Rose Haven Spring Outing
On April 28th the Gardens hosted a Friends outing to Temecula to visit Rose Haven Heritage Garden. It was a beautiful day to visit the 4-acre garden dedicated to roses and their companion plants. The property is owned by the Temecula Valley Rose Society and members of the society maintain the majority of it. Each member “owns” a small plot and gets to design and plant it with their favorite roses and companion plants. The outcome is very impressive! Our tour guide is related to one of the founders of the garden and gave us inside stories as she led the tour. All 18 Friends who made the trek enjoyed it very much and we even received a thank you letter telling us what a nice time they had visiting the beautiful garden. After the tour, Janine and Jodie handed out delicious picnic lunches, provided by Baguette Bakery & Café, and attendees rested and picnicked under a large pepper tree.

Spring Garden Market & Plant Sale
What is a perfect day in the UCRBG? It would be a day where 2000 gardening enthusiasts show up at one event, the Spring Garden Market & Plant Sale. Prior to opening, carts and wagons lined the driveway, and shoppers had their lists in hand eager to find plant treasures to take home. For months our staff and volunteers had been busy propagating and nurturing a plethora of plants to be available to these passionate gardeners. There were vendors that provided even more plant variety with Australian, native Californian, South African, and tropical plants, as well as whimsical succulent planters. There were delicious refreshments available and various plant societies to visit. One had to negotiate around the crowds that surrounded the insect display by the UCR Entomology Department, and the UCR Microbiology & Plant Pathology Department was busy answering many questions that our shoppers had. The UCCE Master Gardener Grow Lab provided a cornucopia of fruits, vegetables and herbs for summer gardens. Master Gardeners were also available for advice, identification, and gardening guidance. All in all, it was a delightful day to meet old gardening acquaintances and make new ones. So if you missed this event, look forward to the next Garden Market & Plant Sale in the fall, where you will be sure to find whatever your gardening heart desires!

continued on page 3

Inside This Issue
Spotlight on... New GIS Map .......... p. 4
Photos from Primavera ............ p. 6, 7
Birds of the Gardens - Wilson’s Warbler..... p. 8
Butterfly Corner - Mormon Metalmark ..... p. 10
As another academic year comes to a close and I reflect on the past year as Director, I am proud and gratified by how much we have accomplished here at the UCR Botanic Gardens. As you will see when you visit, our talented and energetic staff have continued to beautify and improve our gardens, trails, and facilities. New maps, signage and literature at the Gardens entrance offer visitors a more informative and enriching experience. Our greenhouse will soon receive a new roof, allowing us to create a conservatory to display unique shade-loving plants. If you came to the Spring Garden Market & Plant Sale you saw our beautiful new tee shirts worn by the staff and offered for sale, and if you came to Primavera in the Gardens you saw that our Gatehouse was being used for the first time for cashiering, and plants and tee shirts were offered for sale at our first pop-up Garden Shop. As you will read in this issue of the UCRBG Newsletter, we have launched several new initiatives, such as our GIS educational tool to assist visitors in learning about plants, locating them, and viewing photos of specimens while exploring our gardens.

What you might not notice is that over this past year we have begun to transform many of our operational processes with the help of our campus partners. Directing a botanic garden is similar to running a small business and requires a team with broad vision and expertise in many different areas. It is my great fortune to be surrounded by not only an extraordinary staff at the Gardens, but an entire campus with whom we partner daily. In contrast to municipal or private gardens, as a part of the UCR campus we have an abundance of support and services available to us, often at little to no cost. Thus, in addition to working with BEES, our campus administrative unit, to revamp our plant sales for greater impact and sustainability, we have partnered with University Communications to develop a more effective communication strategy, with University Advancement to coordinate and improve management of our membership database, with CNAS Human Resources to streamline volunteer onboarding, and with Architects & Engineers to assess and plan for facility maintenance and capital improvement. If you attended Primavera in the Gardens you enjoyed the benefits of our partnership with the CNAS Development team, who were instrumental in helping us transform this beloved event into an even more elegant, professional, and successful fundraiser for the UCR Botanic Gardens. Of course none of this would be possible without our partnerships with you, our members, and our incredible volunteer corps!

To all our Friends members, volunteers, visitors and UCR partners, we are indebted to you for your enthusiasm, loyalty, and support as we navigate another year of change. As always, I welcome your feedback and input; contact me at bgdirector@ucr.edu or 951-784-6962. You are what make the Botanic Gardens great! – JH
20th Anniversary Primavera in the Gardens

For this special 20th anniversary of Primavera in the Gardens, our largest annual fundraiser, we enlisted the expertise and support of University Advancement to make this year’s event truly memorable. Guests were guided through the Gardens Conference Room where they were greeted by the Director and updated on the vision and special projects in the Gardens their donations support. Each guest received a newly designed 20th anniversary Primavera wine glass and exited the conference room to an array of vendors serving fine foods and beverages. We were gratified by the support of 15 sponsors this year, who were escorted by student Ambassadors to reserved seats under canopies or in the shade. Including sponsors, over 350 guests attended Primavera this year, who found additional seating in the shade of trees in Alder Canyon.

Music this year was provided by Marti & the Smooth Catz, playing retro rock and smooth jazz in the turnaround with a beautiful desert background; Professor Tom Perring, playing acoustic folk music in Alder Canyon; and for the first time, the UCR student jazz combo, Anthology, playing near the Gardens entrance for all to enjoy. Appetizers and desserts were provided by 11 local restaurants as well as UCR’s Citrus Grove Catering, and beverages were provided by 7 local wineries, 4 local craft breweries, and Augie’s Coffee House. The ever-popular Silent Auction, organized and staffed by volunteers, offered numerous items for competitive bidding, and raised over $4,200 to support the Gardens. Our first pop-up Garden Shop, open for 1.5 hours, cleared $450.

Primavera could not have happened without generous donations by many of time, talent, and funds. We gratefully acknowledge our UCRBG staff for making the Gardens so beautiful for this special event; our hardworking Primavera team for organizing and managing the event; dozens of volunteers and student Ambassadors; our generous vendor, florist and silent auction donors; and our sponsors and guests; all of whom helped make our annual fundraiser a resounding success! jH
Spotlight On... The New GIS Map
By Mike Cohen and Janine Almanzor

The new Interactive GIS Application (app) for the UCR Botanic Gardens has been officially released to the public! We have utilized Esri Enterprise ArcGIS Online, so the “power of where” can be integrated into the project. To make this app user friendly, we want to provide a few tips on how to navigate your way through it.

The application can be loaded on your smart phones to view your location in the Gardens. The 3” resolution aerial imagery will allow you to navigate to almost any point and locate a selected specimen. The app can also be used on desktop computers and tablets when you aren’t physically in the Gardens.

To get started you can either scan the QR code below:

![QR Code Image](image_url)

or for desktop users who don’t have access to a QR code reader please see the link on the Botanic Gardens home page at: [www.gardens.ucr.edu](http://www.gardens.ucr.edu).

The Splash Screen will always pop up before the GIS application loads. The upper section of the Splash screen shows tips on using the app, and the lower section contains legal information on limitations of the data and how it should be used. We will put updates on the Splash Screen to reflect upcoming events or other timely information about the Gardens. You can also check out the “W” Welcome icon for current information and other useful links. Once you review and agree to the terms and conditions, press Go to enter the app.

The map will open to an aerial view of the whole UCR Botanic Gardens. On the bottom of the screen are handy tools. From left to right you will find:
- Layer Icon - You can turn layers off and on as needed in your session. They will come back by default when you reload the app.
- About Icon - Currently has our contact information
- Ruler Icon - To measure distances on the map
- Print Icon - To print a screen shot
- Filter Icon - A powerful tool to rapidly update the display with just what you want to see. You can filter on genus, common name, family, or accession number.

On the left side of the screen there are four icons:
- Plus & minus - For zooming in or out, or you can use your mouse on your computer or your fingers on a mobile device
- Home - For bringing you back to the original home screen
- My location - This will bring you to your location and a blue dot will appear. Only use this feature if you are in the Botanic Gardens.

To locate a particular plant, you can zoom in on the home screen and the Latin names of the plants will appear. If you only know the common name or a portion of it you can use the search function at the top of the screen, which can search by common name, Latin name, family, or accession number. Just type in what you know and a list will drop down with every plant containing those letters. When you click on the plant you want the app will bring you to that plant and a pop-up window will appear. Use the arrows on either side of the picture to scroll through the photos and click on a photo to enlarge it.

*Continued on page 5*
Many ongoing projects have been completed and new ones initiated since we began this new feature article in our last issue.

Following our fall lecture on roses, several Rosie the Riveter floribunda roses were donated by Weeks Roses and planted in our largest rose garden, along with a beautiful framed plaque commemorating our nation’s WWII Rosies.

At long last, our greenhouse is being re-roofed in order to improve the growing conditions for the special collection it houses.

At Primavera we officially launched our new UCRBG GIS app for both desktop and mobile devices, accessible by a simple QR code posted on our website and entrance message board. This ongoing project allows visitors to explore our collection and gardens both on- and off-site. New plants, gardens, photos, facilities and aerial imagery will be added over time so check the site often!

GIS Map of the Gardens, continued

When you are in the Gardens click on the location button to locate where you are. If you have good coverage from your cell service provider, you will enjoy the interactive features on your phone. You will be able to see your location on the phone and see what’s all around you. You can then click on features on the screen to get the pop-up window with pictures and details about that specimen you are looking at.

For some of our thematic and geographic gardens we have included virtual reality imagery in full 360° grandeur that will compel you to visit! Currently there are 360° photos of the desert section, CA North Coast, Butterfly Garden, and Bobcat Rocks. We currently have 156 specimens on the map and will continue to add more as time permits, as well as more 360° photos. We are also working on adding a layer with all the Botanic Gardens memorials. We sincerely hope this interactive app will enhance your Gardens experience!

Mike Cohen and fJ

A new brochure holder has been installed at the Gardens entrance so we can display our informational materials more effectively and also offer literature from UCR, CNAS, and relevant local organizations.

A new line of tee shirts was produced displaying our new UCRBG brand and offered for sale at the Spring Garden Market & Plant Sale. Other branded merchandise is being considered.

For the first time, the Gardens Gatehouse was used for cashiering at Primavera, where guests purchased their Silent Auction items and also were able to purchase plants and tee shirts at our first “pop-up” Garden Shop.

With a goal of increasing our educational and outreach activities, we have revised our Conference Room rental policies to allow only events that are compatible with the mission of the Gardens, thereby protecting our facilities for Gardens-relevant activities.

As another reminder that trees are constantly growing and aging, a large branch fell from a poplar tree in Alder Canyon. As we did last year, we have enlisted a professional arborist to inspect that and other trees to insure that any compromised branches are removed.

JH & TM

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Doris Rhine
Birds of the Gardens
Wilson’s Warbler
By Chris Swarth

The bright yellow Wilson’s Warbler is one of ten warblers that can be spotted in the Botanic Gardens in the spring. This diminutive insectivore stops off here en route to breeding grounds that extend to northern Alaska. Peak migration occurs from mid-April to mid-May. As with many songbirds, the song is often the easiest way to detect their presence. The Wilson song is a series of 4 to 15 rapid, persistent, chattering notes that drop in pitch toward the end. But seeing this bird up close is always a delight. The tiny dark eye set on the yellow face is striking. Atop the head, the male wears a glossy black cap, whereas the female usually has a dull olive cap. They are active gleaners, moving about quickly among the foliage in search of insects.

Wilson’s Warblers do not nest on the campus. To see them on their breeding grounds you’ll need to travel to the high slopes of Mt. San Jacinto where they occur in shrubs and undergrowth in wet habitats. Low willows are one of their favorite haunts. The San Jacinto Mountains are the southernmost breeding site for the species. Long-term drought in the west and the drying of mesic considered a main cause for a contraction and northward shift in their breeding grounds. Ornithologists with the Los Angeles Natural History Museum recognized a great decline in breeding Wilson’s Warblers in southern California generally since the early 20th century, and surveys indicate this decline continuing from 1969 through 2012.

For 23 years Chris Swarth was director of a wetland sanctuary and field station on the Chesapeake Bay. From 2013 to 2016, he was director of the Vernal Pool Natural Reserve at UC Merced. Currently he is assisting California Audubon and the Western Riverside County Biological Monitoring Program with studies of the endangered Tricolored Blackbird.

Below is a partial list of birds that were seen/heard:

**Notable migrants and rarities**
- Hooded Oriole
- Ruby-crowned Kinglet
- Rufous Hummingbird
- Phainopepla
- Cassin’s Vireo or Plumbeous Vireo (identity still debatable)
- Black-headed Grosbeak

**As well as “regular” Gardens inhabitants:**
- Anna’s Hummingbird
- Costa’s Hummingbird
- House Wren
- California Towhee
- Spotted Towhee
- Nuttall’s Woodpecker
- Red-tailed Hawk
- Scrub-Jay

If you haven’t attended a Birdwalk/Breakfast you MUST consider coming out to a future event. Not only is it a pleasure to walk through the Gardens in the quiet of the morning but adding bird watching to the walk is a real treat. We typically schedule these walks in spring and fall so watch for details for the fall Birdwalk in the next Newsletter. As always, we hope to see you in the Gardens.

**Bird Walk and Breakfast**

On April 14th almost 30 birders attended the Birdwalk/Breakfast event at the Botanic Gardens. We got an early start, and after introductions and an overview we were moving our way through the garden trails by 7 a.m.

**Norm Ellstrand** (expert UCR birdwatcher) and **John Green** (expert birdwatcher from the San Bernardino Valley Audubon Society) led two groups in search of birds, so we had two very experienced birdwatchers leading the way. It was a beautiful morning and not only did we see many birds (see the list to the right) but we also were able to enjoy the Gardens in full spring bloom!

Following the walk we met back in the Gardens conference room for a continental breakfast and a recap of our sightings.

*Amber Jones*
What to See in the Gardens
by Theresa McLemore

Every season in the UCR Botanic Gardens reveals its own beauty. Fall shows warm hues, winter exposes beautiful shapes, spring displays hope in the form of flowers and summer provides all of the above plus the usual heat of the Inland Empire. Luckily the Gardens has abundant shade in the canyons and geographic gardens along the western slope.

Perched above the Turtle Pond are two very large Taxodium mucronatum or Montezuma bald cypress. In the summer the trees’ branches are covered with a combination of the older needle-like leaves that are warm in color and the bright green needle leaves of summer. The branches have a weeping appearance that seem to be reaching for the water. The Nahua, an indigenous people of Mexico and El Salvador, call these trees “old man in the water.”

In the North Coast Redwood Forest you will find many California natives and amongst them is an Aesculus californica, or California buckeye. As a deciduous species, in the summer it exposes its graceful branches and silvery bark. At a time when most trees are in leaf it is bare, expressing its need for very little water.

When you see the Rose Gardens you could describe them as an artist’s palette of colors. All three of our Rose Gardens (Upper, Lower, and Heritage) are bursting with color and fragrance at this time of year. These gardens are definitely a favorite spot for many of our visitors.

Alder Canyon is host to many leafy trees and shrubs that provide an inviting canopy and escape from the summer heat. While sitting on a bench or on the cool green grass it can be 10 degrees cooler than other areas of the Botanic Gardens.

Whatever the season, it is a good time to visit the UCR Botanic Gardens and view firsthand the beauty that this remarkable oasis provides.
The Mormon Metalmark, *Apodemia mormo*, family, Riodinidae, is an exquisite little butterfly with a wingspan ¾ - 1½" and is fairly common wherever its host plant grows. The upper side is brightly colored: orange-brown to black, checkered with black and white spots and tan to orange-red patches (Photo 1). The underside is also colorful with white spots; its forewing has orange patches. However, please note that although it is brightly patterned, geographical variability occurs. But get a look at the huge eyes: they are lime green and seem to pop out! (Photo 2).

Habitat includes rocky canyons, hillsides and sagebrush steppes. In particular, look for the butterfly in open sunny spots that support a high density of its larval host plant, the buckwheat, *Eriogonum* species. It is especially fond of California buckwheat, *E. fasciculata*, (Photo 3) which forms a three-foot tall, nicely rounded bush. This plant is numerous in the Box Spring Mountains and also by Central Avenue near Canyon Crest, where it starts blooming in February. It is a stunning plant with white flowers with colorful red stamens.

Consider it as an excellent drought-tolerant plant for your butterfly garden. Not only will you have an attractive host plant but it will also serve as a nectar plant for other butterflies.

The Mormon Metalmark is an extremely lively butterfly, as Ed and I learned when we watched four flying quickly and low to the ground. They were taking nectar from deer weed in the bright sunshine late in April this year (Photo 1). Sure enough, buckwheat was close by. The four were in various stages of “disrepair”. Note the left hind wing in photo 1. Even the badly battered one was still very lively.

The female lays eggs in small clusters of two to four or even singly.

The larva snoozes during the day in shelters of leaves tied together with silk, and is a night owl, emerging after dark to feed. The young larva feeds on leaves; older ones also eat stems. The larva hibernates sometimes inside inflated stems of the host’s plant or under litter. Flight time in Southern California is March to October and there are two broods.

About 1500 species of Metalmarks occur worldwide, nearly all in the South and Central American tropics; only about 20 species occur in western United States and Mexico. The Mormon Metalmark’s range is western North America with peripheral colonies located in Canada and Mexico.

Ed and I first saw this pretty little butterfly on Wilson Valley Road in April 2008 and then again in 2018 at the base of the Santa Rosa Plateau. Be patient, look low and you should be rewarded with gorgeous views of the Mormon Metalmark. Happy Butterfly Gardening!
Thank you so much to those who generously gave of their time and resources to make this event possible.

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UCRBG Calendar of Events

June 28, Thursday  
Friends’ Member-Only Annual Meeting, Conference Room, 6:00 p.m. - 8:00 p.m.

July 21, Saturday  
Twilight Tour, 6:30-8:30 p.m.

August 18, Saturday  
Twilight Tour, 6:00-8:00 p.m.

October 20, Saturday  
Fall Plant Sale - Members’ Preview 8:00 a.m. - 10:00 a.m.
Fall Plant Sale - Public 10:00 a.m. - 4:00 p.m.

October 21, Sunday  
Fall Plant Sale - Public 9:00 a.m. - 3:00 p.m.

November 3, Sunday  
Art in the Gardens 10:00 a.m. - 3 p.m.

Volunteer orientations are held the second Tuesday of each month at 9:00 a.m. in the conference room.