas continue to improve and we are able to move on to next spots that need help. During this wet season we will work five or six days a week. However, each individual is most typically doing just one shift. A shift is 2 to 4 hours as it suits them, their abilities and availability. These consistent incremental efforts bring about huge changes that bring disturbed places back to life.

If you have an interest in open spaces, come participate with us and sense the satisfaction that comes with seeing a place recover. Or just come to visit us and our special places. Contact: invasiveplants@cnpsd.org or call 858-759-4769.

~ Arne Johanson, Invasive Plants Chair

RELATED ACTIVITIES

SAN DIEGO MYCOLOGICAL SOCIETY FUNGUS FAIR - February 16, 2014; 10:30 am to 3:30 pm, Casa Del Prado, Balboa Park.

TREE STEWARD TRAINING GROWS IN SAN DIEGO!

Three identical sessions will be offered on different days, each from 8:30 to 3:00 (attend only one): February 21, March 8 or March 23. See locations & register at <http://www.eventbrite.com/e/tree-steward-training-tickets-10028799409>. The \$25 fee includes snacks, beverages, the Tree Steward Handbook, and the beautiful hardbound picture and ID book, *Ornamental Trees for Mediterranean Climates: The Trees of San Diego*. \$5 fee for students. Optional \$10 for lunch, collected on day of training. For further information visit www.treesandiego.org or contact Rachele Melious at mrgtrees@aol.com 858-354-4158 or Anne Fege at afege@aol.com.

The CNPS-SD Newsletter is 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, March 10 for the April newsletter, etc. Please send submittals to newsletter@cnpsd.org.

CNPS-SD Calendar for February 2014

- 2/1: Point Loma Native Garden Work Party, p.4
- 2/2: Tecolote Canyon Walk, p.2
- 2/5: **Board Meeting**, p. 2
- 2/8: Old Town Native Landscape Work Party, p.4
- 2/16: Point Loma Native Garden Work Party, p.4
- 2/18: **Chapter Meeting**, p. 1
- Planning Ahead:
- 3/8: **Spring Plant Sale** at Tree of Life Nursery
- 3/9: Field trip to South Crest Preserve
- 3/22: Field trip to Otay Mountain
- 4/5: Field trip to Rattlesnake Canyon, Poway

MEMBERSHIP APPLICATION

___ Student or Limited Income \$25; ___ Individual \$45; ___ Family or Library \$75
___ Plant Lover \$100; ___ Patron \$300; ___ Benefactor \$600; ___ Mariposa Lily \$1,500
Name(s): _____
Address: _____

Phone: _____ e-mail: _____ Mail check payable to
"CNPS" to: CNPS, 2707 K Street, Ste 1, Sacramento, CA 95816.

CALIFORNIA NATIVE PLANT SOCIETY

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C/o San Diego Natural History Museum
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February 2014 Newsletter

Dedicated to the preservation of the California native flora

CALIFORNIA NATIVE PLANT SOCIETY – SAN DIEGO

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CHAPTER COUNCIL DELEGATE

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