



University of California
Cooperative Extension - Riverside
County

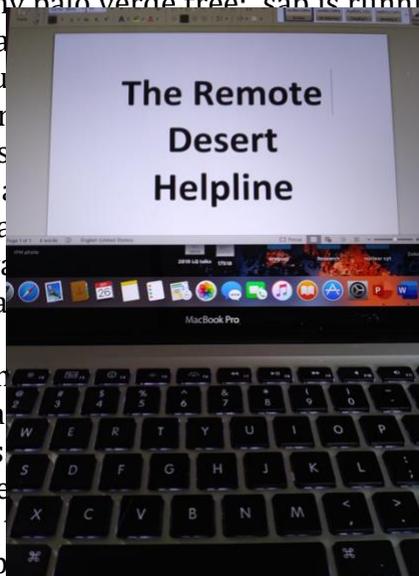
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Will daffodils grow from bulbs here in the desert? What is the weird looking thing growing on my orange Tecoma? What's wrong with my palo verde tree: sap is running down the trunk? How do I find a plant or shrub that will reflect reflected summer sun around the base of my peach tree that is dying. What can I do to help my cactus that was identified by a nursery? Can you help me identify a disaster for our tomato plants? What is the best time to begin to prep compost in the desert as hot as it gets? Can you recommend a plant or shrub that will add color to my garden in the summer? Is there anything I can do to get my jasmine plants to bloom all year?



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How the Remote Desert Help Line Works

Contributed by Ron Jemmerson, Ralph Thompson, and Jim Thompson, Desert UCCE Master Gardeners

The Remote Desert Help Line was designed by former Master Gardener Patricia Daniells based on the Orange County MG model and with the help of their MGs. The current Desert Help Line basically consists of three parts: telephone & e-mail portals for public interaction, a volunteer Poster/Responder charged with monitoring the portals for queries and crafting a response, and a team of volunteer Scouts who provide assistance in researching the response. Year-to-date, the Desert Help Line team has responded to 113 queries.

The process begins when a client sends a query to the Desert Help Line e-mail address (anrmgindio@ucanr.edu) or telephone voicemail. The Poster/Responder, usually scheduled in weeklong shifts, then posts the query along with supporting documentation and photographs on the Desert Help Line “Collaborative Tools” site (accessible via the ucanr.edu/portal). MGs who have requested to be included in the Help Line chain (Scouts) are alerted to the incoming query by e-mail. Those MGs knowledgeable about the issue or willing to do the necessary UCCE-based research on the topic post their responses on the Desert Help Line “Collaborative Tools” site. The Poster/Responder reviews the responses and transmits the most appropriate response to the client. Follow-up questions to the client are frequently required so a truly informed response can be given. Every attempt is made to provide responses within 48 hours.

MGs involved in the Help Line process may record CE hours for Scout responses and Volunteer hours for Poster/Responder time. The advantage of the current Help Line system is that it can be accessed wherever e-mail and internet access are available. Help Line volunteers can work from the UCCE Office in Indio if they so choose, however

timeliness of responses would be compromised if the office is closed.

Ralph and Jim Thompson are the current coordinators of the Desert Help Line. In future issues of *Garden Views* several seasonally-relevant questions posted on the Desert Help Line will be highlighted.



Got Cochineal?

Cochineal scale is an infestation of *Opuntia* cacti comprising around 200 species, commonly called prickly pear. There are 3 species of cochineal scale (genus *Dactylopius*) found in California. The white cottony webbing seen in the photos above provides a safe space for female insects to lay their eggs. When the webbing containing the insects is crushed the magenta color of carminic acid appears as seen in the left photo above. The acid is produced by the insect and can be chemically converted to carmine dye for commercial purposes. Mexico and several South American countries produce this dye from cochineal scale for use in food coloring and lipstick. Native Americans used it to color textiles. The infestation can be lethal to cacti if not controlled. It is easily removed using a forceful spray of water from a hose. Insecticidal soap can be applied afterward. In severe cases the pads must be removed.

Honoring Our Blue Badge Members

UCCE Master Gardeners are recognized for volunteer hours served by the color of their identification badges. According to the MG Bylaws dated Feb. 2014, gold badge members have contributed 1000 hours of service, silver badge members have contributed 2500 hours of service, and blue badge members have contributed 5000 hours of service. This is the first in a series of articles to honor our Riverside County Blue Badge Members. Currently, there are two documented Blue Badge Members, Cindy Peterson and Pauline Pedigo. Cindy's story in her own words is presented below. Pauline's story will appear in a future edition. As other honorees are documented their stories will be reported.

Contributed by Cindy Peterson, West County UCCE Master Gardener

I grew up 'way back when' in Riverside a block from the Parent Navel Orange tree and have lived in Corona for the past 48 years with my wonderful husband of 50 years, Dave. We have two married sons who live in the local area and enjoy spoiling our two grandsons when we have the opportunity.



I have been a "Friend of the UCR Botanic Gardens" since the early 1980s, learned about the Master Gardener Program (MGP) at their plant sales and quickly put it on the top of my retirement 'to do' list. I've always enjoyed 'playing in the dirt - oops - soil,' finding pleasure, relaxation, and a sense of accomplishment in the garden. As my December retirement date approached after a successful, yet very demanding and time-consuming career in public transit as Director of Operations (responsible for training and on-street service delivery with big buses and paratransit vans - which is why I am used to and OK with it 'all being my fault' so we can fix it and move on) I applied and was accepted to enter the 2005/2006 MG class. So far, I have attained over 6,350 volunteer hours in a variety of Master Gardener projects and activities in Riverside County.

As a gardener I might be noted as a generalist, interested in and enjoying most types of plants and many garden-related activities. In my small, relaxed garden I have at least a 'token' specimen of many categories of plants and more than a few varieties of succulents, mostly in pots. If anything, my expertise may be in hand weeding - most anywhere, anytime - few complaints, little competition, good exercise, and great job security! I truly appreciate Felder Rushing's advice to "not easily suffer plant snobs" but try to exhibit patience with those who shoot 'that look' when others are not overwhelmed with enthusiasm by their preferred plants or garden activity.

I enjoy garden tasks that result in something that I can see I've accomplished - plants settling into their new pots or places in the garden; buckets full of weeds, leaves or trimmings; a clean path or garden bed; birds, bees, and butterflies snacking on the flowers, their nectar and seeds and then sipping and splashing in the water I've set out for them.

I enjoy volunteering for many different MG activities including information tables; workshops and demonstrations; various tasks at the UCR Botanic Garden, "Gold Mining" (looking for MG volunteer opportunities in my local area), occasionally helping at the Grow Lab and WMWD, RCRC and speaking engagements and participating on the Advisory Board as Coordinator for our community garden support. Past projects include Mentoring, Plant Right Surveys, School Garden Coordinator, administrative projects/assistance for the Advisory Board and Volunteer Services Coordinator, WMWD, JMDC, Victoria Avenue and the Riverside Heritage House gardens,

I am a member of the Corona Heritage Garden Society, volunteer at the Corona Heritage Park gardens and help with garden/landscape maintenance at my church.



I truly enjoy helping and interacting with other folks on many levels, helping people learn more about sustainable gardening, and how to make

their garden-related tasks as easy, painless, and as safe as possible. So, when interactions relate to gardens, as our Master Gardener activities provide, all the better. Life is Good – and never boring with so many opportunities!

Are Plants Conscious?

Did you know that there is a debate among biologists whether plants respond to their environment with conscious purpose? This was recently discussed in the July 3 issue of *Trends in Plant Science*. There is actually a field called plant neurobiology in which researchers believe plants can learn when responding to their environment and have a form of consciousness. While we do observe, for example, that branches of plants bend toward light, this is not a conscious decision by the plant to grow in that direction to maximize photosynthesis. Rather, it is a response by a hormone (auxin) to migrate away from light, enhancing growth on the shaded side of the plant and, thus, extending the branch toward the light. This is an endocrine response, however, and not a neurological response. Some plant behaviors can, thus, be explained in non-neurological ways. Animal neurobiologists argue that there is no evidence that plants have a nervous system, or even a brain, and so they could not be conscious. Why is there a "field" with no evidence supporting the "field?" Plant neurobiologists argue that a brain in plants, if it exists, could be decentralized, perhaps distributed throughout the roots. If this is so, do plants feel pain when we pluck their leaves for salad fixings or pull root vegetables from the ground for roasting? Vegetarians beware! Stay tuned.

Master Gardeners Attended Integrated Pest Management (IPM) Training

Contributed by Georgia Renne, West County UCCE Master Gardener

Ten Riverside County Master Gardeners attended the Advanced IPM Training, "Vegetable Pests and Solutions," on September 17 at the South Coast Research and Extension Center in Irvine. The day-long training provided by the UC Statewide IPM Program brought together Southern California MGs from San Diego to Ventura Counties providing a valuable opportunity to network with other green enthusiasts.



Riverside County MGs in attendance included (from left): Linda Freeman, Dee Hydingler, Joan Kyle-Baerman, Gail Nottberg, Georgia Renne, Jean Wagner, Thurman Howard, Rosa Olaiz, Ruben Arias, and Laura Simpson.

The presentations by experts, hands-on experiences, and trainer-of-trainer model for the workshop gave us many tools for sharing and teaching what we learned. In addition to a pre- and post-training survey using electronic counters and review of UC IPM Resources along with its current projects, we divided into 3 groups each attending sessions on "Insect Pests of Vegetables," "Vegetable Diseases and Disorders," and "Vertebrate Pests of Vegetables."

UCCE specialists provided a presentation on each topic and then engaged us in unique activities aligned to the situations we receive as MGs. We examined and identified predator insects, how they infect plants, their damage to leaves at various stages of life, and then looked at beneficial insects and natural predators. Looking at examples of plant diseases and disorders, we identified the type of solution appropriate for use, selecting biological, cultural, mechanical, or chemical control. Most interesting to a number of us was the opportunity for an up-close and personal look at those vertebrate pests when we examined tracks, droppings, and gnawed vegetables to determine the likely suspect. Yes! We passed around actual stuffed animals from rodents to raccoons and identified the best UCANR IPM solution for control.

We had time to discuss opportunities for training our MGs at home using the toolkit we were given filled with teaching supplies including various traps and empty, never-used containers for control substances. Stay tuned for your own training on vegetable pests!

You are invited!

County-wide Master Gardener Social

Sunday, October 13, 3-6 p.m.

at the Heymings garden, next to the
Grow Lab in Riverside

\$10 per person, on-site taco truck

a volunteer recognition event

New Year Begins for School Gardens

Contributed by Jonie Kipling, West County UCCE Master Gardener

You can tell that the new school year has begun with all the activities at school gardens guided by Master Gardeners. As West County Project Coordinator, I am working with Kim Coons-Leonard in Riverside and Christine Curtis in Temecula to help organize school events in both the north and the south areas of West County.

In Riverside we have programs opening at Wells, Loma Vista, and Arizona Intermediate Schools. Eva Meyers is helping parents organize art and cooking programs in the garden at Arizona. In the Temecula area at Barnett Elementary, MGs are starting “Kinder in the Garden,” an after-school garden program and a “First Grade Farmers’ Program.” Programs are also beginning at LaVorgna Elementary. Christine Curtis has helped a parent create a program at Redhawk Elementary beginning in September. MGs started the “Gate Garden Program” at May Ranch Elementary in Perris on September 6. I met with Joe Pollack, a teacher at Harmony Elementary in Hemet, to help him organize a vegetable garden for his class.

MGs from the School Gardens Committee are meeting with members from Waste Management on September 26th to help design more efficient and effective composting systems for schools. Tom Vineski, our Master Gardener/Composter, will be helping with this project.

Master Gardeners are investing many hours to motivate young gardeners who will protect our environment and implement sustainability practices in years to come.



Kim Coons-Leonard shows teachers at Loma Vista Middle School how to test the pH of soil.

Featured School of the Month—Box Springs Elementary in Moreno Valley

In May, students of Rachael Greaves, planted pumpkins in the new Box Springs Elementary School garden site. Eben Longfellow and Kim Coons-Leonard, West County MGs, were there to help. When school resumed in August the students were disappointed that, while the plants were growing well, there were no pumpkins. We recommended hand pollination. They researched this process and went out into the garden. Now they are very excited that they have about 10 pumpkins growing! In the picture is the first pumpkin that grew which the students named “Barbara!” The pumpkins will be given out to students at the end of October. The School is partnering with others in the community to build raised garden beds. The MGs will return to guide planting a pollinator garden.



Nature Walking with Llamas in the High Desert

Contributed by Melissa Bacall, Desert UCCE Master Gardener

For me, the best thing that comes from learning about native plants is then teaching others about them. This past year I began guided desert walks with my llamas for family, friends, and others who were interested. I live on a 5 acre ranch just north of Yucca Valley approximately 4100 ft. in elevation and about 10 degrees cooler than the desert floor of the Palm Springs area. My family has a lot of animals that, in addition to 4 llamas, include pigmy goats, cats, dogs, and wild quail. As llamas are not solitary animals our llamas were adopted in pairs. Mama Llama is the mom of CocoaBunny (both shown below) and Ema is the mom of Ixchel. Llamas live up to 25 years. Mama Llama and Ema are between 9 and 13 years old. Ixchel and CocoaBunny are 8 years old. Occasionally they get loose to graze, especially during wildflower season, but they always come home to sleep.



During the heat of the summer and early Fall most folks miss the beauty of our year-round natives

because they are not in bloom. This is my favorite time because during my walks I talk specifically about the silver cholla (*Cylindropuntia echinocarpa*), Joshua tree (*Yucca brevifolia*), Spanish bayonet (*Yucca aloifolia*), and our beloved creosote bush, (*Larrea tridentata*).

My favorite of these four plants is the creosote bush, the ancient plant dating back to the end of the Pleistocene era, 11,000 years ago. These plants survive because of their many adaptations: small leaves, giant roots (measured up to 125 ft.), and flexible stems that protect them from harsh heat, cold, and relentless winds. They possess a nearly magical sensitivity to moisture. Those of us who experience their fragrance during and after a desert rainstorm know how potent it can be. During our walks I stop and encourage participants to cup their hands around some creosote leaves, breath on them, and then smell the distinct and fragrant scent the creosote omits when it “opens up” to collect the moisture it has been offered.



Some of the most beautiful plants in the area are Yuccas. The Spanish bayonet (*Yucca aloifolia*) is a Yucca with long dagger-like foliage. The clusters of long pointed fronds provide shelter for lizards

and other small desert dwellers. The plant blooms large white clusters and its fruit is edible. We actually roasted them this year. Although not particularly delicious, they had a hint of green bell pepper.



The Spanish bayonet is often overshadowed by its more striking cousin, the Joshua tree (*Yucca brevifolia*). The Joshua tree grows only in the Mojave Desert and is the most visual plant on the walk. This odd shaped plant we call a tree was given its name by the Mormons because they looked to them like the prophet Joshua reaching his hands to heaven. Many accounts written by the Mormons share the utter disappointment in the useless tree: they couldn't build with it; it was difficult to burn; it offered no shade; and it had no edible parts. We will often see a fallen tree on our walks and it gives us a chance to look at the struc-



ture inside. These plants can be hundreds of years old. Even though they only grow 1.5 inches yearly, some of them can extend over 30 feet tall.



Both of these amazing Yuccas depend on the Yucca moth (*Tegeticula yuccasella*), seen in the photo above right, for pollination. This is a great example of insects and plants adapting to serve each other, but it can leave both the moths and the yucca in a fragile balance. If the timing of the bloom and the moth's arrival do not coincide, the entire system is disrupted leaving that year's seed sterile.

The canyon behind our house has a nice cluster of Joshua trees that I refer to as a forest. The rangers have informed me that the giant sloth, now extinct, is directly responsible for these mass plantings. The giant sloth would feast on the fresh seed pods and deposit them with fertilizer in certain areas they called home creating these amazing clusters of hundreds of trees throughout what is now known as Joshua Tree National Park and the Mojave Desert.

I like to point out the silver cholla, seen in the photos below, which is strikingly back lit on our early morning and sunset walks. We caution that even though they are called "the teddy bear cacti" they are actually covered in barbed spines that can make your day miserable if you hug one. Pointing out all the small cholla bits on the ground explains how they also have been given the name "jumping cholla." They are amazing plants with modified branches that help them store water, carry out

photosynthesis, and produce flowers. Although they are impenetrable to animals. Their fruit is edible for Jack and cotton tail rabbits. These plants, too, can grow very large to nearly the size of a tree.



The llamas create a forum for me to share my love of the desert. They enjoy grazing on plants as we walk, stopping often to strike fabulous poses here and there against an amazing back drop of plants, mountains, and open sky. The desert walks with the llamas give me time to share the magic and history of the high desert and our llamas whose ancestors, by the way, originated in North America. Being able to share some knowledge of this gorgeous desert and its plants is an absolute pleasure.

MG Advisory Board Meetings

DAB—2nd Thursday of each month
10 a.m., UCCE Office in Indio
81077 Indio Blvd.

WCAB—3rd Wednesday of each month
10 a.m., UCCE Office in Moreno Valley
21150 Box Springs Road

The Woodland Trail—A New Learning Experience

Contributed by Janet Seaman, Desert UCCE Master Gardener

Looking for an interesting place with different vegetation than we find in the desert? Try driving into the mountains for a one day or several day visit to the Woodland Trail, an alpine retreat. This 1 ½ mile long trail in Big Bear is only about 2 hours from the Coachella Valley. It provides an opportunity to learn about some new plants, get some exercise, and (as in my case) get out of the desert heat for a few days. The trail is considered easy and is mostly flat with some short ups and downs. This interpretive trail takes about 45 minutes to an hour to hike and, besides introducing some unique alpine vegetation, offers beautiful vistas of Big Bear Lake.

The area is a transition between mixed conifer and Pinyon-Juniper woodland habitats. There is an interpretive guide to follow along the 16 sign-post trek available at the Discovery Center. There is a box at the trailhead that's supposed to contain them, but don't count on it. The Discovery Center is interesting, too, and is only about a mile West on the North Shore Dr. of the lake.

Of the numerous trees, the Western Juniper (*Juniperus occidentalis*) is predominant. The first stop shows off one that is estimated to be 1,500 years old! The trees provided shade for the Yuhaviatam Indians (also known as the Serrano) who, like many of the desert tribes, summered in Bear Valley. The loose stringy bark was used for making simple skirts, blankets, and shoes. The Western Juniper can be identified by the thick, shaggy bark, little blue berries and twisted-looking trunk and branches. The indigenous Mountain Mahogany (*Cercocarpus betuloides*) is called "Ironwood" by the locals, because it is notorious for dulling chain saws. The close-grained wood is so heavy that, like the Desert Ironwood, it will not float in water! The leathery,

aromatic leaves remain green year-round making them a favorite food for deer. In the Fall, their branches look like they've turned silver from a distance. This is because of the silver sheen of the seeds that cover the branches. The seeds are like maple tree seeds, with a tail, that makes them twirl to the ground when tossed into the air.

The trail meanders near a seasonal stream that only carries water in the Spring when the snows melt. This phenomenon causes willow bushes to grow nearby as the stream goes underground for the summer. It still provides enough moisture to support other trees such as the Canyon Live Oak (*Quercus chrysolepis*) and the California Black Oak (*Quercus kelloggii*). The Black Oak is deciduous, losing its lobed leaves in the fall, and is named for its dark (almost black) bark. The Canyon Live Oak is an evergreen that keeps its thick, waxy leaves year-round. Both trees produce acorns—a primary food source for many animals including acorn woodpeckers. The Indians used the acorns for flour. The nut meat was ground into flour on flat stones called *metates*. The flour was used in porridge, called *wiich*, an important dietary staple.



The Jeffrey Pine (*Pinus jeffreyi*) is well-adapted to surviving wildfires. As these pines grow, the lower branches die and fall off—this helps prevent the whole tree from catching fire from the flames on the forest floor. Its thick bark—sometimes 6" thick—is the armor that helps insulate the living plant tissue from nearby flames. These adaptations help large pine trees survive occasional fires. Jeffrey Pine leaves are in clusters of three long needles. Their pinecones are large and woody. The bark and pinecones have a distinct smell that you won't forget once you identify it.

Among the plants and shrubs seen along the trail is the Yerba Santa (*Eriodictyon californicum*). This plant grows in hot, dry areas to receive maximum exposure to sunlight. The shrub has oblong, shiny leaves designed by nature to prevent them from drying out in the hot summer sun. The leaves are known as "Indian chewing gum" and many claim it tastes like spearmint.

Rubber Rabbit (*Ericameria nauseosa*) brush was in full bloom everywhere when I was there in the early Fall. It has bright green leaves and bright



yellow flowers. The white stems are an easy way to identify it and are rubbery and flexible. It was studied as a rubber substitute

during World War II. Like Yerba Santa, the bark and wood of rabbit brush was used by Indians for chewing gum as well as tea, cough syrup, and yellow dye. The name is misleading because rabbits don't like the taste. In fact, "*nauseosa*" in its botanical name is telling. Rub a leaf between your fingers, smell it, and you'll know why.

The Pinyon Pine (*Pinus monophylla*) is easy to recognize because it's the only single-needle pine in the world. The nuts are eaten by many animals including birds, rodents, deer, and other wildlife. Pinyon pine seeds, also known as pine nuts, were a significant source of protein for the Serrano.

Long sticks were used to knock down the pinecones as the seeds ripened. It was important to get them before the animals did their own harvesting. Pine nuts were eaten raw, cooked in hot water, and sometimes roasted. Very tasty!

This is a delightful day trip or destination for several days by just traveling up route 38 from the desert floor. The trail is maintained by the U. S. Forest Service and one of those treasures we want to retain for our grandchildren.

West County Gold Miners Team Up with Soboba Foundation for Crops

Contributed by Thurman Howard, UCCE Riverside County Master Gardener



The Soboba Foundation, located on the Soboba Reservation east of Moreno Valley in San Jacinto, is a charitable coalition assisting nonprofit organizations in support of the Soboba band of Luiseno Indians.

The Gold Miners with the assistance of Master Gardener Cindy Peterson, Community Garden Coordinator, worked with the Soboba Foundation in August to plant over 100 vegetable seedlings in a 3-hr window on day one



and completed another planting of 50 more seedlings the next morning. I was able to get some other seedlings donated to this project by Scott Berndt, (RUSD) a leader in the Riverside Gardening community. We were able to fight off squirrels, rabbits, and deer to make this a dream

As stated earlier, this is a delightful day trip or destination for several days by just traveling up route 38 from the desert floor. The trail is maintained by the U.S. Forest Service and one of those treasures we want to retain for our grandchildren.

come true for the tribe. For many years the possibility of having a garden on the reservation was only a dream in the minds of their elders. Because of many failures, funding on this project had been reduced. If we can continue our efforts and bring in a harvest, this will be a major breakthrough and will fuse a solid partnership between the Soboba Foundation and the Master Gardener program.

Upon visiting the garden on August 19, we found the workers so full of pride because their seedlings planted two weeks prior were strong and healthy. We will be introducing biochar to their compost pile. Biochar is carbon introduced to the soil to retain nutrients. I have asked our Gold Miners to find people in their area who could become garden advisors to school, community,



and special requests like Soboba. We have started a list in each area and will share it with all. This goes to prove that we, as Master Gardeners,

can be very effective in an advisory role for community, school, and city demonstration gardens.



Happy Halloween!

Janet's Jottings: Gold Spotted Oak Borer Identification and Control

Contributed by Janet Hartin, MG Program Director



Agrilus auroguttatus, seen in the photo below as an adult and commonly called the Gold Spotted Oak Borer (GSOB), continues to kill susceptible species of oak trees in Southern California with the most recent infestation (larvae, pupal, and adults) found

in dead and dying native California black oaks (*Quercus kelloggii*) in Sugar Loaf (near Big Bear) in August, 2019. Although GSOB was initially identified in San Diego County in 2004, it was not associated with extensive oak tree mortality until 2008. By 2010, GSOB killed over 20,000 oak trees growing in forests, parks, and neighborhoods in San Diego County. Other infestations occurred in Oak Glen (2018), Los Angeles County (2015), Orange County (2014) and Idyllwild (2012).



Unfortunately, most infestations have impacted large oaks valued for their shade, wildlife habitat, ability to sequester carbon from the atmosphere, and beauty. Areas with large numbers of native oaks are particularly susceptible to attack and

many popular hiking trails and campsites are closed to minimize the risk of spread from dropped branches from dead trees.

The GSOB is native to southeastern Arizona. A closely related species (*Agrilus coxalis*) that looks very similar to the GSOB is native to Central Mexico and Northern Guatemala. In its native range, GSOB is not a pest perhaps due to control by natural enemies and resistance by oak species that have likely co-evolved with GSOB. Susceptible oaks in California include coast live oak (*Quercus agrifolia*), canyon live oak (*Q. chrysolepis*), and California black oak (*Q. kelloggii*).

Identification—GSOB larvae feed near the interface of the vascular (phloem and xylem) system, damaging both of these tissues and the cambium. As the photo below indicates, infested trees have black regions of stained bark or sap oozing underneath red bark blisters. Adult GSOB are primarily black and about 0.4 inch long and 0.08 inch wide and have a bullet-shaped body. They can also be identified by an iridescent green sheen and six gold spots on their forewings. Eggs are very small (0.01 inch), laid singly or in clusters in bark cracks on main stems and branches. Larvae are about 0.8 inches long, white and legless. C--shaped spiracles and two pincher-like spines on the end of their abdomen make larvae unique. Mature larvae cluster in a hairpin pattern in the outer bark from early fall through early summer. Pupae resemble the adults in size



and shape and are found in the outer bark from late spring to early summer. They are soft bodied. Tree mortality is caused by larval feeding. Adult beetles emerging from the pupal cell in the bark, use a distinctive D-shaped emergence hole, and feed on foliage making notches along leaf margins.

As the photo above indicates, infested trees have black regions of stained bark or sap oozing underneath red bark blisters.

http://ipm.ucanr.edu/PDF/MISC/GSOB_field-identification-guide.pdf

For a wider array of photos please visit: http://ipm.ucanr.edu/PDF/MISC/GSOB_field-identification-guide.pdf.

Control—Unfortunately, susceptible oak species that are injured over several years from multiple generations of the GSOB often die. Prevention is imperative since there are no known control methods once oaks are infested. Since GSOB is spread by moving infested wood, infested firewood should be used only on site.

Dr. Mark Hoddle, UCR Entomologist is working in collaboration with a team from UC, California Department of Forestry and Fire Protection, U.S. Forest Service and other agencies and entities to educate the public about the pest and greatly appreciate your assistance reducing the impacts of this devastating insect by helping the public report suspicious trees. **If someone contacting you via the MG helpline or at an information table believes a tree is infested on their property, please have them complete and submit the identification request form found here:**

http://help_monitor/Report_Goldspotted_Oak_Borer_Symptoms/

Comprehensive information on GSPB suitable for homeowners can be found at the site below: <https://ucanr.edu/sites/gsobinfo/>



**A DAY OF FREE PROGRAMS ON
DESERT GARDENING**

Grow Natives!

**—Beautiful for you and nature too!!
why, where and how to bring
them into your yard
at UCR Palm Desert**



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UCCE MG Program Director	Janet Hartin
Volunteer Services Coordinator	Rosa Olaiz

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Desert Farmers' Markets	Ron Jemmerson
Gold Miners	Thurman Howard
Grow Lab	Kathy Warner
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IT/Website	David Brandtman
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-Propagation	Brenda Costantino
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Desert Social Programs	Kathy Miller
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WEL	Linda Powell
Desert Workshops	Mary Moses

The *Garden Views* Newsletter is published monthly, September through July, by Riverside County UCCE Master Gardeners. All contributors are UCCE Master Gardeners or UCCE Master Gardeners-in-Training.

Mission Statement

Master Gardener Volunteers are trained by the UCCE Advisors, Specialists and other qualified instructors to provide the gardeners of Riverside County with research-based information to promote environmentally responsible and sustainable horticultural practices. Activities of volunteers are solely educational - without inclusion of any purpose or intention of carrying on a business, trade, avocation or profession for profit.

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Contributed by Ron Jemmerson, Editor

Fellow Master Gardeners, your unsolicited submissions are greatly appreciated and are essential for a healthy newsletter! Without exception those who have been asked to submit an article on a particular subject have been willing to do so. However, without ideas originating from you the newsletter will represent the Editor's perspective and not necessarily a reflection of the broader Master Gardener Program. If you have an idea for a submission but feel you do not have the knack for writing please consider submitting it anyway along with a list of facts revealing the 5 W's (who, what, where, when, and why). These can be sewn together into a script and an edited version will be forwarded to you for your approval prior to publication. If you have a photo you would like to share please be conscious of the composition and clarity. When people are photographed sunglasses and hats that shadow faces should be avoided. Photographs of children are only acceptable with written permission from their parents. With the holidays approaching it would be fitting to publish your secrets related to gifting, gardening, decorating, and entertaining. Ideas for garden crafts would be of particular interest. For publication in the November issue items must be received by the 3rd week in October. Thank you for your support!