



CALIFORNIA NATIVE PLANT SOCIETY  
*San Diego Chapter Newsletter*

## **CHAPTER MEETING**

**Tuesday, February 16  
Casa del Prado Room 101  
Balboa Park 7:00 p.m.**

### **The Environmental Benefits of Trees on an Urban University Campus**

**By Corey Bassett**

Trees play an important ecological role within the urban environment, as well as supporting public health and providing aesthetic values to cities. However, even when the general benefits of urban trees are understood and desired, it is difficult to manage and maximize their use without quantitative information on the direct benefits of an urban forest. The University of Pennsylvania is situated on a rapidly growing and highly urbanized campus that, as of the summer of 2015, contained over 6,000 trees. For her master's thesis, Corey Bassett, with the help of a team of interns, collected field data and used software designed by the USDA Forest Service (i-Tree Eco) to quantify the ecosystem benefits that the University's urban forest conveys to its community. This presentation will explore the value of urban trees, the positive implications of Corey's study to urban planners, and the relevance of this research to San Diego.

**6:30 p.m. – Natives for Novices:** Pollinators In Your Garden by **Susan Lewitt**.

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

**7:30 p.m. –** presentation.

Chapter meetings are free and open to the public.



Corey Bassett is a recent East Coast transplant from Philadelphia, PA. She completed her Master of Environmental Studies at the University of Pennsylvania in December 2015.

In Philly, she gained experience in urban forestry, arboriculture, and natural resource management through her jobs with the University's Landscape Architect and at the Morris Arboretum. Corey is excited to be in San Diego and learn about the local landscapes and native plants while she seeks a professional position in the ecological restoration and environmental planning fields.

Save the Date!

2016

Garden Native Tour

April 2nd & 3rd



CALIFORNIA  
NATIVE PLANT SOCIETY [www.gardennative.org](http://www.gardennative.org)

See page 5 for more info about the garden tour.  
Tickets available starting in February.

### **RECEIVE YOUR NEWSLETTER ONLINE**

To receive your newsletter via email, please contact us at:  
[enewsletter@cnpsd.org](mailto:enewsletter@cnpsd.org)

**If your email address has changed from what we have on record, please let us know.**

# WELCOME NEW MEMBERS!

Cathy Nemirovsky  
Courtney Coyle

Rebecca Tasker  
Danielle Phillips

## CNPS Statewide Workshops 2016

*Professional training for botanists, biologists, ecologists, and more*

### THE 2016 SCHEDULE IS HERE!

How to Photograph Flowering Plants Like a Pro  
Rare Plant Survey Protocols  
Measuring & Monitoring Plant Populations  
Wetland & Riparian Plant Identification  
Vegetation Rapid Assessment/Relevé  
Vegetation Mapping  
Introduction to Plant Identification (Northern CA, Southern CA, SF Bay area)

Full details and registration information for each workshop will be posted online at [www.cnps.org/workshops](http://www.cnps.org/workshops) as it becomes available..

## BOARD MEETINGS

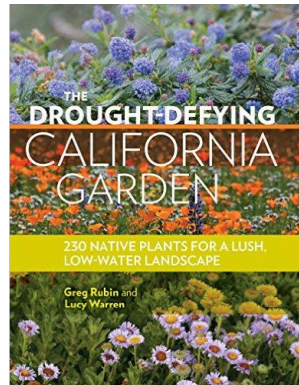
**Wednesday, February 3, 6:30 – 9:00 p.m.** 4010 Morena Blvd, Suite 100, San Diego (Thomas Guide 1248 C4). CNPS-SD Executive Board meetings are always the first Wednesday of the month, except when the 1<sup>st</sup> Wednesday falls on a holiday. Members are welcome to attend as observers. To add an issue to the agenda, please email [president@cnps.org](mailto:president@cnps.org).

### January Board Meeting Report

The January 6 board meeting occurred on a day of heavy rain and flooding so several board members were not able to make it to the meeting, but a quorum of six braved the weather and attended so we were able to conduct some business. January is when the Board elects the chapter officers (president, vice president,

treasurer & secretary) from among the 11 Board members. Two officers were elected for 2016: **Bobbie Stephenson** as President and **Connie di Girolamo** as Treasurer. Electing the Vice President and Secretary was postponed until the February meeting when the officers currently in those positions could be present.

The Board heard an update from **Dave Flietner** regarding the Garden Native Tour, scheduled for April 2-3. Some of the many tasks for January included meeting with potential corporate and agency sponsors, starting a publicity campaign, making the final selection of gardens, and organizing special features for the tour. The website will be ready for ticket purchases early in February.



The Board also learned that **Greg Rubin** and **Lucy Warrens'** new book, **The Drought-Defying California Garden: 230 Native Plants for a Lush Low-Water Landscape**, is expected to be out in April.

## FIELD TRIPS

### Enjoy Nature's Gardens!

**February 6, Saturday, 10 a.m. to 1 p.m.:**  
**Gonzales Canyon with Bill Edwards.**

CNPS welcomes you to join us as we work our way as far as we can into Gonzales Canyon and then return. Nuttall's scrub oak (*Quercus dumosa*) is one of the local plant stars in the Del Mar region, where several large colonies are protected. This is a chance to learn to tell this lovely scrub oak from others, since other species cohabit with it. We'll also see other rare shrubs including California adolphia (*Adolphia californica*) summer holly (*Comarostaphylos diversifolia*) and an odd stand of bigberry manzanita (*Arctostaphylos glauca*), which is found mostly in the foothills, not near the coast. Wildflowers will be emerging, depending on how warm it gets in January.

Bill Edwards has been a guide for years as a member of the SDNHM Canyoneers, Sierra Club, and CNPS. He especially enjoys conversations that poke into the questions about what makes a place unusual, and what

makes an ecosystem tick. Dialogues are a great way to discover how our native plants contribute to the vitality of wild places.

Torrey Highlands Park and Gonzales Canyon Preserve are linked by trails to other natural preserves near SR 56 east of Del Mar, creating a refugium with corridors for plants and wildlife to stay connected across the region. If you have binoculars, bring them, and we will take time to watch the native birds that make their home in the mixed chaparral and coastal sage scrub.

**Directions:** Meet in the parking lot at Torrey Highlands Park, on Lansdale, north of Del Mar Heights Rd (behind Torrey Pines High School) (Thomas Guide 1205 B8). There are some inclines and rugged sections on the trail into the canyon and beyond. The walking is only moderately challenging, with about 400' vertical loss/gain over a mile or so. Bring snacks and water, and wear good walking shoes and the best clothing for the weather.

### **February 20, Saturday, 10 a.m. to 1 p.m. Explore Calavera Preserve's Flora with Botanist/ Teacher James Dillane.**

Join CNPS members to see the different plant communities found in this unique north county Preserve ([www.preservecalavera.org](http://www.preservecalavera.org)). The heart of the preserve is Calavera Peak, an extinct volcano with basalt columns and associated mafic soils high in magnesium and iron. Many unusual perennial and annual plants grow in its upper reaches.

The Preserve is large and diverse. The north edge includes alkali flats sloping down to a man-made lake that provides habitat for resident and migratory birds. Upstream from the lake is a beautiful riparian corridor. Below the dam, the creek runs free in a rugged channel carved around the west side of Calavera Peak. Native shrub-lands and former pasture and native grasslands spread to the east and south of the peak.

Leader James Dillane is a long-time CNPS member and a retired science teacher who has been surveying plants in North County for decades. James will share memorable facts about the plants. Rare plants include south coast saltscale (*Atriplex pacifica*), decumbent goldenbush (*Isocoma menziesii* var. *decumbens*), sea dahlia (*Leptosyne maritima*) and California spineshrub (*Adolphia californica*), plus plants that grow exclusively on the mafic clay soil. James will provide lists (for a small donation.)

**Directions:** Meet at the trailhead sign by the parking

zone on Sky Haven Lane (Thomas Guide 1107 C3). Exit SR 78 on College Blvd (1 mi east of I-5). Go south 1/4 mile and turn left on Lake Blvd. After 2/3 mile turn right on Sky Haven Lane and follow it to the parking area. Bring water, sun protection, snacks, and wear boots with good ankle support for the short but rugged ascent up the old volcanic core of Calavera Peak.

### **February 28, Sunday, 10 am to 4 pm. Plum Canyon Wildflower Walk in Anza Borrego with Larry Hendrickson.**

You are invited to experience this gorgeous desert canyon that was named for its "plums", known today as desert apricots. Larry Hendrickson, with two decades in ABDSP interpreting its marvels to visitors, will be our guide, with CNPS member and plant lover Don Rideout assisting.

Larry will lead us to a couple of richly rewarding sites in the Plum Canyon area, with short drives between, including part of Plum Canyon and an adjacent canyon. We anticipate surprises around every bend. On a previous CNPS field trip Larry identified two new species for the Park.

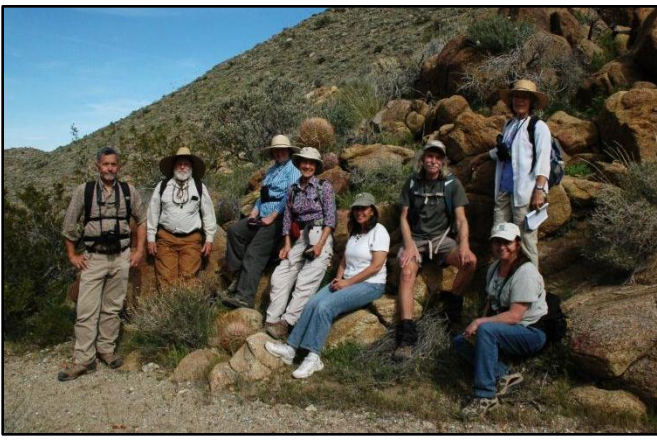
The walks will be easy and probably slow! Bring several quarts of water and lunch, and wear long pants, hiking shoes, and sun protection. Binoculars will help you see beautiful desert birds.

**Directions:** Meet 10 am at the intersection of State HWY 78 and County HWY S-2 (San Felipe Road) (Thomas Guide 410 A-11). S-2 joins 78 for several hundred yards at this junction. Larry will be parked just south of 78 on the west side of S-2. From there we will all caravan to the trailhead about ten miles east, to the first trailhead.

If you want to caravan or ride-share from the San Diego coastal area, meet 7:45 AM at the Park'n'Ride by Sabre Springs Road, just north of Poway Road (Thomas Guide 1189 H-6). From I-15, take Poway Road east, turn left on Sabre Springs Road, then first left into the shopping center driveway. Then, turn into the right-hand parking lot the bottom of the driveway.



Desert apricot (*Prunus fremontii*) seen at the Plum Canyon field trip in 2013.



The 2013 field trip group in Plum Canyon. Join us this year for another great field trip in this area!

**March 5, Saturday 10 am to 1 pm. Post-fire Re-growth in Black Mountain Open Space with Restoration Volunteer Beth Mather.**

CNPS invites you to come see the return of life to land that burned in May 2014. We will identify plants and discuss how to encourage the regrowth of coastal sage scrub species.

The majority of this area was degraded, with artichokes and exotic grasses, but the fire also burned a large healthy patch of coastal sage shrub. On the walk to the naturally recovering coastal sage scrub, we will see degraded land where a small planting project is ongoing, and many non-native weeds are being controlled. We will walk through unburned and burned coastal sage shrub where a few aggressive weeds is all the management that is needed.

Our leader for the day is retired research biologist Beth Mather. Beth volunteers in this area, removing exotic plants by various means, and leading volunteer planting parties. Last year at least twenty species of plants - phacelias (*Phacelia* spp.), wild cucumber (*Marah macrocarpa*), chia (*Salvia columbariae*), paintbrush (*Castilleja* sp.), and various lilies – were flowering among the shrubs that define the coastal sage scrub plant community: California sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), and flat-top buckwheat (*Eriogonum fasciculatum*).

**Directions:** Meet at 10 am at the Lusardi Creek Trailhead in the NE corner of Black Mountain Ranch Community Park, located at 14700 Carmel Valley Road (Black Mtn. Park Way), 32°59'21"N, 117°7'48"W. We recommend getting to the event ten minutes early in case the parking lot is full. If so, park in the Glider Port across Carmel Valley Road and walk to the trailhead.

The paths are irregular so wear hiking footwear. Have

sun protection, drinking water, and a notepad or device so you can take notes. Birds may be active, so consider bringing binoculars if you have them.

**General Field Trip Information**

Chapter field trips are free and generally open to the public. They are oriented to conservation, protection and enjoyment of California native plants and wildlife, and we adhere to all rules and guidelines for the lands on which we are visiting. In our arid region it is very important to be prepared for hiking on rugged and steep terrain and during wide temperature ranges and rapidly changing conditions. Participants should wear study footwear and carry sufficient water, sun protection, food, clothing layers, personal first aid and other supplies you may need. If you have any questions about a particular field trip, please contact Kay at [fieldtrips@cnpssd.org](mailto:fieldtrips@cnpssd.org).

**TECOLOTE CANYON  
NATURAL PARK**



**February 7; 8 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. 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.

**The field trip list for 2016 has been modified. Here is the updated list:**

- Saturday, March 5:** Lusardi Crk/Black Mtn, 4-S Ranch.
- Saturday, March 19,** San Diego National Wildlife Preserve, El Cajon.
- Saturday-Sunday, March 26-27:** Anza-Borrego Desert SP, campout in Palm Canyon.
- Sunday, April 10:** Lucky 5 link between Anza-Borrego SP and Cuyamaca Rancho SP.
- Saturday, April 16:** Tour de Plants Bicycle event, location TBA.
- Saturday, April 16:** Mission Trails West entry, Tierra Santa.
- Sunday, April 24:** Elfin Forest, Harmony Grove, Escondido/San Marcos.
- Saturday, May 7:** Crestridge Ecological Preserve,

El Cajon/Blossom Valley.

**Sunday, May 15:** Sycamore Canyon, Santee.

**Sunday, May 21:** Viejas Peak, Alpine and Viejas Indian Reservation.

**Sunday, June 5:** Cuyamaca Rancho SP reforestation revisited.

**Sunday, June 19:** Cedar Creek Recommended Wilderness, Three Sisters Falls.

# NATIVE GARDENING

## Native Gardening Committee

**February 10.** Meets 2<sup>nd</sup> Wednesday of each month.

Info: **Mike Gonzales** at [gardening@cnpsd.org](mailto:gardening@cnpsd.org).

## Old Town Native Plant Landscape

### Partners in Grime

**Saturday, February 13: Work Party - 1 to 3 p.m.** Join the Partners in Grime in Caring for Native Plants.

Come help the volunteers who tend the Old Town Native Plant Landscape. All the rain from El Nino means robust growth of wanted, and unwanted, plants. A gardener's sharp tools (and hard heart!) can remove weeds and help desirable plants flourish.

The landscape includes about forty of the native plants that served Native Americans in many ways before the arrival of Europeans in the late 1700's. It is located at the west end of Old Town State Historic Park, at the corner of Taylor and Congress Streets, opposite the bus/train/trolley depot. Park for free in the California Dept. of Transportation parking lot across Taylor Street from the Landscape.

Bring water and sun protection. Also bring your own gloves and tools, or borrow ours.

**Questions?** Contact Kay at [fieldtrips@cnpsd.org](mailto:fieldtrips@cnpsd.org).



# CNPS-SD NATIVE GARDEN TOUR "Landscaping for the Future"

April 2 and 3, 2016



This year we feature **21 native plant gardens in eastern San Diego, La Mesa, El Cajon and Jamul**. Our theme, Landscaping for the Future, looks inland to see how native gardens have adapted to the more variable weather conditions that we all can soon expect to be facing. Our featured gardens include seven different landscape designers' work as well as lots of do-it-yourself gardens. Many of our gardeners will be on hand to share their experiences, including pioneers in creating a home landscape that integrates native and edible plants, water capture, wildlife habitat, and even animal husbandry. We also include three large (2-acre) "worth the drive" back-country landscapes that will be open a bit later than the rest of the tour.

To purchase your tickets, visit the website at [www.gardennative.org](http://www.gardennative.org). If you would like to help like or become a docent for the tour, please email Jan Keeney at [docents@gardennative.org](mailto:docents@gardennative.org).

## Garden Tales

### Stories of the 2016 Tour Gardens

Since moving to San Diego in 1996, I've been astounded at how lush and tropical gardens and lawns were given how little rain we get. It just did not make sense. I decided that when I owned a home, I would embrace San Diego's unique climate and work with that.

Initially, Jeff and I pulled up our lawn in 2005 and planted drought tolerant plants – mostly succulents and cacti. We then added a manzanita and a few other native plants over the years and felt we were doing our part in water conservation. However, as time passed and especially when I became a Naturalist Guide with

San Diego Audubon Society, I became more passionate about the importance of using native plants to provide habitat. About two years ago I joined the CNPS-SD Garden Committee and was privileged to have a design charrette to remake our front yard.

In November 2014 Clayton Tschudy and a team of other Garden Committee members held a “design charrette” at our house and put together a plan. We hosted a planting party for CNPS and other volunteers and on December 27, 2014 we had a lot of fun putting the plants in the ground. It is taking off! We have decided to transform our backyard into a native habitat also and are in the process of doing that now.

Our most unique, fun and exciting feature is our recent pool-to-pond conversion. Our lovely pond is its own ecosystem with koi, dragonflies and damselflies, bats, and song birds. Some of our most interesting frequent fliers have included visits by a great egret, a great blue heron and even an osprey on a few occasions. We feel like we have waterfront property in La Mesa! Our goal is to use our pond and native garden for education. It is our opportunity to create a movement to give back to California’s greatly depleted wetlands – one pool, or POND at a time!

~ **Judie and Jeff Lincer**

Judie Lincer is a former teacher, a board member for San Diego Children and Nature (SDCaN) and a Naturalist Educator for San Diego Audubon. She models lessons to guide teachers on how they can use their schoolyards and nearby nature areas for science education. Judie also leads hikes at local canyons for elementary and middle school students to get them excited about being in nature and develop a sense of awe and respect for nature and our local native habitats.



(left) Water collection container at Judie & Jeff Lincer’s house.



(top) Judie & Jeff Lincer’s garden.

(left) Their pool turned pond. See their whole garden and this adaptation on this year’s native garden tour.



Judie and Jeff Lincer’s front garden.

## CONSERVATION

### Conservation Committee

**February 2.** First Tuesday evening of each month. Contact **Frank Landis** at [raresurvey@cnpsd.org](mailto:raresurvey@cnpsd.org) for the location.

### Locally Native...And Migrating

One of my challenges in conservation is to deal with changing science, and I'm starting to see an interesting conflict develop. It's about two different worldviews on native plants: The newer view is that plants migrate to deal with changing climates. The older view is that plants are locally native, that they require a whole

plethora of other species to survive, including pollinators, mycorrhizae, even other plants for shade, and that they've evolved for untold generations to work with these partners in their current homes. Both of these views are rooted in science, and there's not an easy way to reconcile them. In the context of this conflict though, how shall we deal with climate change? Do we let species go extinct if they can't adapt, or are they more adaptable—and more mobile—than we realized?

Presented this way, your first thought might be something like "well of course, in the past species migrated with all their symbionts and partners as a community." Unfortunately, both reflection and scientific evidence refute this idea. If you think about it, every species has its own idiosyncratic needs, and they seldom entirely overlap, as they would need to if species migrated in squadrons. For example, oaks may require jays or squirrels to spread their acorns, while toyons require birds to eat their fruit, so it's difficult to think of oaks and toyons migrating together. Furthermore, pollen records from the past (usually hauled out of cores in lakes that are kind enough to lay down sediments in discrete, datable layers) pretty clearly show that community composition changed over the last few thousand years. Plants migrated at different rates, and communities assembled themselves from whatever thrived in a particular place and time. The plant communities of the past are not the plant communities of the present, and some of them would look very odd to us today. The upshot of this is that plant migration seems to be a process where every plant species moves in its own particular way, some as burs, some as windborne spores, some mouse-cached seeds, and they thrive wherever they form partnerships.

Another part of this puzzle is the whole idea of coevolution, from Prof. John N. Thompson at UC Santa Cruz. His research places evolution in a dynamic geographic mosaic, where the current characteristics of different species are part of long-running interactions, some of which are new, some of which have lasted many millennia. It's a normal mistake to think that the species that we see now are exactly the same as they were many thousands of years ago.

Still, most plant science is done over the short term, and most plant conservation is based on existing science, so we've largely developed a view that plants grow in a static environment and tried to manage them that way. Some even hold that plants should only grow either where they're planted (if they're non-

native and self-seed, they are potentially dangerous weeds and should be killed off), and in the idea, popular with developers, that plants should be glad to stay humbly in the preserves set aside for them, and if they can't hack this charity, they don't deserve to survive.

It also shows up in efforts to make sure that plants are not just native but locally native. This comes across in advice to use as landscaping plants only those from seeds that were collected nearby, in order to preserve the full genetic diversity of the species. This attention to detail would be perfect, if only the world was static.

Unfortunately, the world is changing, at a faster pace than it has for perhaps 10,000 years or more. Fortunately, there are some things we can do, even while dealing with this conflict.

One is to sponsor research. Yes, any problem can be studied to death, but most of what we know about plant migration right now appears to be supposition based on simple habitat and climate data all input into models. We don't really know much about how plants migrate, even though there's increasing evidence that global climate varied quite wildly in the last ice age, and we would expect plants to have migrated to deal with the chaos. In any case, for most species, we don't know how localized genotypes are, how much heat and drought stress they can endure, how much this is mediated by their environment, and whether they'll do better or worse somewhere else. This is fertile ground for research, if anyone is interested.

Another thing, which I do as conservation chair, is to speak up for plant migration. Most recently, I advocated for it as part of the North County MSCP. I've also raised the problem posed by plants migrating north across the Mexican border. Should we consider them weeds or refugees? That border complicates the status of everything that needs to move, and not just people. In this latter case, the idea of California and Mexico cooperating to make it easier for species to migrate across the border is not on anyone's radar. Hopefully it will be someday, before it's too late.

Speaking of migration barriers, San Diego, Los Angeles, and every other coastal development is a major migration barrier in its own right. It's hard for most plants to migrate through cities and suburbs. How is a scrub jay going to fly a scrub oak acorn from Torrey Pines to the Anaheim Hills up to Palos Verdes, and from there to Malibu?

This is where you come in if you have a garden. It's going to take a long time to create science based

migration plans. In the meantime, there's space for gardeners to make room in their gardens for refugees heading north. We can make room for Baja plants, talk to people up the coast about taking San Diegan plants, and so forth.

The general idea here is that, as the climate changes, a certain number of plants are going to take off into the wildlands, and they're mostly going to come out of people's gardens, much as they do now. If you don't want California to be overrun by things like eucalyptus and bougainvillea, perhaps we need an in-the-ground railroad for climate refugees, conducted by native plant gardeners who quietly plant native plants and migrate them towards refugia, places where the plants' offspring might thrive in a changed climate. Yes, this goes against planting locally native plants, but it's worth thinking about whether it's worth making a backyard lifeboat for a species, just in case.

If you're interested in planting migrants, plant wild seeds, not cultivars. Most cultivars are clones, grown from cuttings of individuals that look good and do well in gardens. For migrants, you want to preserve diversity, even if it looks scruffy and unruly where you plant it. Note that I'm not advocating this officially, because CNPS is all about local natives. Still, it's something we should really all start thinking about. Gardens can be refuges for more than just us.

~ Frank Landis, Conservation Chair

## **INVASIVES**

### **DO YOU WANT TO COME OUT AND PLAY?**

We have had rain and that is good. With the rains we get weeds, and that is also good. Each germinating weed is one less weed seed left in the ground. Of course, that is only if we get rid of every weed before it can set seed. And if we do our weeding right a native plant will take its place.

Using this approach we have been phenomenally successful at bringing back some wonderful open spaces. Blue Sky Preserve in Poway and Artesian Creek, west of Rancho Bernardo, are two such areas and together they comprise some 1,000 acres of verdant habitat. While these two places are in maintenance mode, we have three other project areas that need our help – more good news.

**Now through April we will be outside playing several**

**days a week. Come join us on a day that suits your schedule.** We do hands on training geared to individual abilities. It is a great way to learn native plants while getting a little fresh air and exercise. Perhaps your inner child will even enjoy getting dirty. And you can take pride in seeing the next place come back to life, full of native plants and all the wildlife that comes with them.

Arne Johanson, [invasiveplants@cnpsd.org](mailto:invasiveplants@cnpsd.org)

## **Non-native Beetle Affecting Native Trees**

### **Polyphagous Shot Hole Borer: San Diego Population Now Known as Kuroshio Shot Hole Borer.**

(info summarized from

<http://ucanr.edu/blogs/blogcore/postdetail.cfm?postnum=18867> by  
Bobbie Stephenson)

The Kuroshio Shot Hole Borer (KSHB) is a new pest in San Diego. It is a different species than the Polyphagous Shot Hole Borer (PSHB) found in Los Angeles. The two are genetically different, but they look the same. They affect avocado, ornamental and native tree species. About 33 tree species have been confirmed as reproductive hosts, including the native riparian species coast live oak (*Quercus agrifolia*), California sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), red willow (*Salix laevigata*), and white alder (*Alnus rhombifolia*).

The KSHB is originally found only in two places in the presumed native range: highlands of Taiwan and in Okinawa. The PSHB's native range is in Vietnam, South China, North Thailand, low lands of Taiwan and Okinawa, this species has also invaded Israel and South Africa.

These Shot Hole Borers are Ambrosia beetles and the first ones were found in Los Angeles County in 2003. They have spread and now appear to be established in Los Angeles, Orange, San Bernardino and Riverside Counties, and expanding range in San Diego County.

The beetle is dark brown to black and tiny, with females between 0.07 and 0.1 inches long, and males smaller, usually about 0.05 inches long. The shot hole bores are highly specialized and feed on pathogenic fungi that they cultivate on the walls of the tunnels they bore. Both the adults and larvae feed on the fungus.

Pregnant females bore through the tree's bark, creating galleries under the bark. They plant the fungus in these galleries, where it grows and spreads throughout a susceptible tree. The female then lays her eggs in these galleries and when the eggs hatch, the larvae eat the fungus. The larvae develop into adults in about a month.



Many more of the larvae develop into females than males, and the females mate with the males while still in the gallery. The pregnant females then pick up some of the fungus in their mouths, and leave through the entry holes created by their mothers to start the process again.

**Polyphagous Shot hole borer (*Euwallacea* sp.)**



Protect your trees and local habitat from a variety of pest species: avoid moving infected wood around – use firewood locally. For more information and an interactive map, see [http://ucanr.edu/sites/socaloakpests/Polyphagous Shot Hole Borer/](http://ucanr.edu/sites/socaloakpests/Polyphagous_Shot_Hole_Borer/).

## **RELATED ACTIVITIES**

### **Anza-Borrego Desert State Park Botany Society**

January 11, 10 a.m., Anza-Borrego Desert State Park Visitor Center, 200 Palm Canyon Drive 92004. Plant ecologist Kate Barrows will describe how to introduce native plants into the garden for people bedeviled by an extended drought and eager to conserve water. The public is invited; Free.

### **Point Loma Native Plant Garden**

February 6 & 21, 9 – noon. Work Party. Usually 1st Saturday and 3rd Sunday of each month. Contact: [Richard@sandiegoriver.org](mailto:Richard@sandiegoriver.org) for more info.

### **Tree of Life Nursery**

Habitat Gardening Series – Feb 2016

All workshops start at 9:30 a.m. at the nursery (in San Juan Capistrano):

<http://www.californianativeplants.com/index.php/resources/workshops/467-febevents2016> for more info.

## **San Diego Mycological Society**

### **Fungus Fair**

Sunday, February 21, 2016

10:30 am to 3:30 pm

Casa Del Prado, Balboa Park

## **WILDFLOWER HOTLINES**

Anza-Borrego Desert State Park: (760) 767-4684.

Info, events, road conditions, etc.: (760) 767-5311 or [www.desertusa.com/wildflo/wildupdates.html](http://www.desertusa.com/wildflo/wildupdates.html).

Anza-Borrego Desert State Park:

<http://www.abdnha.org/pages/03flora/reports/current.htm>. You can add your observations at this website.

<http://theodorepayne.org/education/wildflower-hotline/>

## **Eriogonum Society Annual Meeting**

**SAVE THE DATE:** The annual meeting with field trips will be **Friday Sept. 16 to Monday, Sept. 19, 2016**, at the Desert Research Center near Baker, California. The society's website is <http://www.eriogonum.org/>; however, detailed info for the annual meeting is not yet available.

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 10<sup>th</sup> of the month preceding the newsletter; that is, October 10 for the November newsletter, etc. Please submit items to [newsletter@cnpsd.org](mailto:newsletter@cnpsd.org)

## **CNPS-SD Activities Calendar February 2016**

- 2/2: Conservation Committee Mtg, p.5
- 2/3: **Board Meeting**, p.3
- 2/6: Field Trip to Gonzales Canyon, p.2
- 2/7: Tecolote Cyn field trip, p. 3
- 2/10: Gardening Committee Mtg, p. 5
- 2/13: Old Town Native Landscape, p.5
- 2/16: **Chapter Meeting**, p. 1
- 2/20: Field Trip – Calavera Preserve, p.3
- 2/28: Field Trip – Plum Canyon, p.3
- 3/5: Field Trip – Black Mtn Open Space, p.3

**MEMBERSHIP APPLICATION**

\_\_\_ Student or Limited Income \$25; \_\_\_ Individual \$45; \_\_\_ Family \$75  
\_\_\_ Plant Lover \$100; \_\_\_ Patron \$300; \_\_\_ Benefactor \$600; \_\_\_ Mariposa Lily \$1,500  
Name(s): \_\_\_\_\_  
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February 2016 Newsletter

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