



# UCRBG Newsletter

## THE NATIVE AMERICAN GARDEN

By Theresa McLemore

During this time of change and uncertainty it is not obvious to all what exciting developments are occurring at the UCRBG. In late 2019 we began to prepare the Native American Garden site. After grading, collecting plants, and modifying the original plan to better accommodate our visitor experience, we were ready to get to work. With pickaxes and shovels in hand we literally trenched in and began the process of bringing this beautiful garden to fruition.

With pathways, irrigation, and plants in place we are now ready to create plant and interpretive signage. The Native American

Garden contains many plants that are relevant to Southern California Native

American culture. The signage will honor the plants by using their Cahuilla

names as well as the Latin names. Once slightly matured, this garden will not only display colors and fragrance, it will also showcase plants traditionally used for food, fiber, and

medicine. This garden will also be featured as a GIS Story Map available online. The Story Map application will reveal other plants in various areas of the UCRBG



*Peritoma (Isomeris) arborea*, bladderpod

that are important plants in the American Indian culture in Southern California. This area will also be integrated into the existing docent tours, giving our visitor an opportunity to focus on the importance of this garden.

When we transition to a better time and we open our gates to our valued visitors, please include the Native American Garden in your places to see. The Native American Garden's beauty and purpose will patiently await your presence and appreciation.



*Opuntia basilaris*, beavertail cactus

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## Director's Report - Dr. Jodie Holt



Who would ever have expected that since our last Newsletter was published in March the world as we know it would be so changed? When I became Director in 2016 I never expected the job to entail such wildly diverse responsibilities, challenges, joys and sorrows, nor would I ever have imagined having to reset my

expectations to manage a public university botanic garden that was closed due to a pandemic.

I expect that for most of you it also took a few weeks to adjust to the new normal of staying home, reconsidering daily habits, and wondering what was ahead. Along with other campus leaders I was charged with identifying essential staff to perform critical tasks and enabling others to work remotely. We sent student workers home, stopped work on new initiatives, moved weekly meetings online, and watched with horror as weeds overtook the Gardens. We cancelled all programs, tours, photo shoots, conference room rentals, spring plant sale, and Primavera, resulting in enormous loss of revenue.

In the midst of these challenges we have been hit with a rash of break-ins that have tested our resolve as we repair vandalized fences and gates and secure vulnerable plants. In addition to cost of repairs and value of lost plants we've spent significant time and money adding security measures. Sadly, with increased popularity and visibility comes greater risk of unwanted behavior and we can no longer operate with our entrance gates unattended and our collection and sale inventory unsecured.

Yet (on most days) I feel optimistic about guiding the Gardens through this crisis. Our staff are extraordinary! Each one has stepped up in this difficult time to work hard, go beyond what's expected, offer great ideas, and display a positive attitude. CNAS Dean Uhrich has provided support and a conduit to campus leadership as we develop our reopening plan. Our BEES admin team has been responsive to our requests while working remotely. UCR Facility Services has been on-call for our infrastructure and security needs, even performing life-saving "CPR" on our septic system. UCR Printing & Reprographics rushed to mail our Spring Newsletter on the last afternoon that UCR was open. Ag Ops Director and staff came with but a moment's notice to help us move plants off-site to a secure facility, while UCR Police have worked tirelessly to stop our break-ins and thefts. These are just a few reminders that the Gardens are more than an extraordinary nature oasis; it's the people who make it so.

Now more than ever we hope you will get involved in the UCR Botanic Gardens by visiting our NEW website, reading our eNews, following our social media, volunteering if you are able, becoming a member, and staying connected. As always, please feel free to contact me at [bgdirector@ucr.edu](mailto:bgdirector@ucr.edu) or 951-784-6962.

Jodie

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## Wildlife of the Gardens

### California Ground Squirrel

By Michele Felix-Derbarmdiker

On a hike or neighborhood walk, it can be commonplace to hear a robotic/metallic like call. You may have never noticed or perhaps attributed it to an odd sounding bird or nearby human. In reality, it is likely that you have heard the warning call of a California ground squirrel (*Otospermophilus beecheyi*). These animals are often viewed as destructive pests but they are actually vigilant sentinels who play an integral role in local food webs.

#### Habitat/Feeding

The California ground squirrel, or Beechey's ground squirrel, is an adaptable species, easily at home in many habitats but not dry deserts. It can be found from Washington to Baja. Their main habitat requirement is loose soil to enable burrowing. Unlike many squirrels, this squirrel makes its home underground rather than in a tree. Burrow systems are semi-colonial with possibly several generations sharing the system but each having their own entrance. Burrows offer a quick escape from predators and a place to store food, so these squirrels don't venture far; usually no more than a football field in length away from an entrance.

Ground squirrels feed mainly on seeds. They will also eat tubers, insects, fruit, fungi, and bird eggs. They will cache or store excess food. Often food seed caches are forgotten and result in new plant life. In addition to helping distribute seeds, they also aerate soil, provide burrows for other animals and serve as a food source for many animals.

#### Breeding

Breeding occurs once a year in late winter or mid-spring, depending on climate. Courtship does not involve any fancy song or dance. Males simply chase females around until she accepts a partner. It is common for the females to mate with more than one male and for litter mates to have different fathers. A female will give birth to an average of 5-6 pups. Only the mother provides care and will move them often between burrows to ensure their safety. After only 8 weeks, the pups are weaned. They are sexually mature at 1-year-old.

#### Identification

Like other animals that find themselves on the dinner plates of



many other animals, camouflage is a ground squirrel's best friend. It is no surprise then that their fur is a mottled mixture of white, brown, gray, and tan. When you spend a lot of time on the ground, this color combination provides an excellent disguise. A white fur ring around the eyes is also present and thought to help protect their eyes from glaring sun. This squirrel is often confused with the fox squirrel, but ground squirrels don't have the yellowish undersides and have a slender less bushy tail.

#### Threats

Currently the population of California ground squirrel is considered stable. While they do fall victim to vehicles and rodenticides, their main threat comes from natural predators. Ground squirrels are preyed upon by birds of prey, coyotes, raccoons, weasels and foxes but their main predator is the rattlesnake. However, the squirrel does not take this threat lying down. Ground squirrels are extremely observant and will raise the alarm at the slightest threat. They will also mask their scent with discarded snake skin. Adults also have varying degrees of immunity to rattlesnake venom. If all of this has not kept the snake away they will deploy a series of rapid tail wags, dirt throwing, biting and scratching. They can even fill their tail with blood, confusing the snake into thinking it is taking on a bigger animal. This is no mere sentinel, but a knight willing to go head first into battle.

*Michele is a UCR graduate who worked as a field biologist for 6 years throughout Riverside County and is currently a naturalist for Riverside-Corona Resource Conservation District.*

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NOW!

# Become a Friend

Support the Botanic Gardens and join or renew your Friends membership at <https://gardens.ucr.edu/friends>.

## What to See in the Gardens

Article and photos by Miguel Estada

I understand that many of you did not get a chance to check out my Spring 2020 choices of “What to See in the Gardens” due to the closure. For that reason I thought it was fitting that this time I show you how the Gardens looked in Spring through a series of pictures from our themed and geographical collections. My recommendations are motivated by factors other than spring blooms, which means that these areas can be part of your visit any time of the year. I also thought it would be fun to show you progress photos of two projects we worked on this year in Alder Canyon and the Native American Garden.



**North American Desert** is located on the north end of the garden or left of the entrance. This part of the Gardens contains Southwestern US desert plants with emphasis on those cacti and succulents native to the Mojave and Colorado Deserts. The specimens in this section display their blooms and adaptive features (waxy cuticle, fleshy stems, spines, etc.) to create an astonishing and eclectic look.



**South Africa** is located east of the North American Desert section and is filled with striking aloes, ice plants, and South African bulbs and wildflowers. While these plants resemble North American Desert cacti and succulents, they are morphologically similar but completely unrelated due to convergent evolution.



**The Rose Gardens** are located south-east of Alder Canyon. The shrubs in this collection have gone from rows of bare branches in the winter to robust bushes adorned with blossoms of

various size and colors. We have been working hard to weed and mulch to add a little more to the already delightful look of these gardens.

**Ficus Grove** is located south of Alder Canyon by trail marker



30. As the name suggests, you will find a collection of *Ficus* species ranging from the small, around 15 ft., to the exceptionally large growing above 50 ft. and a spread greater than 70 ft.

**Alder Canyon turf renovation project** After our last Fall Garden Market & Plant Sale in October 2019, it was time to nurse our grass back to health. The area was aerated to help with compaction and we removed layers of organic matter sup-



pressing the grass. We also removed bermudagrass for uniformity. Once the soil was prepared, we seeded and secured those areas. With consistent watering and occasional weeding our turf has grown in full and is ready for visitors.

**Native American Garden installation project** –We broke ground on October 23, 2019. We used shovels, picks, sledgehammers, and a small Kubota to prepare the site. The original concept drawing did not have a walkway, but we made that change to



invite visitors for a closer look. That path had a subsequent revision to extend the flagstone into the decomposed granite from our delineated route for the same intent of inviting visitors to explore it all. Once the plants were in, we made one last change. We wanted to have defined planters within the garden. To accomplish this, we harvested 300 ft. of 3-5 in. diameter wood to encircle the specimens. We also added larger diameter pieces to separate this new garden from the neighboring Herb Garden. The result is a labor of love that has given us another garden for you to see, walk, and enjoy.

## Gardens Reopening Update

By Jodie Holt

The Gardens staff and I are eager to welcome you back to visit and immerse yourselves in the healing power of nature that the UCR Botanic Gardens offer. We are working hard to restore the safety and beauty of the Gardens that were severely impacted by 2.5 months of closure, during which our staffing and work were limited to essential tasks only. We are also working hard to develop a robust reopening plan that is guided by science and prioritizes the safety, security, and health of our staff, volunteers, and visitors. However, it is only with your cooperation as a visitor that we will be able to succeed in this reopening.

When we launch our Phase 1 reopening you will find some restrictions in place to prevent spread of Covid-19, including the following:

- ▶ Staff gate attendants to insure adherence to all policies
- ▶ Facial masks or coverings required for entry
- ▶ Physical distancing of at least 6 feet required from others not in your party
- ▶ Group size limited to 10 persons
- ▶ Designated restrooms open with hand sanitizer available
- ▶ Drinking fountains closed but bottle hydration stations open
- ▶ New touchless online functions including payment of admission donation
- ▶ Limited open days and hours and limited visitor capacity as staffing permits



A hummingbird enjoying the quiet Gardens

When allowed by state and local authorities and UCR, Phase 2 will be launched with some restrictions eased but still following recommendations for facial masks, physical distancing, and group size and capacity limits.

Going forward we will operate a little differently in the “new normal,” but we will continue to welcome you to our beautiful nature oasis, offer enriching educational experiences, and plan engaging events. Please visit our website often for updates as we move towards reopening.

## Volunteer Photo Contest

One thing we have greatly missed during this campus closure is interacting with our wonderful volunteers. We have made an effort to stay in touch with them by calling, emailing, texting, posting photos on Facebook and Instagram, and we even had a photo contest for volunteers. All the photos were wonderful but the winners were George Spiliotis’ “Little Purple Orangutans” and Claudia Clark’s “Southwest Desert”. Thank you to all who participated and thank you to all our volunteers who have given many hours to support the Botanic Gardens. Their prize is their choice of one of the Botanic Gardens’ swag items (water bottle, set of coasters, tee shirt, baseball cap, garden kneeler, coffee mug, or tote bag). [\(View all photos here.\)](#)



## Butterfly Corner

### Checkered Skipper

Article and photos by Ann Platzer

The Checkered Skippers, genus *Pyrgus*, are small, black and white energy machines that often try one's patience when attempting to get a good look at them. Close focusing binoculars are highly recommended. They usually land with their wings open hence the group name "spread-winged skippers." Of the eight species of Checkered Skippers, two species are found in Southern California that are virtually indistinguishable, namely the Common Checkered Skipper, *Pyrgus communis*, and the White Checkered Skipper, *Pyrgus albescens*. They can be differentiated only in the laboratory by examining the male genitalia.

These butterflies are recognized in the field by their extensive white spots on a black background (Photo 1: Adult dorsal surface). Their wingspan is about 1 to 1 3/5 inches.

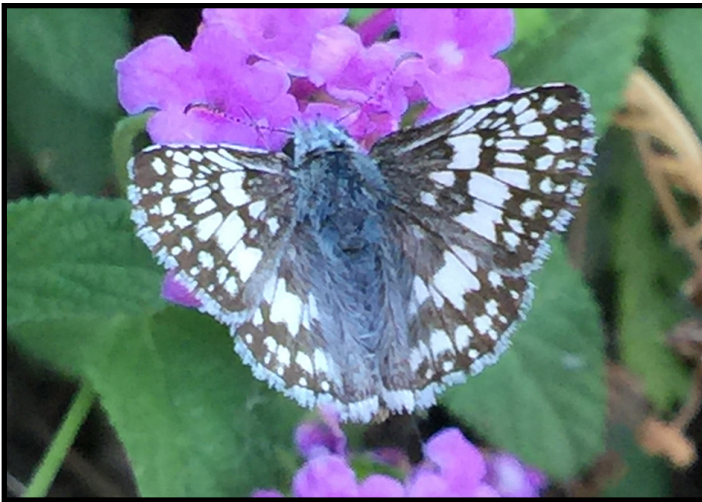


Photo 1: Adult dorsal surface

The Common Checkered Skippers, as the name implies, are common throughout California, in fact throughout the continental United States, from the Atlantic to the Pacific and also the Southern Canadian provinces from Ontario to British



Photo 2: *Sphaeralcea ambigua*, apricot mallow

Columbia then south to Argentina. On the other hand, the White Checkered Skippers have a restricted range that extends mainly from the Transverse Range southward throughout Southern California.

The females lay eggs singly on the leaves of their host plant mallow, family Malvaceae. In Southern California the habitat of both species includes a wide variety of open disturbed places, especially lowlands around wastelands or agricultural areas where there is a prevalence of their host plant mallow, both native and introduced. When caterpillars are not feeding they snooze in rolled-up mallow leaves. The mature larvae hibernate. These Checkered Skippers have many broods and their flight period is mainly February to October although they have been recorded for all twelve months in Southern California.

Please welcome these two Checkered Skippers into your butterfly garden by planting the apricot mallow, which is colorful, native and drought tolerant (Photo 2: Apricot mallow).

Happy Butterfly Gardening!

*AP*

Thanks to Edward Platzer for reviewing this article.

### Support the Gardens

During this extraordinary time of pandemic and closure, we continue to support our staff, maintain the Gardens, and plan for reopening. If you are able, please consider supporting the Gardens as we move into a new and hopeful future. Donations may be made online with a secure credit card payment process by visiting <https://gardens.ucr.edu/donate>.

Thank you!



## In The Works

By Botanic Gardens Staff

Following closure of UCR and the Botanic Gardens on March 16, only critical tasks to insure safety, security, and maintenance of the collection were permitted on site, while other work could be done remotely where possible. In spite of having no student workers or volunteers on site until very recently, we've accomplished a lot!

On-site work:

- ▶ Significant spring rains caused runoff and erosion around the upper nursery area. Safety repairs were made and channels and drains have been built to reroute future runoff.
- ▶ Trails are being repaired and weeded and overhanging plants are being pruned to open up and improve safety of walking spaces.
- ▶ A new security gate was installed on the road to the Subtropical Fruit Orchard and other perimeter gates and fences were repaired and better secured.
- ▶ Weeding is constantly underway with priority on the most popular themed gardens; progress is also being made in the geographic gardens.
- ▶ The Alder Canyon lawn has been pampered with renovation and transition to hand mowing, clipping removal, and calibrated irrigation; combined with lack of traffic it is thriving and looks like bright green velvet.
- ▶ The Butterfly Garden has been pruned, weeded, fertilized, and the butterflies are busy!

Remote work:

- ▶ Our website is being migrated to a more modern platform that is easier to manage, augment, and update and is much more informative, dynamic, and beautiful.
- ▶ Janine has made significant advances in updating our collection database and installing plant and bed labels. The Rose Garden maps are now up to date and we have over 600 roses in our Rose Gardens!
- ▶ We are working on new Story Maps, interactive GIS-based apps that combine maps, images, and text to tell a story. In addition to our North American Desert Story Map we will soon add Story Maps of the Native American Plants Garden, new Conservatory Plant Evolution display, and Plant Ecology, which is based on a Plant Biology lab exercise.
- ▶ An updated brochure is being produced for the Colonial Herb Garden and a plant map is being produced for the Butterfly Garden.
- ▶ We launched an online, touch-free system for volunteers to record work hours.
- ▶ With assistance from BEES and the UCR Foundation we launched an online, cash-free and touch-free system for making admission donations at the entrance gate.
- ▶ Plans are underway for holding our first Online Plant Sale. Although we will not be back to normal operations, we look forward to offering you a selection of our beautiful plants propagated on site. To insure safety of our staff and participants all purchases must be made online in advance and touchless pickups will be scheduled. We look forward to launching this new option for selling plants from the Gardens to beautify your landscape. More details will be sent out soon!



Drainage repairs near upper nursery



Lois Whyde on the Kubota



Jenna James & Jorge Fregoso hauling away the weeds



The Butterfly Garden

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# UCRBG Virtual Opportunities

More Story Maps and virtual tours to come!

- **GIS Map App**

<https://ucr.maps.arcgis.com/apps/webappviewer/index.html?id=36bf2fdff28f4339988321700f82f071>

- **A Story Map of Plant Ecology in the UCR Botanic Gardens**

<https://storymaps.arcgis.com/stories/5bf2faff85d4ae3beeda2e2e3ba18d5>

- **Deserts of the Southwest Story Map**

<https://arcg.is/1n9WGa>

