

The *Matilija*

The Newsletter of California Botanic Garden



Fall 2023



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The Newsletter of
California Botanic Garden
Fall 2023

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*California Botanic Garden is
dedicated to advancing knowledge,
conservation, and appreciation of
California Native Plants.*

I am very excited to share this issue of *The Matilija* with you! On these pages, you will learn about our graduate program: more about the program for many of you but I imagine that for some of you, this will be entirely 'new news.' The graduate program is a major part of what brought me to CalBG 17 years ago. I love the vibrancy that comes with the rich community of learners! You will especially enjoy the remembrances penned by a handful of our alumni - it is clear that the Garden and that community of learners remain in their hearts and minds as they build their careers.

We also share with you two exciting developments that will take shape on the grounds shortly. First, the Bird & Butterfly Garden just east of the Outdoor Classroom is all dressed up and ready to go. It is just waiting for planting season in October here in southern California. After plants will come interpretation: we plan diverse and highly informative signage to help visitors understand the garden and its plants and animals. This new garden area owes much to the vision of the amazing Marilee Scaff, whose legacy gift has made it possible. Marilee was a CalBG volunteer, supporter, and benefactor who treasured the educational appeal of plant-animal interactions and their intrinsic fascination for people of all ages. Volunteer Marcia Goldstein loved California native plants and birds in equal measure. The Marcia Goldstein Bird Garden, made possible by her family, will share Marcia's dual loves with all visitors. I cannot wait to see it planted and to watch the birds, butterflies, *and* people enjoy it!

Also underway in the next months will be replacement of our admissions kiosk. Look closely the next time you pass and talk to the attendant. You will note and the staff member can tell you ways in which it does not meet our current needs and also is far past its prime. The project also includes a small indoor gift shop across from the kiosk. We hate that we are unable to provide plant and nature books, cards and snacks—among other things—for our guests at the current outdoor Poppy Shop. Lastly, the windstorm of January 2022 had a silver lining which is that it cleared a perfect space for restrooms just to the right of the gate near the entrance. Take in the shady spot between the pine trees that is to your right as you come into the Garden: the perfect place for public restrooms!

One of the changes that has happened since I became executive director and of which I am most proud is the growth of the Garden's Board of Trustees. From the original group of five to now 21 members, the Board of Trustees has become a dynamic, active, hardworking group of Garden advocates and supporters for all that we do here. I love working with all of them and am excited to introduce you to the newest class of trustees.

The *Forever California* Gala! All who were here will not soon forget it! It was a magnificent evening during which we raised about a quarter of a million dollars for the Garden that we love. I am humbled and honored by the strength of this community outpouring of support!



Lucinda A. McDade

Lucinda A. McDade, Ph.D.

Executive Director

Judith B. Friend Director of Research

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On the cover:

Erythranthe discolor (two-colored monkeyflower) blooms in the Sequoia National Forest, documented by CalBG graduate student Selena Vengco as part of her MS research (photo by Selena Vengco).

On this page:

Top photo: St. Catherine's Lace (*Eriogonum giganteum*) (photo by Carrie Rosema).

Bottom photo: Fence Lizard (photo by Lilly Marinelli).



Seeding the Future of Botany

Catching Up with the CalBG Graduate Program

By Ady Bolinger & Lauren Weintraub Stoebel



*Photo (above): The endangered Tiehm's Buckwheat (*Eriogonum tiehmii*) in the Nevada field site of CalBG graduate student Peri Lee Pipkin (photo by Peri Lee Pipkin).*



Graduate students Mahima Dixit and Rachel Tagueant doing offsite educational outreach at the LA County Fair as part of their Research Assistant positions with the CalBG Community Education department (photo by Jennifer Scerra).

CalBG master's student Selena Vengco could hardly believe her eyes. Just a year ago she had only been able to find a tiny handful of her plants—diminutive annual monkeyflowers—while doing fieldwork for her MS thesis. In the late spring of 2023, she confronted a veritable meadow of thousands of them! In 2022, she feared her thesis would be based on lab work using samples collected by others. Winter rains of 2022-2023 changed all of that and now she might be able to answer the question that kept her up at night: did pollinators distinguish between the pink flowers and the yellow flowers of this polymorphic species? Vengco's research is a continuation of a tradition of botanical scholarship at California Botanic Garden that dates back to the founding of the organization as Rancho Santa Ana Botanic Garden in 1927 and was reinforced by the addition of the graduate program in Botany shortly after the Garden arrived in

Claremont in the early 1950s.

Many members of and casual visitors to California Botanic Garden's 86 acres in Claremont may not know that the Garden has been a unique hub of botanical training for several generations of plant scientists. Currently in partnership with Claremont Graduate University, CalBG's graduate program delves deeply into hands-on plant science education, focusing on plant systematics and evolutionary biology. With approximately twelve graduate students in residence each year, the program currently hosts three PhD students and nine master's students, all with a deep passion for botany and a rich understanding of the importance of plant conservation.

The Garden's graduate program offers unique benefits for students compared to other plant science programs, including one of the most obvious perks: its location at a botanic garden. The Garden's living collection brings California native flora to the fingertips of its graduate students, allowing them to explore desert plants, oak forests, wildflowers, and more, right outside their offices. Throughout their graduate work, students are also immersed in CalBG's herbarium, laboratories, library, seed bank, nursery, conservation department, and public programs, both informally and through Research Assistant positions each semester. Travis Columbus, a graduate program professor and mentor, describes the personal nature of the program as another benefit. Naomi Fraga, graduate program alumna, current Research Assistant Professor, and Director of Conservation Programs, agrees: "Rather than being at a large university, the Garden's program is a very close-knit, intimate atmosphere that allows for our students to have

access to several faculty members and not just a single advisor. In many other graduate programs, students are set up in a lab with a particular mentor, whereas here we don't have a strict lab structure." Instead of separate labs working independently, Fraga says, CalBG's students and mentors work communally, "sharing the same space...[with] more integration between staff, faculty, students, and resources like the seed bank, library, molecular lab, and anatomy lab."

In partnership with their mentors, students not only attend classes and get involved in public education, community engagement, and student teaching, they also undertake a tangible plant science project of their own. Each student at CalBG typically completes their own floristic or phylogenetic research project as part of their degree. While floristic studies focus on documenting plant species in a discrete area, phylogenetic studies focus on specific groups of plants, tracing their genetic ancestry. "I really am an explorer so I like fieldwork," says Columbus, "but what most people may not realize is that we do just as much exciting exploration in the lab. We're doing [DNA] sequencing, so we learn the relationships between plants through that work, that's really the core of plant systematics. From that we can discover species, categorize, and most excitingly, figure out how they've evolved and what traits they share—whether from a common ancestor or that they've developed independently."

The diversity of graduate student projects is reflective of each of their unique experiences and interests. Graduate students are encouraged to pick a topic for their project that "moves their soul," says Graduate Program Chair and Garden Executive Director Lucinda McDade. Travis Columbus adds, "The most exciting thing is when a student who comes into the program interested in plants becomes crazy interested in plants. Watching students fall in love with their studies and watching the excitement grow as they make discoveries and report back is the best feeling. But truly the most rewarding part is when they get to the point where excitement turns to confidence and they take ownership, when they start saying things like 'this is my group, these are my plants.'"

Mahima Dixit, a second-year master's student, has worked with advisor Travis Columbus to design a phylogenetic project for her MS thesis. Columbus is an expert on grasses, but has recently transitioned to the study of *Eriogonum*, or Wild Buckwheats, and his interest helped inspire Dixit's project. After deciding to focus on *Eriogonum*, she chose a subgroup within the buckwheat family—the *Eriogonum deflexum* complex—for her study. Dixit's goal is to trace the ancestry of the plants using a phylogenetic tree, a mechanism used in evolutionary biology, to discover the family history



Graduate student Bruce Tucker in the mycological laboratory in the early years of the graduate program.



Current graduate student Courtney Matzke working in the lab at CalBG.

of a plant. If Dixit finds that the trait of upside-down flowers—a shared trait among the *Eriogonum deflexum* complex—has evolved independently of the plants' genetics, then there is probably an adaptive advantage in the upside-down flowers. But if the data shows that the species are each others' closest relatives, then the trait of deflexed flowers might have evolved in their common ancestor. Whatever the result, Dixit is excited to solve this mystery.

Peri Lee Pipkin is a MS student conducting a floristic study of the Silver Peak Range, located in Esmeralda County, Nevada: a roughly 450 square mile study site, which includes a 50 square mile Wilderness Study Area. Pipkin says that as a floristics student you have "two lives:" your "Garden life" (classes, reading, permits, writing, etc.) and your "fieldwork life" (camping, surveying, collecting and pressing plants, etc.). Pipkin takes their foundational knowledge and skills to the mountains they are studying, which are home to

CONTINUED ON PAGE 6

Bristlecone pines, mountain-top vernal pools, pinyon juniper forests, sagebrush steppes, creeks and mossy canyons, and alkali wetlands and hot springs. Nevada's botanical diversity is largely under-documented, Pipkin asserts, and the Silver Peak Range is what's known as a "botanical black hole." The area is home to several rare and endemic plants and animals, yet faces several existential threats due to extractive industries such as lithium mining and geothermal energy production. The information collected during their floristic study will contribute to local conservation efforts by providing "baseline data" that can be consulted to determine the environmental impact of development. Pipkin concludes, "I entered the graduate program with the intention of becoming a really good botanist, and writing a flora is great training towards this goal. Plus, I get to develop my skills in a place where the research is also very meaningful."

Beyond the rich learning experiences the graduate students acquire during their time in the program, their work has a wide scope of impact in the world of plant science and conservation holistically. "The students produce tangible products through these studies," explains Fraga. "This information can be used by the land manager of that property. Having a checklist and knowing what plants occur on your property is extremely valuable and vital for conservation because questions like 'What are the invasive species here and how prevalent are they?' or 'What rare plants



Peri Lee Pipkin in the field (photo courtesy of Peri Lee Pipkin).

do we need to protect here?' are answered through the work of the students." Columbus says that one of his favorite parts of mentoring CalBG's students is knowing that they are the future of botany, building a solid career foundation alongside their work in the Garden's graduate program. Program alumni go on to many different roles within the world of botany and conservation, such as professor, government agency botanist, public advocate for conservation, and lab manager, just to name a few. With their CalBG education and overall time at the Garden providing a strong foundation, Botany graduates continue to build knowledge and give back to the planet for decades to come.

And to answer the question that has been burning in your mind since you began reading this article: as Selena Vengco observed the glorious patch of monkeyflowers, she was able to see bees travel between yellow flowers and pink flowers, seeming to not even notice the color difference, which they can certainly perceive based on what we know of bee vision. Her next step? Develop a new hypothesis to explain the color polymorphism, using the skills and knowledge gained from California Botanic Garden's Botany graduate program.



Mahima Dixit in the field (photo by Tada Ryvola).

Member Spotlight:

Talin and John Andersen

Talin and John Andersen have been members of California Botanic Garden since 2011, a year after they moved to the area. They have been visiting regularly since 2014, and in that time they've gotten to know the names of many of the plants here. John quizzes Talin during their walks. The wildlife they encounter is their favorite part of their Garden visits, from snakes to bobcats, lizards, and butterflies. We asked them a few questions to gain insight into what they love most about the Garden.

What is your favorite time of year to visit the Garden?

Talin: Spring.

John: Yeah, I think a lot of people are going to say that. The colors are just fantastic.

But also winter, I think. Because everything is starting to wake up again. There's always color. I mean, like 80% in the spring. But even in summer, there's your goldenrods and your California fuchsias. In the fall and winter, you start getting the currants blooming. So we like that kind of set up where it's continual.

What is one of your motivations for visiting the Garden so frequently?

John: It keeps our doctors happy. Because they ask us, "What do you do for exercise?" And we tell them, we walk here, two miles a day. And they say, "Oh great!"

Talin: What's the best exercise you can do?

John: Walking?

Talin: No. The one that you decide to do!

What are some tips you would give to people who want to enjoy the Garden to its fullest extent?

Talin: Smell everything. Touch it. Don't pick it. Touch it and smell it and try to associate the smells with what you're seeing. I think that's the best thing they can do.

With that in mind, check out the Sensory Loop Trail on the Mesa during your next Garden visit. Rub sage between your fingers to smell it.

Thank you to Talin and John for sharing your insights with us! If you or someone you know would like to be interviewed for the next Member Spotlight, contact the Membership Office at advancement@calbg.org.



Where Are They Now?

CalBG Graduate Program Alumni reminisce about their experiences in the program and the relationship between their graduate education and the work they do now. *Responses have been edited for length.*

By Lauren Weintraub Stoebel



Erika M. Gardner conducting a tour of the CalBG Herbarium when she was a graduate student (photo courtesy of Erika M. Gardner).

Erika M. Gardner

What drew you to CalBG when you were looking at grad schools?

I love that CalBG allows students to do field-based research projects for their master's degree. There is also access to fantastic field equipment, a massive herbarium, greenhouses, a living collection, a seed bank, and staff/professors who are knowledgeable about field work. I have always gone to schools where I am just another number in the system. However, at CalBG the student body is very small and the program has a special familial feel.

What is your job now and how did your CalBG education lead you to or prepare you for it?

I work at the Smithsonian Institution's National Museum of Natural History, in the United States National Herbarium. I work in Collection Management. Having the master's degree helped me get this position, but I also had a lot of Collection Management experience from working in the CalBG herbarium. If it wasn't for the support from my mentors and friends at CalBG, I would not have applied to this job.

Tasha La Doux

Looking back, did CalBG's program provide you with any experiences that you don't think you would have gotten through other grad programs?

The Garden provided **a lot** that would have been completely out of the question at other schools. For example, I had free access to two walk-in growth chambers that allowed me to conduct my pollination experiments; in addition, the nursery staff provided advice and assistance with growing my plants. The program also provided funding for my research, career development opportunities, access to an incredible herbarium, access to field vehicles and, finally, I was surrounded by a wealth of knowledge from the various staff and research associates that frequented the Garden.

What is your job now and how did your CalBG education lead you to or prepare you for it?

I work for the University of California Natural Reserve System at the Granite Mountains Desert Research Center. In addition, I hold a part-time position at Joshua Tree National Park. My training as a field botanist most certainly came from my time at the Garden. During my time there, I was lucky to be under the tutelage of people like Steve Boyd, Walter Wisura, Travis Columbus, and Mark Porter, all of whom gave me the inspiration and knowledge necessary to become a field botanist.



Nick Jensen conducting fieldwork
(photo courtesy of Nick Jensen).

Nick Jensen

Tell us a little bit about the research you did during grad school.

I had the pleasure of completing a flora of Tejon Ranch, which is located in Kern and Los Angeles Counties. During my research on Tejon I discovered a jewelflower (*Streptanthus*), which I ended up describing as a new species. As a part of this process, I studied evolutionary relationships in perennial jewelflowers using genomic data.

What is your job now and how did your CalBG education lead you to or prepare you for it?

I am currently the Conservation Program Director at the California Native Plant Society. My job involves conservation advocacy and also a lot of administrative work, and I don't do a whole lot of botany on a day-to-day basis. That said, everything my team does is centered on saving as much as we can of California's remaining habitats, so I use the foundation of knowledge that I gained/expanded upon during my time at CalBG each day.



Manuel Luján with students
doing fieldwork in Bolivia
(photo courtesy of Manuel Luján).

Manuel Luján

What drew you to CalBG when you were looking at grad schools?

In 2010, when I was looking for PhD opportunities, I participated in the Summer Research Program at CalBG and got to know the garden, research facilities, faculty, and students enrolled in the graduate program. I enjoyed the fact that the research community at CalBG was like a small family of people that are really passionate about plants and at the same time researchers who do excellent rigorous science, and I really wanted to be part of that!

What is your job now and how did your CalBG education lead you to or prepare you for it?

I am a taxonomist on the Americas team at the Royal Botanic Gardens, Kew in the UK. My job is to describe and document plant diversity in tropical regions in the Americas. I develop research projects in Mexico, Colombia, and Bolivia, where I work with local partners to identify and describe plant species new to science, complete plant inventories in understudied areas, and support the training of the new generation of botanists. Most of the skills I acquired during my time as a grad student at CalBG are used routinely in my job. I feel lucky to say that I studied to do precisely what I do now professionally.

Mitchell McGlaughlin

Did you have a favorite class or mentor in the program?

I really enjoyed a rare plant conservation class taught by Gary Wallace and Elizabeth Friar. In this course, students were assigned different rare plants in southern California and then we drafted conservation plans. To achieve this we conducted literature, field, and herbarium research, and then generated a management document to be used by stakeholders. I loved how applied the class was and that it utilized knowledge I had gained in other courses to have an impact on plant conservation.

What is your job now and how did your CalBG education lead you to or prepare you for it?

I am a professor at the University of Northern Colorado and Chair of the Department of Biology. My responsibilities are teaching courses related to Botany, Conservation Biology, Evolution, and Speciation. I maintain a large research lab that is focused on using genetic data to manage rare and endangered plants in Colorado, New Mexico, Utah, and Wyoming. I also continue to study plant speciation with plants endemic to the California Channel Islands and a few continuing projects in the Hawaiian Silversword Alliance.



Forever California

A Gala Evening for California Native Plants

By Jennifer Pizzolo, Interim Director of Advancement

On May 7, 2023, the Garden lit up for *Forever California*. Normally held annually, this was the first time in four years that we've been able to gather in celebration of this incredible Garden that we all love. Guests enjoyed a cocktail reception in the Lewis Family Forest Pavilion and then proceeded to the California Courtyard for a sumptuous dinner presented by Summit Event Catering. Our live and silent auctions were once again directed by the amazing auctioneer, Chuck Dukas, and The Secret Jazz Band filled the air with music as guests danced the night away!

Through sponsorships, donations, ticket sales, and both a live and silent auction, we broke previous fundraising records and netted more than \$250,000! Because of our incredibly generous community of CalBG donors, we were able to raise the much-needed funds that will allow us to carry out California Botanic Garden's critical mission of advancing knowledge, conservation, and appreciation of California native plants.

The overwhelming support confirms that California Botanic Garden is a highly valued resource for our community. Our Paddle Auction for the long-term health and well-being of the Garden broke records! Guests overwhelmingly raised their paddles to support California Botanic Garden's mission and to ensure that we can continue to welcome curious schoolchildren, dedicated volunteers, devoted walkers, plant lovers of all kinds, and scientists from around the world.

California Botanic Garden is renowned for its dedication to the vast and unique flora of California, many of which are found nowhere else in the world. We advance knowledge and work to conserve these irreplaceable plants and to increase public appreciation of their value. Guests at *Forever California* made sure this will continue! With the enthusiastic support of the CalBG Board of Trustees, Advisory Council, volunteers, members and donors, our vision of a world where California's native plant diversity is conserved, thriving, and celebrated will surely become a reality.



FOREVER CALIFORNIA SPONSORS

California Botanic Garden thanks our spring 2023 sponsors!

Sponsorship makes a tremendous difference in sustaining and growing our living collection of California native plants and vital core programs: research, education, and conservation. Interested in joining our valued family of corporate and community sponsors for 2023-24? Contact our Advancement Office by email at advancement@calbg.org or by phone at (909) 625-8767 x258.

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**CalBG Staff Member*

New Leaders

The Garden is pleased to welcome new members to our Board of Trustees. These leaders bring valuable expertise and experience to the CalBG family in support of the Garden's mission.



Tim Brayton

Thomas C. "Tim" Brayton joined RSABG's Board of Overseers in 2005, serving as its chair for three years. In 2012, Tim was invited to serve on the Garden's Board of Trustees and chaired the Board of Trustees from 2014–2022. After terming out, Tim remained an integral member of the Major Gifts committee and also served on an ad hoc committee to bring the Garden's By-Laws up-to-date. He happily rejoined the Trustees in 2023.

A Claremont resident for nearly four decades, Tim grew up in Big Bear Lake, CA. After graduating from California State University, Los Angeles in 1963, he studied law at UCLA and earned his J.D. degree. He practiced law as a Certified Family Law Specialist for 51 years before retiring in 2019.

Tim has been a member of the Claremont Sunrise Rotary Club for over three decades. He previously served 17 years on the Board of Directors of the Haynes Family of Programs in La Verne. Tim and his wife, Deborah Waas, are strong and steadfast supporters of the Garden—attending events and introducing friends to the mission and vision of CalBG. Tim and Deb now reside at Hillcrest in La Verne where they are happily retired and, of course, enjoying serving on the retirement community's committees.



Linda DesMarais

Linda DesMarais, Ph.D., is a retired psychologist who had a private practice in Claremont for 13 years. Additionally, she worked as a school psychologist in Pomona USD and as a Behavior Modification and Educational Services Contractor for the California State Department of Developmental Services. Linda holds a B.S. from the University of Virginia, an M.A. from Cal State LA, and a Ph.D. from Kansas State University. Linda has served on boards of various community organizations including House of Ruth and the Neighborhood Youth Association. She also chaired the Advisory Board of Casa Colina Hospital for Rehabilitative Medicine, Children's Services Unit.

A longtime resident of Claremont, Linda and her husband Paul are avid supporters of CalBG, particularly art initiatives at the Garden. She is looking forward to becoming more involved at CalBG as a trustee.



Steve Weller

Steve Weller, Ph.D., received his B.S. in Botany from the University of Michigan and his Ph.D. in Botany from the University of California, Berkeley. He is Professor Emeritus, Department of Ecology and Evolutionary Biology at University of California, Irvine where he was on the faculty from 1987–2018. For 25 years of his tenure at UCI, he was the director of a 10,000 sq. ft. research greenhouse; two major renovations of the facility were undertaken under his leadership. His research interests have focused on the evolution of plant reproductive systems and plant conservation. Notably, he is a Co-PI on a National Science Foundation grant regarding the evolution of plant breeding systems in native Hawaiian plants. Steve has been actively involved in conservation and restoration of native Hawaiian species, and he greatly values CalBG's efforts in this area.

Steve has served as Secretary and President of the Botanical Society of America. He has also been an Associate Editor for the American Journal of Botany from 2006 to the present, and served terms on the editorial boards of Evolution and Biology Letters. Steve was a member of the CalBG Advisory Council in 2022–2023, and he is looking forward to continuing his involvement at the Garden as a trustee.

GARDEN SNAPSHOT: BY THE NUMBERS (JULY 2022 - JUNE 2023)

VISITOR EXPERIENCE & EDUCATION

1,088 Learners attended native plant gardening classes and educational walks

OVER 1,700 Community members learned about water conservation at the first annual Waterwise Community Festival

3 New access programs launched:

- Free access for community members with EBT cards through Museums for All
- Free access for LA County and City public library card holders
- Free access for military personnel and their families

54
Yoga classes flowed in multiple Garden locations

1,577
Students experienced our Living Collection as part of a school tour.

CONSERVATION & RESEARCH

3,982
Plants outplanted for restoration

49,516
Plants propagated and delivered to restoration sites

147 Seed collections representing **117** species and **1,696,580** seeds added to the California Seed Bank!

HERBARIUM

8,749
Specimens mounted by our dedicated volunteers

OVER 100,000
Specimens barcoded

62,872 Specimens imaged

22,204 Specimens databased

25,000 Specimens georeferenced

LIVING COLLECTION

27 New taxa (kinds of plants) added to the Living Collection

1,157 New individual plants added to the Garden:

- **46** of which are federally threatened or endangered
- **123** of which are ranked on the California Native Plant Society's Inventory of Rare and Endangered Plants
- **225** of which are Cultivars
- **375** of which were wild collected

Welcome to a Changing Garden

By Lauren Weintraub Stoebe

If you visit California Botanic Garden over the next year or so, you're likely to notice some significant new developments—all designed to better welcome visitors (both human and animal) to explore our Living Collection. We're investing in new infrastructure, planting, and interpretation across our 86 acres, but we're particularly excited about two projects in the works. Up on the Mesa, our new Bird & Butterfly Garden is emerging from the destruction of the January 2022 windstorm and, down at our entrance, we're getting ready to start construction on a brand new welcome plaza.

Bird & Butterfly Garden

California Botanic Garden's mission, programming, and conservation work acknowledge and celebrate the complex ecosystems in which California native plants grow and thrive. From people to pollinators, the relationships between plants and animals are key to understanding and appreciating our state's incredible biodiversity. After the massive windstorm damaged a number of large plants to the east of our Outdoor Classroom on the Mesa, the Garden decided to move forward with celebrating and exploring plant and animal interactions with a new garden area specifically dedicated to these relationships. With graceful paths, shady benches, a "bubbling rock" water feature, and ample interpretation, the Bird & Butterfly Garden will open up a previously inaccessible area of the Garden to learning and exploration. We welcome you to visit this new space as we begin planting in the fall and winter, with a grand opening celebration planned for spring 2024.



Become a Garden Champion!

We invite our Garden friends to invest in these two very important projects that will enable California Botanic Garden to achieve its mission of advancing knowledge, conservation and appreciation of California Native Plants. Please contact the Advancement Office for more information about how to support our Bird & Butterfly Garden and Welcome Plaza construction: advancement@calbg.org or (909) 625-8767 x258.



Welcome Plaza

Accessibility and fun are the goals for the Garden's much needed new welcome plaza at our entrance. This renovation will transform our current minimalist kiosk into a bright and welcoming entrance area which will include a new admissions kiosk and an indoor gift shop. We look forward to greeting our guests with new signage, more benches, more accessible parking and paths, new EV charging stations, and an additional restroom facility adjacent to the parking lot and Grow Native Nursery. Construction on these improvements will begin as soon as the permits and funds necessary are all in hand!

Photos:

- (1) House Finch enjoying the Bird & Butterfly Garden's new "bubbling rock" fountain (photo by Carrie Rosema).
- (2) Planting plan for the Bird & Butterfly Garden (photo by Peter Evans).
- (3) The design concept for the new Welcome Plaza at CalBG.
- (4) The Bird & Butterfly Garden awaiting the fall planting season.
- (5) Post-windstorm plant and building damage at the future site of the Bird & Butterfly Garden.



Resources for Researching Plant Selections and Plant and Animal Interactions

California Native
Plant Society

Calscape

The Las Pilitas
Nursery Website

National Wildlife
Federation: Keystone
Plants of Mediterranean
California

Pacific Horticulture

Xerces Society

Inspiration: Pollinator Gardening at Home

By Peter Evans, Former Director of Horticulture

Recently retired Director of Horticulture Peter Evans has designed some spectacular garden areas at California Botanic Garden, and his design for the new Bird & Butterfly Garden is no exception. His extensive experience observing and stewarding plant and pollinator interactions here at CalBG has inspired his plant selections for this exciting new garden space. Here are a few of his tips for creating a thriving pollinator garden:

Popular Pollinator Plants

In my observations of plant and animal interactions in our botanic garden, sages, coyote mint, and buckwheats catch my eye as the plants most visited by pollinators. Cleveland sage is popular with the swallowtail butterflies and hummingbirds. And while we can't forget that milkweeds are important host plants for Monarch butterflies, Monarchs also need other plants for nectar. The buckwheats (*Eriogonum*) are important nectar plants for pollinators, and we'll have *Eriogonum cinereum*, *E. fasciculatum*, and *E. parvifolium* in big drifts in the new garden space.

Photo (top): Bee on Eriogonum grande var. Rubescens (photo by Deb Woo).

Host Plants



Although we think of flowers as important for pollinators for the nectar and pollen they provide, it is also important to consider the host plants that provide leafy food for the caterpillars that become butterflies and moths, and are food for birds.

Photo (above): Monarch caterpillar on milkweed (photo by Deb Woo).



Oaks are important host plants for many butterflies, and we're fortunate in that our new garden area is already surrounded by oaks. According to the National Wildlife Federation, coast live oak hosts the most caterpillar species, but not everyone has the room in their garden for such a large tree. If you have a small garden, try one of the scrub oaks like *Quercus berberidifolia*. Other good host plants are the *Frangula* (Coffeeberry), the different *Prunus* (stone fruit) species, and *Ceanothus* (California lilacs). *Frangula* flowers are also very popular with bees.

Photo (above): Butterfly on *Ceanothus* (photo by John Hamer).

Year-Round Blooms

When selecting plants, I keep in mind that pollinators need flowers year round. I chose *Achillea* (Yarrow), *Penstemon* (Beardtongues), and *Salvia* (Sages) for spring and summer blooms. *Helianthus* (Sunflowers), *Monardella odoratissima* (Mountain coyote mint), *Monardella viminea* (Willow monardella), and *Grindelia* (Gumweed) are good summer plants. For summer through fall, *Epilobium* (California fuschia), *Ericameria* (Rabbitbrush), and *Solidago* (Goldenrod) work well. *Baccharis* (Coyote Bush) and *Arctostaphylos* (Manzanita) bloom fall through winter.

Photos (clockwise from top left):

- (1) Allen's Hummingbird visiting Firecracker Penstemon (*Penstemon eatonii*) (photo by Deb Woo).
- (2) Slender Sunflower (*Helianthus gracilentus*) (photo by Deb Woo).
- (3) California fuschia (*Epilobium*) (photo by Deb Woo).
- (4) Hummingbird visiting Manzanita (*Arctostaphylos*) flowers (photo by John Hamer).



All of the plants mentioned above already exist or will be planted in the new Bird & Butterfly Garden this coming fall. Visit often to watch the Garden evolve!

Curiosity Corner

WEIRD POLLINATORS



TUMBLING FLOWER BEETLES

These little beetles are messy pollinators! Feeding mostly on nectar and pollen, the beetles also chew on flowers (causing generally minor damage) and transport pollen on their bodies when they move around.

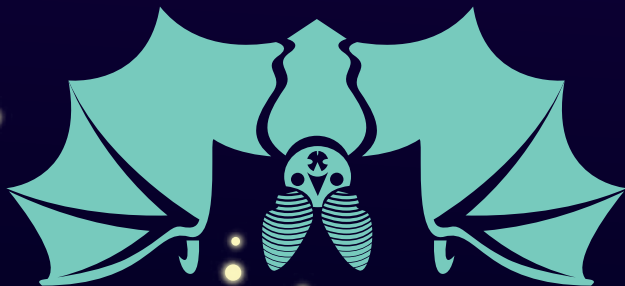
Ever seen a tumbling flower beetle? You'll know it's one by the way it kicks, jumps, and tumbles when frightened!



TACHINID FLIES

Known mostly for laying their eggs to hatch and grow on caterpillars—how creepy!—tachinid flies are also good pollinators. Tachinids resemble house flies but with extra bristles.

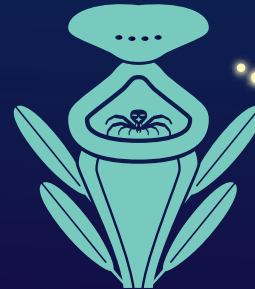
Would you want tachinid flies in your backyard garden?



MEXICAN LONG-TONGUED BAT

With tongues stretching up to half their body length, these amazing bats like nectar-rich, highly fragrant blooms with a musty, fruity aroma. Most often these are tube or funnel shaped agave and cactus flowers.

What are your favorite smells and aromas?



CRAB SPIDERS & PITCHER PLANTS

Carnivorous pitcher plants and spiders are strange partners. Insects lured by the plants are grabbed and eaten by the spiders, who then drop the leftovers for the plant. It's believed that the spiders move pollen around while living on the plants.

What kind of animal would you want to help you find food?



HAWKMOTHS & SACRED DATURA

Beautiful night-blooming sacred datura are poisonous plants, but that doesn't scare these hummingbird-sized hawkmoths! The moths are the primary pollinator for the sacred datura, moving pollen with their fuzzy heads.

Can you think of other plants that bloom at night?

LEARN MORE AT THE
GARDEN DURING...

Things
That
Go **BUMP** in
the
Night

Oct 6 & 7, 5:30 - 9 p.m.

Coming Up at CalBG

From art, to gardening, to films, festivals, and holiday lights, we've got a world of wonderful plant-focused learning and fun in store for the fall and winter at CalBG! Keep an eye on our Classes and Events page for more information and tickets.

OCTOBER

Things That Go Bump in the Night

Friday & Saturday,
October 6 & 7, 2023

Our super spooky nighttime family festival returns for the first time since 2019!

Fall Plant Sale

Acorn Member Pre-Sale
Wednesday, October 11, 2023

Open to the Public
Saturday & Sunday,
October 14 & 15, 2023

NOVEMBER

Saging the World

Sunday, November 12, 2023

Screen this important film & learn about the cultural and botanical significance of white sage.

DECEMBER

Luminaria Nights

Members Only Preview Night & VIP Reception

Friday, December 8, 2023

Open to the Public
Saturday & Sunday,
December 9 & 10, 2023
Friday & Saturday,
December 15 & 16, 2023

The Garden glows for the holidays during this annual celebration. Tickets available in mid-October.

AND SAVE THE DATE FOR OUR SPRING FESTIVALS!

Family Bird Festival

Sunday, February 18, 2024

Waterwise Community Festival

Saturday, May 18, 2024

ONGOING

Yoga in the Garden

Flow, stretch, and breathe, mornings, evenings, and weekends each month.

Art in the Garden

Monthly classes exploring creative and meditative visual interactions with nature.

Growing Waterwise Classes

Your regular opportunity to learn about native plant gardening from the experts at CalBG.



Point your cell phone camera at the QR code to visit our website

Follow us on social media:



@californiabotanicgarden



CONTRIBUTORS

Ady Bolinger, Peter Evans, Lucinda McDade, Jennifer Pizzolo, Jennifer Scerra, Kady Sebastian, and Lauren Weintraub Stoebel.

EDITOR

Lauren Weintraub Stoebel

DESIGNER

Deborah Kekone

EDITORIAL OFFICE

Send letters and submissions to:
California Botanic Garden
Attn: Matilija Editor
1500 North College Avenue
Claremont, CA 91711
Email: info@calbg.org



1500 North College Ave
Claremont, CA 91711

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Thank you to our Susanna Bixby Bryant Council Members!

Susanna Bixby Bryant founded the Garden in 1927 as a memorial to her father and as a way to secure the future for California native plants and to foster public knowledge of our natural heritage. Members of the Susanna Bixby Bryant Council have joined in this effort by including California Botanic Garden in their estates.

For more information about naming California Botanic Garden in your estate plans or naming the Garden as a beneficiary, please contact the Advancement Office at advancement@calbg.org or call (909)625-8767 x221. Your donation will ensure that your love of and support for California Botanic Garden will be remembered, and that the Garden will flourish for years and years to come.