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OAK NOTES

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The deadline for articles to be submitted for the March 2018 issue of OAK NOTES is Thursday, February 15. Thank you for your prompt submission!!



FROM THE PRESIDENT Cindy Walkenbach, Volunteer President

"Volunteering is the ultimate exercise in democracy. You vote in elections once a year, but when you volunteer, you vote every day about the kind of community you want to live in."

— Author Unknown

The purpose of a botanic garden is, of course, to display and study plants. But, a garden can have a much deeper meaning and purpose, as well, and this week that was in evidence in an email letter sent out by Executive Director Steve Windhager of the Santa Barbara Botanic Garden. His community is reeling from the events of the past few weeks, and we are all horrified by the devastation and loss of life caused by the mud flows in the fire's aftermath. How does one cope with such catastrophe and make sense of it all? Windhager, his staff and volunteers grappled with a way to help and respond to their community and decided to open the Garden with free admission. As he stated in his letter, one of the things we do best is to "provide a special serene place for people who need to escape, to meditate, to gather, to commune, and to mourn." He concluded, "we welcome those seeking respite during difficult times to come find solace and sanctuary in the Garden."

What a beautiful public outreach! How many of us come here to RSABG seeking something more from this very special place? Beyond the "museum" that it is, beyond the academic and scientific position it holds in our community, I would suggest our garden provides each of us with meaningful emotional and spiritual rewards and that individually we receive from these beautiful surroundings much more than we volunteers can ever give back.



FROM THE DIRECTOR Lucinda McDade, RSABG Executive Director

Greetings, volunteers! I hope that your winter holidays were both restful and full of the things you enjoy most. For me, that includes a New Year's Day hike in the desert which—in addition to great views and good exercise—provides a thumbnail "sketch"

of where we are in terms of rainfall in southern California. Last year, there were signs of water everywhere and seedlings beginning to sprout; this year there were no signs of water and nothing sprouting, and there were also abundant plant "skeletons" as evidence of last year's super bloom. We shall see what this spring brings!

I want to take this month's Oak Notes column to brag a bit about our graduate students. First, Nick Jensen defended his dissertation in early December. Many of you know Nick and know that he has been working on Tejon Ranch for the last five years. His work has added immeasurably to what we know of the ranch, with thousands of plant specimens serving as vouchers. Of course, these plant specimens are finding their way into the herbarium thanks to the able work of those of you who volunteer in the herbarium! The good news is that Nick is not leaving us just yet—Dr. Jensen has gone to work for California Native Plant Society (CNPS) as their rare plant officer for Southern California, and he will be

Second, our students are all stars when it comes to securing funding for their research. Manuel Luján's research—including an expensive DNA sequencing project—is currently funded by a Doctoral Dissertation Improvement Grant (DDIG) from the U.S. National Science Foundation. For many years, DDIGs have been the ultimate "feather in the cap" of graduate students in the U.S. as these grants are

based here at RSABG—a very logical partnership.

(a) very hard to get and (b) significant in terms of dollar amounts (as much as \$15,000). Unfortunately, NSF decided last fall to cancel that program citing a number of reasons. A community outpouring of lament has thus far not changed their minds, but we shall see!

Of course, if DDIGs are definitely gone, this means that other sources of funding for graduate student research are more important than ever. RSABG has a number of small- to medium-sized endowed funds dedicated to supporting students. These include the

Goldhamer fund initiated to honor long-time volunteer Irv Goldhamer. His family, now in the form of his son, David, has continued to grow the fund in the years since Irv's death. Likewise, the Jean Platt fund was begun by former trustee Jean Platt via her estate; Jean's daughters (including Ann P. Walker, now an RSABG trustee

—Michael Pollan

The garden suggests

there might be a

can meet nature

place where we

halfway.

in her own right!) have very generously continued to add to the fund. It is hard to imagine a mechanism to memorialize a person who cares about plants, our planet, education, and the future that is more apt than a fund for graduate education! RSABG's alumni also contribute: the Alumni Fund for Graduate Education was established nearly 10 years ago and now provides significant support for the graduate program here.

Our students are also schooled—beginning in their first semester—to seek external sources of funding. These range from a few hundred dollars from local chapters of CNPS to several thousand dollars from national-level highly competitive sources [e.g., the Garden Clubs of America; the Lewis & Clark Fund for Exploration (from the American Philosophical Society)]. Most professional societies also have grant programs for research funds. Our students excel in these competitions.

Why the focus on the mighty dollar when we are talking about education? I know you know that education costs real money. Field and lab work also cost real money, and our students' theses and

dissertations are much stronger, more innovative and creative when they are not tightly constrained by funds. For example, Dylan Cohen is off right this minute in Argentina where he will see and collect lots of plants of his study group, Loasaceae, in support of his dissertation research. Alternatively, Dylan could rely entirely on herbarium specimens for his work and remain here in Claremont atobviously—much lower cost. However, Dylan's knowledge of the group will be vastly enhanced by first-hand work with them in the field. He will also be able to collect a variety of plant tissues from fresh material that will support excellent work both in the DNA lab and in the anatomy lab. Our knowledge of the group will be vastly improved by Dylan's fieldwork; among other things, the images that he is capturing of them (see the bulletin board across from the mailroom) immeasurably enrich our knowledge of our plant heritage. In sum, the ability to undertake fieldwork will strengthen Dylan's dissertation while also increasing our understanding of our planet's rich plant diversity.

And strength is what our graduate program is all about. We are dedicated to educating the next generation of plant scientists to yield colleagues who

are knowledgeable, skilled, innovative, and fearless when it comes to embracing new research approaches. Many of them will also keep the chain going by working as educators for those who follow.

Importantly, few botanic gardens are home to graduate education programs (although many have other kinds of educational programming as, of course, does RSABG). Graduate studies is one of the programs that makes RSABG such a special Garden! I hope that you have the opportunity to interact with our graduate students often. They all love talking about what they are working on and would be happy to tell you about their work. Of course, many contribute to the volunteer program by giving talks, helping to train Nature Interpreters, and participating alongside volunteers in family education events.

School Tours are in full gear: thanks Nature Interpreters! Family Bird Fest will be celebrated soon: thanks to all of you who volunteer on that fun and educational day. And, of course, *thanks* to all of you for the many ways in which volunteers make RSABG a better Garden!



MEET RICHARD S. DAVIS Horticulture and Research adjacent pa

Committee co-Chair

I practiced primary care internal

I practiced primary care internal medicine in Arcadia 1980–2015 after graduating from Stanford

University in biology, and Tulane Medical School, LAC-USC residency. I feel that a pragmatic, clinically based approach to medicine resonates with my attitude to horticulture. The last half of my work was in solo practice. I found it profoundly fulfilling. With my dear wife's terminal illness in 2015 I chose to retire from medicine.

I have been an avid gardener from my mother's tutelage at 5 years of age. My wife and I had had mountain property in Arrowbear at 6,100 ft. Joining RSABG in 2012, I was awakened to the possibilities of native plant horticulture. Acquiring

adjacent parcels to total 2 acres I have really received the pleasure that many of you know a garden can bring. I am proud to have 62 regionally indigenous plant species and a few indulgences like *Sequoiadendron giganteum* and *Festuca idahoensis* from outside our region. The property is also National Wildlife Federation certified wildlife habitat with a lot of great fauna present.

My wife had commented on my annoyingly positive attitude and unbridled enthusiasm. Fortunately RSABG seems to have room for me to burn this off. I am grateful to have been welcomed in a number of departments here. Grounds work out in the communities is my special love. Analytically I look at the communities as a priceless resource; emotionally as a place of solace and peace.



VOLUNTEER
PROGRAMS
Kathleen Noll, Manager
of Volunteer Programs

It's time to plan. Map out your spring. The Garden has had a bit of rain and smells of soil and new grass! So much newness in the Garden and so many possibilities in our upcoming season of special events: Family Bird Festival on Sunday, February 18, Poetry Day (early April), Wildflower Season (mid-April) and the Butterfly Pavilion (late April). Coming up are exciting events offering opportunities for seasoned volunteers and those of you new to volunteering in the Garden. You are sure to find something suited to your interests, talents and enjoyment supporting RSABG.

Please do reply by email to confirm your spot for Family Bird Fest, or next time you are in the Garden, visit the volunteer bulletin board to review openings and sign up. There are plenty of shifts available for this fun event, many with "no experience required."

Reminder: Volunteer Hours

The reporting of service hours is vital to the financial well being of RSABG. The recorded service hours performed by volunteers is necessary for grant applications where these statistics are required as part of the application process. Government agencies and corporations closely examine the total number of volunteer hours as the basis for awards to organizations. Your attentiveness to turning in monthly time cards is vital. As many of you know, the volunteer program will implement an online volunteer service reporting system. Until then, there are three locations within the Garden where you may pick up yellow time cards and turn in your service hours: the admission kiosk, the volunteer bulletin board (across from the Herbarium), and the volunteer library. Of course, you may also email your completed time to knoll@rsabg.org. Many thanks to all faithfully reporting your monthly service hours—your support of the Garden helps in so many ways!



TOURING PROGRAMS Judy Hayami, Touring Programs Manager

National Geographic Magazine has proclaimed 2018 to be the "Year of the Bird," not to be confused with the Chinese calendar Year of the Dog. Throughout the year, the magazine will feature articles providing insight as to why birds matter and to inspire us to appreciate the 10,000 species of birds with whom we share earth, sea and sky. I expect many impressive photographs will accompany the articles. I read the compelling introductory article in the January issue and encourage you to do the same, whether or not you are considering a volunteer shift at our annual Bird Fest.

The sign-up sheet for Bird Fest is posted and waiting for your autograph. This family event, sponsored by



A Very Happy February Birthday to:

Dorcia Bradley Richard Davis Marcia Goldstein Natalia Guevara Kathy Hacker Carol Hopping Mary Krahn Julie Scheuermann Tina Van Wert Amanda Vlietstra Torin Vlietstra Emy Lu Weller Sandy Wilson Betsy Zimmerman Wild Birds Unlimited, is set for Sunday, February 18, from 10 a.m. to 3 p.m. Last year, even though it was a very gray day, 635 human visitors and 47 species of birds flocked to the Garden. Volunteers engaged families with crafts, information and activities all about birds. There are opportunities for the novice volunteer, the seasoned veteran and for Nature Interpreters. If you have never even seen a quail or a kestrel, please do not let that stop you from joining the flock at the Fest. You may discover something interesting about each of those birds before you leave. We welcome help from all volunteers with all aspects of this event from take-off (set-up) to landing (take-down).

The Spring team roster for Nature Interpreters conducting tours this season has been broadcast via email. Please check your inbox. A few hard copies are in the wire basket affixed to the wall beneath the tour boards. Check in with your team captains and keep a close eye on the NI calendar. If you do not know how to find and review the online calendar, please contact me.

Wishing you happy and healthy hearts on Valentine's Day!



NOTES FROM ADVANCEMENT Anne Scott-Putney, Director of Advancement

We are very excited that donor support for The Garden Fund at year-end was outstanding. Two anonymous donors had generously provided a challenge to match all new and increased gifts 1:1, up to \$36,000. I'm very pleased to let you know that we met and far exceeded our goal! Thank you for giving of yourself in so many ways, and to The Garden Fund which supports all aspects of our mission — from education to conservation, research, horticulture

and visitor services. It takes a Garden to keep our Garden growing strong.

Up Next:

- Early Bird Breakfast for Acorn members on the morning of the Bird Festival, February 18, with catering by Buttercup and a special visit by Wild Wings, the raptor rescue group. Invitations will be going out soon. If you have contemplated becoming an Acorn member, now might be just the right time to upgrade—contact our office to upgrade at 909-625-8767, ext. 222.
- Planning Your Legacy—is a lunch and learn event from noon to 1 p.m. on Thursday, February 22 at the Garden with Linda Davis Taylor, CEO of the investment firm Clifford Swan. You are invited to attend to learn more about the process of creating your legacy—for family and the organizations you care about. We will also share information about the Garden's own Legacy Society, the Susanna Bixby Bryant Council, named for the Garden's founder.



As wreath making got underway at the Grapevine Harvest, Judy Whale and Susan Spradley were overheard laughingly calling themselves the names "Picky" and "Cranky" because of the early hours and lack of enough coffee before they left home. In spite of those early "nom de feelings," these two created a host of lovely miniature woven wreaths and brought sunshine to those of us around them with their humor.

Photo and caption by Dorcia Bradley

The event is free, please contact our office at 909-625-8767, ext. 258 to register.

- Watch your email inbox for a new event, "Spiked Fridays in the Grove of Thorns." The new Grove of Thorns is beautiful lit up at night, and we'd like to celebrate—with inspiration from our native plant mission. Every Friday night in March, from 5:30–8:30 p.m. join us for native-plant infused cocktails and live jazz piano music. More details to follow! What better way to welcome the weekend in a beautiful setting?
- If you haven't yet seen the Milford Zornes: The Claremont Years exhibit in the Art Gallery, make sure to see it before it closes at the end of February. Zornes (1908–2008) was a leader of the California watercolor movement, and the exhibit focuses on the three decades of his life when he lived and worked in Claremont. Following Zornes, on Thursday, March 8, we will open a new exhibit by Sarita Dougherty that will feature works of native California plants painted during her recent residency at the Huntington Gardens.

VOLUNTEER ENRICHMENT: CLAREMONT GARDEN CLUB Donna Bedell, Enrichment Committee

When botanist Sue Schenk arrived in Claremont in 1982, she immediately searched for a garden club to join, unsuccessfully. Thirty years later, in 2012, she finally found other interested people to start the Claremont Garden Club. At our February 26 enrichment program, she will tell us more about the club and its association with Sustainable Claremont.

The club is free to join, open to all, and embraces all types of gardening. The club sponsors talks on gardening, potlucks, and occasional field trips. Last year they sponsored the first annual Claremont Flower Show with the Claremont Woman's club. The proceeds from the garden tour provided funding for the club and allowed the group to make donations to

groups such as the Claremont schools, city programs, and the RSABG volunteer program.

Sue Schenk has a B.A. in botany from UCLA, a Ph.D. in plant physiology from the University of London, and has studied horticulture at Mt. San Antonio College just for fun. Until her recent retirement, she was the Lab Lecturer in Biology for the Keck Science Department at the Claremont Colleges.

Please join us on Monday, February 26, at noon, in the East Classroom. Coffee, tea, and cookies provided and feel free to bring your lunch if you wish.

OLIVE TREE (OLEA EUROPAEA) Rudi Volti, Nature Interpreter

Imagine a world without olives. A pizza would lack pepperoni's usual accompaniment. *melanzana* (eggplant) might have to be fried in palm oil. You couldn't make a martini. OK, you could substitute a pearl onion and call it a Gibson, but still.

Awareness of the value of the olive tree and its fruit motivated its domestication some 7,000 years ago during the early Bronze Age. After cultivation spread throughout the Mediterranean region, olive trees moved to the New World, where seedlings from Spain were planted in Lima in 1560. Two centuries later, Spanish friars introduced olive trees to those parts of California where a Mediterranean climate



prevailed. Olive trees are well-suited to the region because their long roots penetrate deeply into the earth, reaching damp soil even during hot, dry summers.

Mediterranean countries continue to be the prime source of olives. Spain is the leading producer, accounting for 7,869 million tons a year, followed by Italy and Greece, with 3,182 million and 2,000 million tons, respectively. California accounted for a mere 170 million tons, less than one percent of global production.

In 2011, about 9.6 million hectares worldwide were planted with olive trees, which is more than twice the amount of land devoted to apples or bananas. Olive trees can be quite productive; a single tree can produce up to 20 gallons of oil per year. Oil is the tree's primary product; about 90 percent of all harvested olives are turned into oil, with the remainder consumed as table olives.

Table olives are like acorns in that they require a fair amount of preparation before they can be consumed. Spanish or Sevillian type olives are soaked in lye for 8–10 hours and then fermented in brine, while Sicilian or Greek type olives skip the lye treatment. Olives harvested in California usually are soaked in lye and then are treated with water and compressed air. This turns them from green to black, thereby mimicking the natural ripening process.

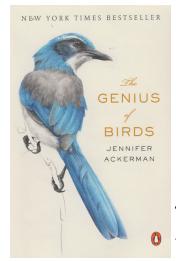
Olive trees grow slowly and are small in stature. Consequently, olive wood and its products are relatively expensive. Common uses of the wood include kitchen utensils, wooden bowls, cutting boards, and decorative items.

Given its area of origin and antiquity, the olive tree has numerous cultural references within the Abrahamic religious traditions. The olive tree and olive oil are mentioned seven times in the **Quran** and the olive is listed in **Deuteronomy** 8:8 as one of **seven food products** of Israel. More vividly, as narrated in **Genesis** 8:11 when a dove brought Noah the leaf of an olive tree, the patriarch understood that the great flood had receded and plants were growing once again. Even more dramatically, it was olive oil that was burning in the lamps that miraculously remained aflame for eight days after the

rededication of the Temple of Jerusalem following the successful revolt of the Maccabees against the forces of Antiochus IV. Jews today celebrate this miraculous event as Hanukkah.

The olive also appears in the New Testament in the name of the **Garden of Gethsemane**, which is derived from the Hebrew words for olive press. More directly, in Romans 11:17-24, Paul likens the Gentiles to the broken branches of a wild olive tree who, through faith, may be grafted to the cultivated tree that represents Israel.

For all of the practical and cultural importance of olive trees, residents of suburban spaces like Claremont often find them to be a nuisance. The unused fruit drops to the ground, staining sidewalks and providing a stockpile of missiles for local kids. This can be prevented by spraying trees with substances that trigger the release of ethylene, which in turn prevents the trees from putting forth fruit. But perhaps a better course of action would be to avoid planting this non-native tree in the first place.



BOOK OF THE MONTH Amy Baumann, Volunteer Library Committee

"The Genius of Birds" by Jennifer Ackerman. 266 pp. Penguin Books. 2016.

In this New York Times bestseller Jennifer Ackerman makes the case for the astonishing intelligence of birds. Her conclusions are based upon her observations from global travel and the most recent scientific studies of bird behavior. Ackerman's writing refutes the long-held view that birds are stupid. "Our language reflects our disrespect. Something worthless or unappealing is 'for the birds.' An ineffectual politician is a 'lame duck.' To 'lay an egg' is to flub a performance. 'Eating crow' is eating humble pie." The English language expression "bird brain" gives

the impression that birds' brains are so small they have no capacity for thought at all.

Ackerman presents a compelling case that the view of birds as brainless is "gone goose." The book presents research from around the world with examples of bird species demonstrating mental feats comparable to those found in primates. The author provides fun examples of birds using tools to lure food and to defend against prying researchers. She presents the skill of many birds to include glittery, shiny things in their nests as creative artistry. A provocative section of the book addresses the ability of some birds to imitate sounds for vocal production, called vocal learning, which is rare in the animal kingdom. The chapter on the social savvy of birds suggests that some bird species have social lives nearly as complex as humans, which requires some very sophisticated mental skills.

The book, a recent addition to the Volunteer Library, is highly entertaining and will also contribute to your knowledge of avian intelligence.

SLOPE FAILURE Fred Brooks, Nature Interpreter

To escape a wildfire is only to live in fear of a landslide.

How can you know if a slope is unstable? Even experts deal in probabilities. Following a wildfire, what are some of the important conditions these experts consider when assessing if a slope will fail and when?

Slope: The steeper the slope, the greater the pull of gravity on soil, rocks, and vegetation. Over half of all slope erosion in southern California is due to soil slippage, which occurs even in the absence of fire.

Vegetation: Plant roots help stabilize hillsides and deep-rooted shrubs hold the soil better than grasses. Heavy growth from the 2016-2017 rains was followed by late, persistent "Santa Ana" winds ("Diablo" winds in the north) and dry weather. These conditions intensified the October and December 2017 wildfires in northern and southern California, respectively.

Soil permeability: The faster a soil can absorb rainwater the less chance of surface runoff and erosion. Sandy soils accept water more quickly than heavy, clayey soils. An important factor following scrubland fires, however, is water repellency. Chaparral plants are coated with waxy substances that reduce water loss. The soil surface is covered with plant litter, forming a hydrophobic layer that creates runoff during rains. Wildfires burn plants and litter, vaporizing the waxy material and coating soil particles below the surface as it cools. This hydrophobic layer forms parallel to the surface, reduces the soil's water-holding capacity, and encourages sudden slope failures.

Rainfall: Heavy or prolonged rainfall that exceeds the soil's ability to absorb it creates runoff and debris flow. As the soil moves downhill it liquefies, becoming a muddy slurry that sweeps up everything in its path. The size of a slope failure is determined partly by the depth of the bedrock or the hydrophobic layer.

Wildfires are a visible danger; landslides are an unseen threat.

3 CHEERS FOR CAROLE!

The publisher of this newsletter, Carole Aldrich, is the spouse of volunteer Win Aldrich.

At the December quarterly volunteer meeting Carole was recognized for her generous assistance to Oak Notes.

Each month for almost five years Carole has accepted the written contributions from our hardworking columnists and, using her professional publishing skills, has turned this material into the useful and attractive publication which serves the volunteer organization.

To show her our appreciation, Carole was presented with a gift card to one of her favorite places amid a round of applause.



FEBRUARY CALENDAR

Events

February 18: Family Bird Fest, Sunday, 10 a.m.— 3 p.m.

Ongoing: Classes, Meetings and Workshops

February 1: Volunteer Organization Board Meeting, Thursday, Noon–1:30 p.m., East Classroom

February 3: Garden Walking Club, Saturday, 8 a.m., Admission Kiosk

February 3: GNN Workshop—Container Gardening with California Native Plants, Saturday, 10 a.m.–noon. FREE, pre-registration required

February 4: Pomona Valley Audubon Society Beginner's Bird Walk, Sunday, 8–9:30 a.m., Admission Kiosk, **Free!**

February 4: Medicinal Plants of California Herb Walk, Sunday, 10 a.m.–1 p.m., pre-registration required; \$20 members.

February 5: Volunteer Library Committee Meeting, Monday, 10:15–11:45 a.m., Volunteer Library

February 5: Meet RSABG Doctoral Student/ Photographer/Botanist Keir Morse, Monday, 9–10 a.m., East Classroom. Everyone is welcome!

February 6: Volunteer Public Relations Committee Meeting, Tuesday, 10–11a.m., Volunteer Library

February 10: Garden Walking Club, Saturday, 8 a.m., Admission Kiosk.

February 10: New Member Orientation, Saturday, 10–11:30 a.m.

February 10: Class - Birding & Drawing to Pathways of Observation, Saturday, 10 a.m.–3 p.m., pre-registration required; \$40 members.

February 14: Education Materials Work Party, Wednesday, 9–11 a.m., Lenz Hort Classroom, everyone welcome!

February 17: Garden Walking Club, Saturday, 8 a.m., Admission Kiosk

February 17: Family Bird Walk–Wild Birds Unlimited, Saturday, 8:00 a.m., Admission Kiosk, **Free!**

February 17: GNN Workshop–Growing and Eating California Native Plants, Saturday, 10 a.m.–Noon, pre-registration is required; **Free!**

February 18: Family Bird Fest, Sunday, 10 a.m.–3 p.m., FREE with admission

February 21: Volunteer Personnel Committee Meeting, Wednesday, 9:30–11 a.m., Volunteer Library

February 24: Garden Walking Club. Saturday, 8 a.m., Admission Kiosk

February 24: Class–Prickles, Spines & Thorns, Oh My! Saturday, 10–11 a.m., pre-registration is required; \$10 members.

February 26: Education Materials Work Party. Monday, 9–11 a.m., Lenz Hort Classroom, everyone welcome!

February 26: Volunteer Enrichment–Dr. Susan Schenk, Keck Science, Bernard Field Station, Claremont Colleges, Monday, Noon–1 p.m., East Classroom

February 26: Visitor Education Committee Meeting, Monday, 1–2:15 p.m., Volunteer Library

February 28: Volunteer Time Cards Due, Wednesday, 8 a.m.–5 p.m.



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