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UCRBG Newsletter

Little Miss Stinky

By Janine Almanzor

Photo 1: Little Miss Stinky fully open

Sunday, July 24, 2022 was a big day for the Botanic Gardens. Almost 1,700 people came to see, and smell, Little Miss Stinky! Although we have several corpse plants (*Amorphophallus titanum*), and our oldest is from 1995, this was the first time we had one bloom. It's a rare event, but it's even more rare that it took this long. Most plants take seven to ten years to bloom but ours took 19 years! Our not so state-of-the-art temperature and humidity control and infrequent fertilizing may have contributed to our plants being late bloomers. Riverside weather is tough on plants that are native to Sumatra, Indonesia, even if they're in a greenhouse. After the first bloom, it should take less time for subsequent blooms...hopefully. We learned a lot in a very short amount of time that will help us in the future.

Our Little Miss Stinky was given to us in 2007 from the Huntington Botanical Gardens. They had a plant they called Big Stinker bloom in 1999, which was the first time a corpse plant bloomed in California. It bloomed again in 2002 and the pollen was collected, frozen, and given to UC Santa Barbara in 2003 for their bloom. UCSB gave the Huntington some of the offspring to distribute, and we were one of the lucky recipients.

Another common name for this species is titan arum, since it is in the arum family, Araceae. Other members of the arum family that you may be familiar with are calla lilies and anthuriums. Leaves and blooms of these species are produced from an underground corm, a swollen, modified underground stem that stores food. They all have a flowering spadix surrounded by a petal-like bract called a spathe that can be very showy. At the base of the tall spadix, hidden under the beautiful spathe, are hundreds of male and female flowers (Photo 2) .

Photo 2: Male flowers above female flowers

The corpse plant is quite unusual in that it only produces one leaf at a time. What appears to be a trunk is the petiole of the tree-like compound leaf. Miss Stinky's last leaf was about

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In This Issue

Director's Report - Dr. Jodie Holt

Summers are usually quiet in the Gardens; campus slows down after the quarter ends, visitors avoid the heat of midday, and we use the time to catch up on tasks and take some time off. This summer was an exception for one eventful week in July when our first corpse plant bloomed! As you can read in our cover story this is an unexpected and hugely gratifying event for any botanic garden, and we were all delighted that at nearly 20 years of age our Little Miss Stinky produced not a leaf but a huge inflorescence. Be sure to visit the CNAS page dedicated to Little Miss Stinky at https://cnas.ucr.edu/corpse-plant.

As a botanist I follow news of corpse plants blooming in other botanic gardens, but it is challenging to see one fully open since the window of opportunity is about 24-36 hours. Happily, Little Miss Stinky was my first experience seeing one open and I was not disappointed. Several of us spent hours just watching her grow and expand, even holding an impromptu midnight "watch party" with beach chairs and popcorn.

An event like this deserves to be shared, but we had little time to prepare. It was therefore gratifying to us to experience an enormous positive response from campus to this rare and wonderful event. Big thanks go to the Gardens staff and volunteers; CNAS Dean Uhrich; Joann Young, CNAS Director of Communications; staff at UCR Communications, ITS, UCRPD, and TAPS; and Chancellor Wilcox and Diane Del Buono. All their support enabled us to record this exciting event in real time, time lapse, and video and to host a quickly but well-organized open day for the public to visit Little Miss Stinky.

This event has more strongly connected us to the large network of public gardens and arboreta in North America, some of which also had corpse plants bloom this year in what has been called a "corpse plant super bloom." Many people expressed to us their delight at finally seeing one open after trying for years to do so. As members of the UCR Botanic Gardens you have access to a network of North American gardens through the American Horticultural Society's Reciprocal Admissions Program (gardens.ucr.edu/friends). Whenever you travel away from home be sure to log in and find the nearest participating botanic garden (and there are over 345!) so you can plan your visit, usually at no charge.

Invigorated by our botanic and engagement activities, we are looking forward to the coming year in the Gardens. As always, please stay connected through our website, eNews, and social media, and send your thoughts and feedback to me at bgdirector@ucr.edu or 951-827-7095.

Jodie

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10 feet tall and looked like a small palm tree (Photo 3). After a varied amount of time, which could be a few months to over a year, the leaf will die and the plant will be dormant for a few weeks to a few months. It continues this cycle until the corm has stored enough food to bloom and produce an inflorescence, which is made up of many flowers.

Photo 3: Tree-like leaf

The size of the corpse plant bloom depends on the size of the corm. Little Miss Stinky was only 40 inches tall because the corm was about 20 pounds. In cultivation corms can grow to over 200 pounds and the height of the spadix can reach about 8 feet. The size of the corm increases each year as the leaf photosynthesizes, producing carbohydrate that is stored in the corm. Thus, generally the older the plant is when it blooms, the larger the inflorescence will be.

Little Miss Stinky didn't give us much warning that she was going to bloom. Or rather, we were just inexperienced. From the time the bracts opened to reveal the spadix to the time it bloomed was only eight days. We scrambled to get things in place so we could share this rare experience with the UCR campus, Friends members, and the public. The BG staff, along with much help from campus, moved with lightning speed to set up cameras and get the word out. Visitors were coming to see Miss Stinky as soon as news went viral. By Friday we had as many as 175 visitors in the greenhouse, Saturday there were 255, and Sunday when she was fully opened there were almost 1,700 visitors. We had no idea so many people would show up. Some of our regular volunteers who came to view Miss Stinky were recruited on the spot to help out with crowd control. Many people pitched in to help, including the UCR Chancellor, Kim Wilcox, and Diane Del Buono (Photo 4). Corpse plants are so named because of their putrid smell, which attracts their insect pollinators. The stink was the strongest very early Sunday morning and by Monday morning it was gone. The beautiful, deep maroon spathe had nearly closed by then and was removed to be able to collect the pollen. The spathe was given to the UCR herbarium, and some of the pollen was given to Washington State University to pollinate their corpse plant named Titan VanCoug.

Photo 4: Chancellor Kim Wilcox delivering water for visitors

You can view a time-lapse video of our big event plus read all the press on the UCR CNAS website https://CNAS.UCR.edu/corpse-plant. Additional information can be found at this link: https://www.chicagobotanic.org/titan/faq.

Spotlight On George Spiliotis

By Janine Almanzor

Even if you have never met George Spiliotis, you probably know the name. George does so much for the Gardens that his name is in just about every newsletter and in multiple places in each newsletter. George lived locally for about 30 years before his first visit to the Gardens. He had heard there was a Botanic Gardens at UCR but didn't know where it was. A coworker who was a UCR alumnus introduced him to the Gardens in 2013 and about six months later he signed up for the Docent Training Class. He was looking ahead for something to occupy him in retirement, even though it was a few years off.

In December of 2018 George retired from a 29-year career as the Executive Officer for the Local Agency Formation Commission for Riverside County. George had already been a dedicated docent since 2014 so we already knew about his knowledge of California native plants and were anticipating his retirement day. George has been able to share his love and expertise of native plants to educate many people. He has taught several Docent Training lectures on the topic, and during the pandemic he was the expert and star of 33 short videos on native plants found in the Botanic Gardens (www.youtube.com/UCRCNAS). This spring we held a garden tour at George and his wife Elaine's garden. George gave a short lecture followed by a tour of his beautifully landscaped, drought tolerant, front and back yards which are almost entirely planted with California native plants. Doing the research to design and plant his own 3/4-acre garden is how George gained his knowledge.

Another love of George's is butterflies. He is part of the Master Gardener team that regularly maintains the UCRBG Butterfly Garden. They also have an information table the first and third Sundays of each month (excluding winters) at the Butterfly Garden to teach the public about gardening for butterflies. George is also a regular Garden Steward, greeting visitors at the entrance and answering any questions they may have. There are many other areas where George has enjoyed his retirement at the Gardens, including helping with online and in-place Plant Sales, and joining staff and other volunteers for work days. The Botanic Gardens has truly benefited from George's retirement! To show appreciation for all that George has contributed to the Gardens, an autumn sage, hybridized by Dr. Giles Waines, has been named in honor of him, *Salvia* x *jamensis* 'George Spiliotis'.

Twilight Tours

By Botanic Gardens Staff

After two summers without Twilight Tours they were happily welcomed back. The 60 visitors who came to the Tour on July 16th had a special treat. We had just realized the day before the tour that the corpse plant (*Amorphophallus titanum*) was beginning to bloom. We quickly did some rearranging in the greenhouse to make the plant accessible to the public. The greenhouse is usually closed to the public except for special tours, like Twilight Tours. Each docent brought their group of 12-15 visitors into the greenhouse to see the unopened yet beautiful and interesting inflorescence and learn about it from the past UCRBG Manager, Theresa McLemore. The tour groups visited many other areas in the Gardens and then reconvened after 90 minutes at the Meeting Room patio for refreshments.

Enjoying refreshments after the tour

The tour on August 13th was sold out at 100 visitors! Even though the corpse plant was no longer blooming, there was still plenty to see and learn about the Gardens. Nine enthusiastic docents kept the heat in mind as they led their groups through the Gardens. The refreshments after the tour were welcomed in the 90+ degree heat. Visitors were also able to purchase Botanic Gardens branded items.

Erin Snyder (right) leading her tour group

Thank you to all the docents, volunteers, and staff for two successful Tours.

Butterfly Corner

Silver-spotted Skipper

Article and photo by Ann Platzer

The Silver-spotted Skipper (*Epargyreus clarus*), one of the largest and most widespread species in the skipper family (*Hesperiidae*), has a wingspan between 1.5 – 2.5 inches. Both sexes look identical. Although it belongs to the Spread-wing Skippers, this species usually perches with its wings closed. The ground color of the wings and body are a brownish-black color, and they have large, dark bulging eyes. The hind wings are lobed and the forewings are pointed. The dorsal surface of the forewings has a band of irregular orange rectangles that are also visible from a ventral view (see photo: yellow arrow). However, the key identifier is the very large irregular, silvery-white patch on the ventral hind wings (see photo: white arrow). This skipper is difficult to follow as its flight is extremely fast and the white patch flashes as the butterfly moves through dappled light and shade.

The female lays eggs singly on plants of the pea family (Fabaceae). The larvae feed especially on black locust (*Robinia pseudoacacia*), American hog-peanut (*Amphicarpaea bracteata*) and also false indigo bush (*Amorpha fruticosa*); the latter plant is also the host plant for the California Dogface (*Colias eurydice*).

Like most skippers the larvae live in leaf shelters. The first instars make shelters by cutting a flap of the leaf and folding it over and attaching it with a silk thread, while later instars tie together several leaves with silken threads to create a protective nest. The mature larvae reach two inches in length and overwinter as pupae. The adults are fond of sipping nectar from flowers such as *Buddleja* species, lantana, and star flower, but also visit mud and animal feces to obtain additional nutrients.

Silver-spotted Skippers live in many different temperate habitats such as forest edges, swamps, brushy roadsides, and riparian habitats at lower elevations. Their range is across the southern parts of Canada then south throughout most of the United States and into northern Mexico. In the northernmost parts of its range this butterfly only produces one brood per year, while in Southern California it produces two broods, and south of the border three or more broods per year have been reported.

Please plant California native and butterfly friendly plants in your garden to help restore out native habitat.

HAPPY BUTTERFLY GARDENING!

AP

Thanks to Edward Platzer for proofing this article.

Become a Friend!

The UCRBG is an institutional member of the American Horticultural Society. A Friends membership entitles you to the benefits of participating in the AHS Reciprocal Admissions Program, which gives you free or discounted admission and other discounts at 345+ gardens and arboreta throughout North America. The AHS RAP Directory can be viewed and downloaded at their website: ahsgardening.org/gardening-programs/rap.

State of the Gardens

by Jodie Holt

On June 23, 2022, we held our first in-person Annual Meeting of the Friends of the Botanic Gardens since 2019. Friends were welcomed by Gardens staff and heard the annual State of the Gardens Address followed by a reception catered by UCR Citrus Grove. With Covid safety in mind, food and beverages were set up inside and guests sat or mingled outside to enjoy the lovely evening. This article summarizes that address and includes our accomplishments for 2021-22 and goals for 2022-23.

We remain indebted to the Friends, founded in 1980 and UCR's oldest support group, for their continuing support of the Gardens. In the early days, the Friends established *Primavera in the Gardens*, helped run plant sales, and offered outreach events to engage campus and the public, all of which provided essential support for the operation of the Gardens. Without their dedication and gifts of time and funds, the Gardens would not be the treasure it is today.

Vision and Mission

The UCR Botanic Gardens is UCR's living museum, public garden, and nature oasis in a busy urban environment. Our activities advance our mission of serving as a focal point for campus and community engagement in nature, gardens, and conservation. We strive to create a sense of place where our visitors experience nature and are inspired to protect our natural world.

Covid and Safety Update

During the pandemic, the Gardens reopened to visitors after a brief closure, although events, programs, tours, rentals, and fundraising remained on hold for most of 2020 and 2021. During 2021-22 we began offering in-person events again and welcoming UCR classes and researchers to utilize the Gardens. Volunteer and staff Stewards at the entrance continue to provide information, answer questions, and enhance the visitor experience.

2021-22 Accomplishments

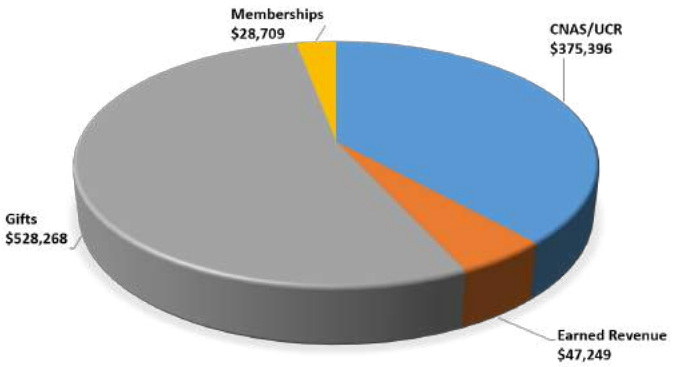
Administration and Management

Like other campus units, staffing in the Gardens was challenging this past year as nearly all our students graduated or moved on. Through generous gifts and careful budgeting, we were able to hire two more part-time staff (a Nursery Technician and our first Visitor Services Coordinator) and are currently recruiting another full-time Nursery Technician. Our staff now includes a part-time Director, five full-time staff, three part-time staff, and two student workers. We benefit from support by the BEES Administrative team and CNAS Dean's Office, who are listed on the inside front cover of each Newsletter. We are also grateful for the dedicated work of dozens of volunteers who give thousands of hours each year, making our gardens and programs possible.

Budget overview

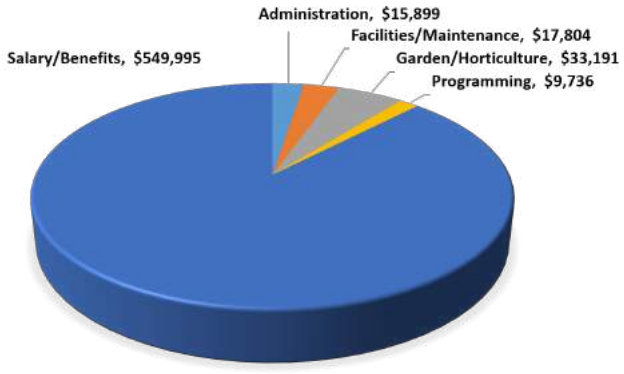
Income for 2021-22 totaled $979,621, nearly $240,000 higher than in 2020-21 due to increases in gifts. We received two generous estate gifts that enabled us to increase staffing and invest in garden improvements. CNAS funding has remained steady over the past years and covers some staff salaries and benefits. Annual

UCRBG Income 2021-22



expenses in 2021-22 included salaries & benefits, gardens & horticulture, facilities & maintenance, administration, and programming. Our expenses for 2021-22 totaled $626,625, slightly lower than in 2020-21 due to staffing fluctuations, lower need for deferred maintenance, and lower administrative costs. The resulting balance of +$352,996 puts us in an excellent position to start the new fiscal year. Since 2016 we have stewarded a corpus of non-recurring, non-interest-earning gift funds received over past decades that have offset yearly budget deficits. Our stated goal in 2016 was to reduce expenses and increase income to achieve financial sustainability without relying on carry-forward funds, and we are pleased to have accomplished that goal in both 2020-21 and 2021-22. The prior carry-forward has decreased over

UCRBG Expenses 2021-22



time as we have invested donor funds in the Gardens; however, with new gifts in 2021-22 our carry forward now totals $357,361.

Development and fundraising

Staffing turnover affected UCR Advancement, including the CNAS Development team, in 2021-22. We look forward to working with Robyn Martinelli, the new CNAS Assistant Dean for Development, and DuBron Rabb, CNAS Director of Development, as they build a new team. This year we launched new initiatives that require fundraising, including replacement of the Geodesic Dome which is severely degraded. We have been working with UCR Planning, Design, and Construction and are nearly ready to roll out an innovative design concept for the dome and launch a campaign for its funding. We are also excited to be working with Cal Poly Pomona's Department of Landscape Architecture on design concepts for a rustic amphitheater in the turnaround and a Children's Garden, both of which will begin this fall.

Collection and conservation

Curator Janine continues to focus on improving and augmenting the collection and records database, with over 2,000 entries updated. With staff and volunteers, she installed new plants and labels throughout the Gardens. A new succulent bed was planted next to the stairs along the west side of the entrance, and cycads from the dome that tolerate direct light are being readied for planting in other areas. Work in the Butterfly Garden that started last year was completed with installation of a map and key to each numbered plant and an interactive Story Map is nearly completed. The Herb Garden is also undergoing renovation and updated labeling and a Story Map is being produced there as well. For the Native American Garden, an interactive 360° view photo app with information about each plant is finished and will enhance visitor knowledge about plants used by Indigenous people. With collaboration from the Entomology Department, Janine's team is designing a new Native Bee Garden; installation in the Sierra Foothills area will begin in fall. Janine and her team are also collaborating with the UCR Herbarium to identify plants in the greenhouse that are unknown, some of which will be used in the new Conservatory planned for the first greenhouse section.

Encephalartos ferox planted in the South Africa section

Horticulture and facilities

Manager Miguel and his staff and volunteers continue to beautify the gardens and landscape through weed removal, pruning and slash removal, mulching, clearing and repairing trails, new drainage installation, and irrigation renovation for plant health and water conservation. His team made great progress cleaning up the Subtropical Fruit Orchard, removing over 40 yards of debris. The climbing roses above the switchbacks were replaced by carpet roses and tree roses, beautifying the lower Rose Garden and view from below. Alder Canyon continues to be a focus area, with a new fescue seed blend planted for greater disease resistance and trampling recovery. Ninety cubic yards of mulch were spread throughout the Gardens, and damaged and dead branches and trees were removed for safety and tree health. Maintenance continues on the entrance arbor and several railroad tie walls along trails. A long-term goal is design and installation of automated irrigation in many gardens, including drip or high efficiency sprinklers, to conserve water and reduce staff time required for watering. A shade structure was constructed in the Orchard over our largest plant nursery to provide better growing conditions for plants intended for sale. A comprehensive safety audit was conducted by UCR's Safety Engineer, who found no significant findings and advised us on ways to ameliorate heat stress.

Education and research

Under Janine's leadership another Docent Training Class was offered, and we welcomed 13 new Docents who will lead guided tours for school groups and adults. These in-person tours were gradually resumed as the year progressed. Docents and Master Gardeners once again set up a table outside the Butterfly Garden on 1st and 3rd Sundays to answer questions and provide resources on gardening for butterflies. Our always popular Rose Pruning Demonstration was offered again in January with the help of Master Gardeners and rosarians who showed visitors the basics of pruning while helping prune our over 600 roses. We also welcomed back UCR classes and labs, field trips, and research projects after a two-year break.

Engagement Programming

We were happy to resume in-person engagement activities this past year, including online plant sales, a fall Bird Walk & Breakfast, a Succulent Pumpkin Class, and Spring Native Garden Tour. Program Coordinator Pam coordinated these events with help from staff and volunteers; she also manages revenue generating Meeting Room rentals and photoshoots. Pam maintains our beautiful website and keeps it current, produces the

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What to See in the Gardens

Article and photos by Miguel Estrada

Site for the Native Bee Garden

You may have noticed from the "In the Works" section, that we are working on a Native Bee Garden, which was inspired and funded by generous donations from the family of the late Dr. Martin Barnes, Emeritus Professor of Entomology. If you plan to make several visits throughout the rest of the year, I recommend you look at the work we will be doing on this installation. As of this writing we have selected the plants that will provide nectar and pollen to the native bees, we have removed weeds and some shrubs to make room for the design, and we have installed a memorial bench to rest and enjoy the view. Unlike the other themed gardens that are clustered together by our main paved road, this one is set in the interior among the rocks and hilly terrain. We wanted this garden to be nestled among other native plants, which is why we selected the northeast area of the California Sierra Foothills collection, by trail marker 23 to be more precise. The area is teeming with native plants like *Rhus*, *Aesculus*, *Eriogonum*, *Berberis*, and *Encelia* species. We are going to introduce other natives that will provide nectar and pollen sources throughout the year. We also have plans to introduce a wildflower forage ground cover, which is an important component to any native bee garden. But before all this happens, we are going to perform major work on irrigation to ensure that this new installation thrives. You may want to take several trips and see our progress or wait until we're closer to the end of the year to see the finished garden.

If seeing the progress of a new installation is not enticing, then I do have a plant recommendation. Right by our upper restroom there is a lovely silk tree (*Albizia julibrissin)*. It is not quite at its maximum spread and height, but it won't take long since they are fast growers and can put up to 36 inches of new growth in a year. It has a wider spread than height which makes for a great shade tree, expect for winter, since it is deciduous. The fine textured leaves are alternate and bipinnately compound. What is even more interesting, the leaves droop and rise as the sun exposure shifts, with the latter happening when the sun is at its highest point in the sky. I mention the leaves because the tree will probably not have many flowers in fall. However, in peak season, the tree is covered with showy pink flowers, and it is worth a look in the spring.

Silk tree by upper restrooms

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bimonthly eNews to supplement our quarterly Newsletter, and works with campus to promote the Gardens and events. Our big projects this year were production of a new Welcome Brochure with Gardens map and policies and a new Volunteer Brochure. We continue to be active on social media through Instagram and Facebook. Our UCRBG branded merchandise is now available for online purchase with in-person pickups. Volunteers have always been essential to the success of the Gardens and programs and happily, we once again held an appreciation luncheon and handed out branded gifts and plants to our wonderful volunteers, who also receive a bimonthly Volunteer eNews to keep them informed about the Gardens and campus.

Opportunities, Challenges, and the Future

As the pandemic subsides and normalcy returns, we are grateful to be in excellent shape financially. The addition of new staff to our workforce expands our capacity for programming and activities such as hands-on workshops and special tours. With help from campus and CNAS we will soon acquire an adjacent property to be used for a new plant nursery where we can offer in-place plant sales like other gardens do. These opportunities are offset by the challenges of limited parking and limited hours due to insufficient staff and volunteers to serve as gate Stewards. We will address these challenges with optimism and creativity as we have learned to do and look forward to a bright future for the UCR Botanic Gardens.

Online Fall Plant Sale

By Janine Almanzor

As we look forward to the cooler days of fall, it's the perfect time to refresh our sun beaten gardens. Take advantage of the cooler days and winter rains to get your plants established. The Online Fall Plant Sale this year will be Saturday, October 8th for Friends members and Sunday, October 9th for the public, both days from 6 am to midnight. The pick-up days will be Tuesday, October 18th and Thursday, October 20th. We will offer a variety of shrubs, trees, vines, shade plants, cacti/succulents, house/patio plants and California native plants.

We have recently added several new sages in various colors that have been named after UCRBG volunteers. They have low water needs, bloom much of the year, and attract hummingbirds.

Cedros Island sage, *Salvia cedrosensis* 'Dennis Ponsor'

Autumn sage, *Salvia* x *jamensis* 'Barbara Gable'

Autumn sage, *Salvia* x *jamensis* 'George Spiliotis'

Autumn sage, *Salvia* x *jamensis* 'Janice Ponsor'

Autumn sage, *Salvia* x *jamensis* 'Karen Fleisher'

We will be offering several trees for sale, some of which are hard to find.

Bottle tree, *Brachychiton rupestris*

***Brachychiton acerifolius*, Australian flame tree** –This is a spectacular, nearly evergreen, large tree that can grow to 50 feet tall. It has a thick, smooth trunk and a dense canopy of large, shiny, lobed leaves. The small red flowers are borne in red-stemmed, coral-like clusters in the leafless portions of the tree.

***Brachychiton rupestris*, bottle tree** – If you have the space, this is a showstopper that can reach 30 – 50 feet tall. The bottle tree is water efficient, nearly evergreen and develops a massive, bottle-shaped trunk. It is good in containers while young.

***Caesalpinia mexicana*, Mexican bird of paradise** – This is a small tree/large shrub that grows to about 12 feet tall. It loves the heat, is water efficient, and needs good drainage. It has ferny, blue-green leaves and showy clusters of lemon yellow flowers that attract hummingbirds during warm weather. (Also known as *Erythrostemon mexicanus*.)

***Handroanthus chrysotrichus*, golden trumpet tree** – This is a spectacular, slow-growing, deciduous tree reaching to 25 feet in height. It has palmately lobed (hand-shaped), gold-haired leaves that appear after the flowers. The 3-4 inch, golden yellow, trumpet-shaped flowers appear in the spring and attract hummingbirds.

***Eriobotrya japonica*, loquat** – The loquat is a small, evergreen tree from 15 to 30 feet tall. It has large, leathery, heavily textured leaves and clusters of white, fragrant flowers in the fall. The tasty, yellow to orange fruit are ripe in the winter or spring. (Also known as *Rhaphiolepis bibas*.)

Poinsettia, *Euphorbia pulcherrima* 'Eckespoint'

***Euphorbia pulcherrima* 'Eckespoint', poinsettia** – This is not a tree or a little holiday pot plant, but a spectacular, tall, deciduous shrub that grows to about 10 feet with masses of foot-wide, red double bracts subtending small yellow inflorescences that bloom from winter through spring. It attracts hummingbirds and butterflies.

Other trees available for sale will be catclaw (*Senegalia [Acacia] greggii*), cape chestnut (*Calodendrum capense*), floss silk tree (*Ceiba [Chorisia] speciosa*) and Mexican palo verde (*Parkinsonia aculeata*).

We continue to thank Horticulturist Lois Whyde and her team of dedicated volunteers who propagate all the plants for the Plant Sales.

In the Works

By Botanic Gardens Staff

In spite of extreme summer heat, June turnover of student employees, vacations, and the drop-everything excitement of Little Miss Stinky blooming, our staff and volunteers have made progress with many Gardens projects and activities, summarized below.

Gardens and Grounds:

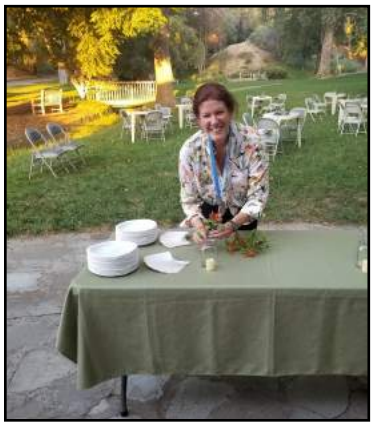
- We hired a new part-time Nursery Technician, Nikki van de Klundert, who joined Miguel's team in maintaining the gardens and grounds.
- We are in the process of hiring one more part time and one full time Nursery Technician and more students.
- Plans are going forward to plant the Native Bee Garden in the fall. The location is south east of Bobcat Rocks.
- We pruned deadwood on the sages along the steep driveway and mulched the planter.
- A weed tree was removed in the conifer section and the pine needles were redistributed around existing brittlebush (*Encelia farinosa*).
- We added new wood pieces along the edge of the planter between trail markers 31 and 32 to hold back the leaf litter.
- We started reducing the height of dense brittlebush patches in Australia.
- Digging began in Alder Canyon near the Conference Room to locate a point of connection for the new automatic irrigation valves.
- We completed clean-up of an old prickly pear cactus (*Opuntia*) near the orchard entrance that was overgrowing the walkway. A few sections were saved to grow in pots for a few months to get them ready for replanting.
- A large mesquite trunk was removed that split from the main trunk near trail marker 4.

Activities and Events:

- We hired our first Visitor Services Coordinator, Nancy Cullen, a long-time member, volunteer, and visitor to the Gardens. Nancy is taking over scheduling for our volunteer gate Stewards and working with Pam on events and PR.
- Pam Ferre and Nancy Cullen represented the UCRBG at the Graduate Student Resource Center Summer Coffee Outreach event and will attend the UCR Annual Community Partner Fair to promote the Gardens to the campus.
- We held two Twilight Tours this summer, the first time since 2019. The August tour had a record 100 visitors!
- We hosted nearly 1,700 visitors to see and smell our corpse plant, Little Miss Stinky, on Sunday, July 24th.
- The Master Gardener Docents continue to have an information table by the Butterfly Garden on the first and third Sundays to answer questions and give advice on butterfly gardening and gardening with native plants.
- We have new t-shirts for sale that are lighter weight. They can be purchased on our website, https://gardens.ucr.edu, and picked up at the Gardens entrance.
- Pam Ferre and volunteer Jessica Estrada continue to produce fliers and posters for social media and events.

Fallen mesquite trunk

Line of visitors patiently waiting to see and smell Little Miss Stinky



Nancy Cullen, our first Visitor Services Coordinator

New, softer, lighter weight t-shirts

Titan Arum: The Deceptive Inflorescence Making a Big Stink for Little Pollinators

By Annika Rose-Person

Imagine you are a beetle flying over a rainforest canopy. You are on a mission—seeking out an intoxicating scent that will mark the perfect spot to lay your eggs. Suddenly, you smell it: the unmistakable, irresistible scent of rotting flesh.

Entranced, you descend to this decadent stench. You find your target—it is a strange-looking carcass, but who could deny its allure?

But you—and many beetles, flies, and bees before you—have been duped. The trickster is titan arum; an endangered corpse plant whose deceptive inflorescence has been shaped by evolution to attract pollinators.

One individual of this rare plant bloomed on July 24th at UCR's Botanic Gardens. Nicknamed "Little Miss Stinky", this was the plant's first reproductive event. It will likely not flower again for another few years. Though they bloom for less than 40 hours, each inflorescence is a masterpiece: an immense outer spathe surrounds a columnar spadix that can extend upward up to eight feet.

With infrequent blooming and short-lived flowers, reproductive success is not guaranteed for this species. Additionally, attracting pollinators in the dense vegetation of its native habitat in Sumatra, Indonesia, is no easy task. With low population densities and crowded conditions, titan arum needs to produce a spectacular flower to attract insect pollinators.

To this end, this plant has evolved a suite of traits to make each gargantuan flowering effort worthwhile in attracting insect pollinators. First, smell. Composed of many compounds, but mainly of disulfide and dimethyl trisulfide, the scent mimics dung and rotting flesh. Scientists are still searching for the main pollinators of titan arum, but it is likely that this scent tantalizes dung beetles and carrion flies who feed and lay their eggs on rotting flesh, and one study confirmed that stingless bees pollinate the plant.

The smell emanates from the central spadix, the male and female flowers, and the spathe and is spread by the plant's second pollinator-attracting trait: heat production. The spadix heats to 16°F above ambient temperature, volatilizing its smelly compounds.

Once an insect arrives, it slides into the base of the meat-red spathe and is coated with pollen from the male flowers located at the base of the spadix, just above the female flowers. Once the insect leaves it is deceived by another titan arum, depositing pollen onto its female flowers. Since male and female flowers in an individual plant do not open synchronously, cross-pollination is the norm. Seeds form, and the titan arum's deception has succeeded.

Male flowers with pollen above the female flowers

A reproductive strategy that is adaptive for species at low population densities or that flower infrequently does not assure success in our changing world. Scientists estimate that only 1,000 individuals of titan arum exist in the wild, and its numbers are dwindling. Habitat loss driven by conversion for agriculture, illegal logging, and human population growth put the species in danger of extinction. Organizations like the Chicago Botanic Garden and a network of botanic gardens, including UCR's, are working to conserve this species by creating banks holding its precious genetic information. It is my hope, and the hope of our stench-seeking insect friends, that these groups continue their work to conserve the titan arum so the world can remain a more interesting—if not more stinky—place.

Annika Rose-Person is a PhD candidate in Dr. Nicole Rafferty's lab in the Department of Evolution, Ecology, and Organismal Biology. She studies the effects of climate change on plant-pollinator interactions, focusing on how early snowmelt impacts pollination in the alpine zone of the Colorado Rocky Mountains and how drought affects pollinator behavior using native southern California species. ***For article references contact: arose012@ucr.edu.***

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UCRBG Calendar of Events

September 13	**Volunteer Orientation,** Meeting Room, 8:00 am
September 18	**Volunteer Orientation,** Meeting Room, 8:00 am
October 8	**Friends Online Fall Plant Sale,** 6:00 am - midnight
October 9	**Public Online Fall Plant Sale,** 6:00 am - midnight
October 18	**Plant Sale Pick-ups,** Gardens closed
October 20	**Plant Sale Pick-ups,** Gardens closed

Please note: The UCRBG summer hours are Sunday - Friday 8 am - 2 pm.
Starting in October fall hours are Monday - Friday and 1st and 3rd Sundays 8 am - 2 pm until further notice.
(Please check our website for closure dates)