

# Oak Notes

Volume 37  
Number 1  
September 2018

NEWSLETTER OF THE RANCHO SANTA ANA BOTANIC GARDEN VOLUNTEERS

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## 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

Today the Garden is challenged by the unending heat and dryness that some have called our "new normal." We know that plants have suffered and that staffers have been working hard to maintain and make key improvements to the landscape in the face of harsh conditions. As volunteers we stand committed as valued team members ready to help in our varied roles.

Recently, I was asked to answer a question to be posted on a blog for people unfamiliar with what we do here: "What would you tell someone who is interested in volunteering with Rancho Santa Ana Botanic Garden?" Here is my response:

*The opportunities here are countless and appeal to many interests. One can cashier in the gift shop, pull weeds and tend plants, quietly catalogue in the research library, or create lovely bouquets for events as a member of the Native Design team. One can use skills acquired over years of working or try totally new things to do. Volunteers can commit to regular assignments like becoming Nature Interpreter/docents or simply help out occasionally for events and projects. What is truly special are the friendships formed among volunteers and with very appreciative Garden leaders and staffers whose gratitude for the volunteers is demonstrated often. A sense of "team" pervades the organization and the common thread that links us all is our collective commitment to protect, preserve, and educate our community about California's amazing native flora.*

We have special work to do! Thanks to each of you who volunteered this summer, and welcome back to those who took a brief hiatus. I look forward to seeing you at the **Quarterly Luncheon on Friday, September 7**, as we renew friendships and learn about Garden events and plans for the coming year.

The deadline for articles to be submitted for the October 2018 issue of OAK NOTES is Saturday, September 15. Thank you for your prompt submission!!



## FROM THE DIRECTOR

Lucinda McDade, RSABG  
Executive Director

### What happened and what's happening?

Hello volunteers! It is time to welcome Oak Notes back from its summer holidays—we can all hope that it had a relaxing time! In like fashion, I hope that many of you have had some relaxing time away in the last couple of months and, specifically, time away in cooler places than Claremont (and all of California) has been. If you have been away and are just coming back and walking about the Garden on your favorite trails, you may be noticing that many plants have scorched leaves or are otherwise not looking very happy. What happened?

One thing that has not happened is that RSABG staff have not stopped watering plants that we know will benefit from some water during the summer (some natives do and some do not, as many of you know). What did happen is that, on July 6, after a mostly very nice spring including nice spells of May Gray and June Gloom (even the 4th of July was relatively mild!), it suddenly got blazingly hot. Almost everywhere in So Cal all-time high temperature records were shattered. Here in Claremont, it was something like 114 degrees coupled with very very low humidity. Those conditions mean that plants trying to cool themselves by evaporating water out of the stomates (plant pores) on their leaves (a process called transpiration) could not keep up with the heat, and the leaves burned up. It is perhaps not shocking that many redwoods were impacted but, surprisingly, even some plants that are native to this area of California including some that planted themselves here (i.e., are “site native”) also were damaged. The burn happened all over southern California including at our sister botanic gardens. The Huntington, the LA Arboretum, the Fullerton Arboretum, Descanso.... all experienced the same phenomenon. If you listen to NPR, you will have heard a couple of

*“In every walk with nature one receives far more than he seeks.”*

—John Muir

local news stories about how the oven-like conditions impacted people's vegetable gardens, as well as ornamental plants in their landscapes. I can add that essentially all of our lemons got sort of “stewed” on the trees in our yard here in Claremont. It's a sad situation.

What's next? Well, to my surprise, in a very short period of time, quite a few of these burned plants began re-sprouting. To see this, you need go no farther than the junipers near the entrance, the coffeeberries planted along the north edge of Johnson's Oval near the driveway or the redwoods that are behind (west of) the library/lab annex. Because new leaves are very tender when they are young, I would have predicted that our plants would not re-sprout so quickly—indeed, not until fall. We have no idea whether this re-sprouting is a “wise” strategy for our plants to be using—time will presumably tell!

The very hot weather has continued nearly unabated, although the next day—July 7—was again extremely memorable. It began with a low (“low”) in the 80s and monsoon clouds began building over the mountains early. At about **2 PM: Deluge**, complete with thunder, lightning, and hail. I will try to share with you an image that I took of rainwater run-off pouring down to Benjamin Pond. Something like half an inch of rain had fallen by the time it was over.

Since then: just hot and frequently far too humid to be even remotely comfortable. We had to close the Butterfly Pavilion many afternoons in July owing to heat: just too hot for our staff and wonderful volunteers who do such an excellent job of providing a quality experience for our guests (and the butterflies are not all that enthusiastic about it either). We have also implemented a heat policy for kiosk staff. Officially we close the kiosk in the afternoon if it is predicted to be over 100 degrees but kiosk staff have the discretion to close when they assess conditions to be unacceptable. Fortunately, the Advancement office essentially always has (inside) work for kiosk staff, so that being safe in the heat need not represent a financial sacrifice.

On to what's happening now (mid-August) in multiple places along the West Mesa trail. First, if you've been paying attention to your Garden email, you will know that we are renovating Upper Pond. The renovation will correct three major problems with the former pond: it leaked horribly, it was entirely too large (including extending way up under the dogwoods to the east where no one could enjoy all of that water in any case), and it was not friendly to visitors. All three of these problems are being addressed in the renovation. The lovely water lilies are taking a vacation in Benjamin Pond and will return to Upper Pond very shortly, as will the other important plants that were there—and some new selections will be added, as well.

Upper Pond will also feature an attractive and informative interpretive sign that will serve the second very important purpose of memorializing your late colleague, volunteer and Nature Interpreter Toni Clark. It is my understanding that Toni especially enjoyed teaching the aquatic ecology/ water quality topics to her young charges, such that remembering her at Upper Pond is highly appropriate. I know that I will be happy to have a special place to celebrate Toni's wonderful life and many contributions to our Garden. The renovation of Upper Pond may well be complete by the time you get this edition of Oak Notes; the interpretive sign will take a little bit longer, but we move pretty quickly these days.

Farther south on the West Mesa trail, if you've ignored the hazard flagging (which I hope you have not!), you will come across a trench that exposes a rather elderly looking pipe that runs east-west across the trail. This, friends, is the natural gas line to the lab annex and main building. Long story short, although we've had "officials" out to investigate reports of gas odors in that area for years and have always been told "no pipes there, no gas," that is where our gas line is, and it is leaking. Well, it was leaking as the gas is now entirely turned off from down by the entrance. More gory details are available if you are interested—ask Peter Evans, Ashlee Armstrong, Adeline Ojeda or me about it—but the bottom line is that we will be getting the line fixed as soon as we can.

Onward into the season of the year when the shortening length of daylight promises us that cooler times are ahead—but the heat is likely to continue for a while as we all know. Please feel free to commiserate with our horticulture staff—as much as all of us hate to see the burning, it can feel like a personal affront to our colleagues whose job it is to keep the Garden beautiful. Also feel free to communicate with visitors you may be interacting with about what's going on. Please join Garden staff in watching as our native plants respond to the extreme conditions we've experienced. I know we are all cheering them on!



## VOLUNTEER PROGRAMS

**Kathleen Noll, Manager of Volunteer Programs**

### Save the Date:

**Volunteer Quarterly Business Meeting & Potluck, Friday, September 7, 11:30 a.m.** in the Outdoor Classroom. Many volunteer opportunities will "unfold" at this fun get-together. Volunteers will get



### A Very Happy September Birthday to:

Win Aldrich	Judy Maciariello
Donna Bedell	Dean McHenry
Herb Boss	Ann Morgan
Patricia Brooks	Kathleen Mulligan
Peter Cherbak	Fran Neu
Eleanor Carter	Tom O'Keefe
Laura Holbrook	Cathy Reaves
Alan Jack	Mike Smith
Sam Kamler	Susan Spradley
Marga Loncar	Rosalie Trax



the latest information on what is new around the Garden and important information about the special exhibition, **Origami in the Garden<sup>2</sup>**.

### **Welcome New Volunteers:**

**RSABG 101: New Volunteer Orientation** Friday mornings, **September 21 & 28** or Saturday mornings, **September 22 & 29**. We are recruiting Nature Interpreters for the Touring Program and docents to lead walks for Origami in the Garden<sup>2</sup>, as well as the Gift Shop, Horticulture, Research & Conservation, and Public Outreach. Please welcome our new volunteers!

### **Coming up:**

RSABG is building a team for the **17th Annual Claremont Village Wine Walk on Saturday, September 8 from 3:30—6:30 p.m.** This is a fun outreach opportunity for Garden volunteers 21+ to get out into the community for a few hours of fun. Over 40 village businesses will serve as wine tasting and food sampling sites (several are non-alcohol sites). **A portion of the proceeds benefits RSABG!**

**Volgistics:** This September the Garden is excited to launch Volgistics online volunteer management system! With Volgistics you can check your schedule, enter hours and see how many hours you have contributed.

**Things that Go Bump in the Night: Friday & Saturday, October 12 & 13.** Family Education Event for family, friends and flashlights! Explore the nocturnal world of plants and creatures most active at night! Discover the “night life” of wolves, owls, spiders, insects, plants and fungi!

**Origami in the Garden<sup>2</sup>: Saturday, October 20.** Opening of an outdoor sculpture exhibition created by American artists Jennifer and Kevin Box that captures the delicate nature of this paper art form in museum quality metals. October 2018–April 2019

**Fall Plant Sale: October 27.** The seasonal opening of Grow Native Nursery at RSABG includes an amazing selection of California native plants, seeds and decorative wreaths made by the Native Designs florist team, and our famous bake sale!

—Kathleen

## **CONGRATULATIONS, VOLUNTEER HERB BOSS**



If you find inspiration in the success of others, set your sights on active Garden volunteer Herb Boss whose long life has been marked by successes and hard work in many areas. In September he will celebrate his 90th birthday!

Herb was born and reared in El Monte where his Swiss immigrant parents owned a dairy farm. After Army service, post WWII, he met Lee at “Mt. SAC,” and they were married on the radio show, “Bride & Groom.” While working, they continued their education, Herb majoring in dairy husbandry at Cal Poly. After also earning

a teaching credential, Herb started a 29-1/2-year teaching career.

Herb and his family have always enjoyed the outdoors and always had a garden. He and Lee have been active volunteers at RSABG since 2009. For many years he has worked on the grounds in the area around the kiosk and parking lot. He helped with the rehabilitation of the corral outside the east classroom, as well as with maintenance, special events and in the nursery.

When asked which Garden improvements he has seen in the last ten years which he feels are particularly beneficial, he replied: the addition of women to the horticulture staff, Johnson’s Oval, upgrades in the nursery, upgrade of the irrigation system, Peter and staff planting lots of plants.

Happy Birthday, Herb!



## TOURING PROGRAMS

**Judy Hayami,**  
**Touring Programs Manager**

### Fall Greetings to All Volunteers!

Drop-in help is welcome at the season's first education materials Work Party, September 12 at 9 a.m. in the Horticulture Classroom. Stuffing envelopes, bundling fiber, collating and preparing event craft items are among the miscellaneous, but very necessary, projects. No experience required. New volunteers are always welcome.

Is anyone available to drive around in the little green Education cart to unpack and/or repack program station materials on Friday mornings? It's a rather pleasant morning jaunt and a good way to stay connected with the ever-changing landscape in the Garden. I am happy to arrange a ride-along to observe, if you would like to see what is involved. Set-up takes about an hour and needs to be completed by 9:15 a.m. Packing up starts at 11:30 a.m. and also takes about an hour. Cart driver training will be arranged and will add a valuable skill to your volunteer repertoire.

Now is the time to make plans to be here Friday, October 12 and Saturday, October 13! You do not want to miss *Things That Go Bump in the Night*. On the two nights of this special family event, live ambassador wolves and owls will visit the Garden. Andre Campbell and his lively *Blood Sucking Insects: Comedy Bug Show* will entertain and educate our guests. Activity, craft and educational stations, will make learning fun after dark. We're planning to have a food truck on site each night, and the Volunteer Hospitality Committee will sell coffee, hot cocoa and sweets as a fund-raiser once again. We need all the help we can muster. Sign up through Volgistics (ask Kathleen)! The very important event volunteer orientation is set for Thursday, October 11, 1 p.m., Outdoor Classroom.

The *2018–19 School Tour & Program* brochures have arrived. Feel free to pick up copies of the new brochure from the table outside of my office Door

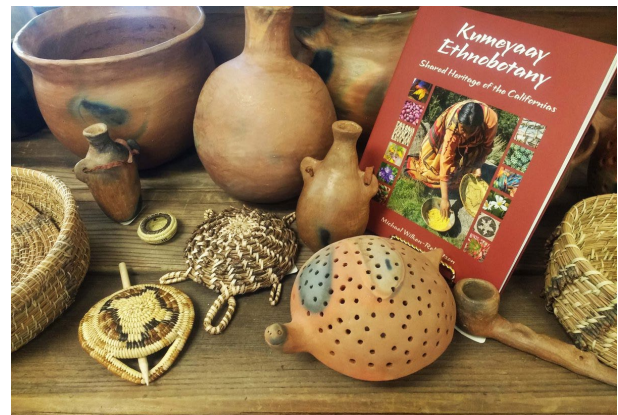
#121 and spread the word of our popular educational field trip opportunities.

A six-session course for new Nature Interpreters begins Wednesday, October 24. Current volunteers who are not NIs: Why not give it a try? You CAN do it! Current NIs: Encourage other volunteers and friends to join you in this valuable area of service to the Garden and to our guests of all ages. Please contact Kathleen Noll or me for additional information.

Many thanks to all those who helped with Teacher Open House, August 11. Teachers were impressed and enlightened by what they saw and heard. Eighteen tours and programs were reserved in less than three hours! The following Monday morning, even more reservation requests and several voicemail inquiries were waiting for me. The school year is off to a great start!

Thank you **all** for your support.

–Judy



## HELP WANTED! GIFT SHOP ASSISTANT

Volunteers are needed to greet guests, perform telephone reception duties, cashier duties, interact with visitors to the administration building – be the “Face of the Garden!”

Email [knoll@rsabg.org](mailto:knoll@rsabg.org) or call 909-625-8767, Ext 256 or Sign-up at the Volunteer Quarterly Business Meeting on Friday, September 7 at 11:30 a.m. in the Lantz Outdoor Classroom.

# ORIGAMI IN THE GARDEN<sup>2</sup>

David Bryant, Manager of  
Communications and Graphic Design



Prepare for an unfolding menagerie of galloping ponies, soaring cranes and winged horses! Debuting for the first time in California at Rancho Santa Ana Botanic Garden, Origami in the Garden<sup>2</sup> will present 16 outdoor sculptures and an accompanying Art Gallery exhibition. Each artwork, originally conceived from

a single sheet of paper, is a larger-than-life origami sculpture cast in museum-quality metals. From a seaworthy boat on Benjamin Pond to a roaming bison atop the California Courtyard, these beautiful sculptures will transform our Garden's landscapes and invite old friends and new audiences to experience the transformative connections between art and nature.

Created by artists Kevin and Jennifer Box, Origami in the Garden<sup>2</sup> captures the delicate nature of Origami, a paper art form originating in Japan and celebrated throughout the world. The exhibition features the Box's own compositions as well as collaborations with world renowned origami artists.

Origami in the Garden<sup>2</sup> opens to the public on October 20, 2018 and will be the largest exhibition that our Garden has ever undertaken. There are many volunteer opportunities available to support the implementation, installation and programming of this fantastic show. Current opportunities include:

- **Docents** to lead weekend tours and other special walks through the Origami in the Garden<sup>2</sup> exhibition and provide interpretation for the artworks. Trainings and information packages will be provided for interested volunteers.
- **Nature Interpreters** to lead one-hour arts-based school tours focused on Origami in the Garden<sup>2</sup> artworks that speak to STEAM (science, technology, engineering, art and math) through the lens of Origami. You don't need to know about art, origami or STEAM to apply! Trainings for this special school tour will be provided.
- **Artwork Condition Reporters** to make weekly observations and documentations about the condition of each Origami in the Garden<sup>2</sup> artwork.
- **Public Relations Volunteers** to bolster the Public Relations committee and support the additional tasks of advertising distribution and local networking.
- **Event Volunteers** to assist with programs related to the Origami in the Garden<sup>2</sup> exhibition.

If you are interested in getting involved with the production of the exhibition in any of these capacities or would like to discuss other options for supporting

## IN MEMORIAM: DR. JUNE TEITSWORTH



Emerita Alumni Volunteer June Teitsworth passed away in May 2018. June began volunteering at the Garden in 1979 and served as the very first Volunteer Organization President from January 1986–May 1987. She served on the 1984 committee that developed the first version of the Volunteer Handbook, and in 1987 served on the Volunteer Personnel Committee that determined the need for volunteers to have a part-time staff person to assist with volunteer recruiting, training,

and placement. In addition to serving on leadership committees, June was a Nature Interpreter and upon her retirement as an active volunteer, she wrote, "The past 24 years have been an enriching experience for me. I have learned much and have thoroughly enjoyed my association with the other volunteers and with the staff members plus helping children appreciate nature." June Teitsworth was born in June 1916 and made outstanding contributions to the Garden and the community. She served students at Chaffey College as a counselor and retired as Dean of Student Services in the 1980s. The Garden's volunteer family will remember Dr. Teitsworth's legacy of service.



the show, please get in touch with Kathleen Noll at [knoll@rsabg.org](mailto:knoll@rsabg.org) or me at [dbryant@rsabg.org](mailto:dbryant@rsabg.org).

We are so grateful for our incredible Volunteer Program and your vital support of the Garden.

**Origami in the Garden<sup>2</sup>** will bring together many departments and call for many gracious hands. We look forward to producing this exciting exhibition together!

## COME DECORATE A WREATH

**Linda Prendergast,  
Native Designs Volunteer**



Last January, you might have taken part in the “great grapevine harvest and wreath-making event” held on Martin Luther King Day. Volunteers and the horticulture staff cut back the vines on the east fence and up on the mesa, then

fashioned those vines into wreaths, hearts and stars.

Now comes the fun part! The Native Designs group holds a wreath decorating workshop to enhance and embellish those grapevine wreaths to sell at the Fall Planting Festival. Creative Volunteers are invited to come and participate, and you don’t need to be a regular Native Designer. We have fall leaves, Christmas décor, garden objects, ribbon, yarn and lots of other good stuff. You are welcome to bring your own decorations, or we can supply you from our inventory. Tools, wire and glue guns are available, but you are encouraged to bring your own.

The workshop is Monday through Saturday, September 17–22 in the Lenz Classroom in the Horticulture complex. There are casual morning shifts (9 a.m.–12:30 p.m.) and afternoon shifts (12:30–4 p.m.) and 6–7 work stations at each shift. Someone from Native Designs will be on hand to give you any guidance you might need, and to “show you the ropes” of all the decorations and supplies. Come give it a whirl!

To sign up for a shift (or two, or three!) please send an email to [NativeDesigns@rsabg.org](mailto:NativeDesigns@rsabg.org). Remember, you do **not** have to be a Native Designs volunteer –

everyone is welcome! Come stretch your creative and artistic wings with us.

## LOOKING BACK...THE HERBARIUM WORK ROOM

**Carol Lerew, Library Volunteer  
Photo by David Gish**

Following the move to Claremont in January of 1952, Executive Director Dr. Philip Munz stated in his report there was “...a rather large room designated for pressing, mounting, etc.,...on the ground floor.” He was describing what we know as the herbarium workroom in the Administration Building across the hall from the Gallery, and it is one of the busiest places at RSABG.

Day-to-day oversight of the Herbarium rests on the shoulders of Mare Nazaire, Ph.D., Administrative Curator. She is assisted by a small knowledgeable and dedicated staff, including Erin Berkowitz, Herbarium Workroom Manager and Curatorial Assistant.

Approximately 1,224,893 plant specimens currently are held in the collection at Rancho Santa Ana Botanic Garden, as cited in the 2017–18 Annual Herbarium Report. Many unmounted plants begin their journey in the herbarium workroom where they have been contributed by graduate students, staff,



## RSABG VOLUNTEER QUARTERLY MEETING & POTLUCK LUNCHEON

**“Folding Into Fall”**

**Friday, September 7 at 11:30 am  
Lantz Outdoor Classroom  
Tram starts at 11 am**

“Good Luck” potluck. Please bring an entree, side dish, salad or dessert. No need to sign up in advance.

Please wear your name badge. Staff welcome.

private collectors, and domestic as well as overseas institutions. It is a carefully organized process to final mounted specimens that can be used for research, reference, education.

Briefly, pressed plants between their newspaper covers undergo a drying period in the heat cabinets, another in the freezer to kill pests, and then they await the mounting process. Capable volunteers do much of that work and have since 1993–94 when they began to serve in various departments at the Garden. Several mornings a week a small cadre of workers overseen by Erin delicately glue plant specimens to stiff archival paper, affix fragment packs (small folded paper envelopes to hold plant pieces) and identification labels. Later, herbarium staff will add a bar code and an accession stamp to each sheet upon entry into the database. All mounted specimens are, at some point, filed in the appropriate steel cabinets on the second or third floors of the herbarium.

About seventeen volunteers now apply their skills in the workroom, and many have been regulars for fifteen years and more. It is the ideal job for a person who likes plants, detail work, comradeship, and the love of learning, for there are always new techniques to learn. Once a month Erin holds a short “Demo Camp” during a morning session to reinforce accepted methods and to introduce any new practices. In addition, there is a small afternoon “repair group” of volunteers who attend to any mending that needs to be done on mounted specimens as well as performing such heavy work as sewing woody stems onto the stiff archival sheets.



Nearly all plants processed in the herbarium workroom are California Natives, including wildflowers, grasses, shrubs, cacti, cones, etc. Grasses can be especially delicate to work with as their seed heads shatter with much handling. Cactus is halved, often has the pulp removed before drying and, for obvious

reasons, is mounted very carefully. Cones are either sewn to stiff paper or placed in an archival box if they are too bulky. In addition, an assortment of plants from across the United States and around the world are processed. See accompanying photo of Workroom Manager Erin Berkowitz displaying a mounted *Acer saccharum* specimen, a sugar maple tree that has a wide Eastern U.S. range. This plant was collected in Wisconsin.

The identification label glued to each mounted specimen states the plant family, species Latin name, locality found, habitat description, any associated species, species description, the collector, date collected and institution. This information aids future researchers when they examine specimens as part of their work.

All sheets, glue, labels, and envelopes used in the mounting process are of archival, non-acid quality to help ensure preservation of the specimens. Mare, her staff, and volunteers are focused on a debris and pest-free workroom as an aid to the health of the collection. Insects, rats, mice, bacteria and fungus can cause irreparable damage when cleanliness is not closely monitored.

There is always a backlog of unmounted specimens waiting for attention, with inroads being made as volunteers and staff work diligently. In the 2017 fiscal year alone (July 1–June 30), 14,663 specimens were mounted and accessioned.

But the work of the Herbarium goes far beyond the activities, although vital, in the workroom to encompass botanical research and education worldwide. Next time we will explore the many faceted work responsibilities Mare and her team at RSABG handle on a daily and weekly basis.

**Credits: Aliso 9/1 1977; Semiannual and Annual Reports 1951-1995; 2018 Annual Herbarium Report. Thank you to Mare Nazaire, Ph.D., Herbarium Administrative Curator; Erin Berkowitz, Herbarium Workroom Manager and Curatorial Assistant, and Workroom Volunteers for their July 2018 interviews. Thank you to Irene Holiman, Library Specialist, for her advice and support.**



# DOUGLAS-FIR

## (*PSEUDOTSUGA MENZIESII* AND *P. MACROCARPA*)

Rudi Volti, Nature Interpreter



The Douglas-fir is a common conifer that has borne a variety of aliases over the years. In addition to having been identified as a fir, it has been called a pine, a spruce, and a hemlock (to which it is closely related). In 1867 it was given its own genus, *Pseudotsuga*, which means “false hemlock.” The hyphen often included in its common name indicates that is not a

member of the genus *Abies*, in part because its cones grow downwards, unlike the upward-growing cones of true firs.

The tree was named after David Douglas, a Scottish botanist, who recognized the resource potential of his namesake tree when he shipped seed cones from the Columbia River basin to Britain in the hope of aiding reforestation efforts. It is second only to the giant sequoia in size. Although its typical height ranges from 80 to 100 feet (24 to 60m.), some individuals have attained heights of over 300 feet (180m.). It also has a long lifespan; one individual is reckoned to be over 1,300 years in age.

The genus includes 6 species, two of which, along with several geographic varieties, are indigenous to North America. These species occupy distinct geographic and environmental niches. *Pseudotsuga menziesii* (named after Archibald Menzies, a Scottish physician and contemporary of Douglas) grow extensively from British Columbia to Northern California, radiating as far south as the Purisima hills in Santa Barbara County. Further south, below the U.S.-Mexican border, grows a conifer known as the

**Mexican Douglas-fir.** Although some taxonomists have identified it as a separate species (*P. lindleyana*), it may be considered a variety of *P. menziesii*. Endemic to Mexico, it ranges as far south as **Oaxaca**. Back in the U.S and further north we find another Douglas-fir variety, *P. menziesii* var. *glauca*. It prefers interior regions, where it can be found mixed with coast Douglas-fir in the Cascades of northern Washington and British Columbia and southeastward to Mexico.

Found only in California is a separate species within the genus *Pseudotsuga*, the large cone Douglas-fir (*P. macrocarpa*). It ranges from chaparral environments at 900 feet (275m.) up to elevations of 8,000 feet (2,400m.) where it coexists with an assortment of other conifers. Its range extends from Kern County to San Diego County.

Whatever the distinct species or variety, Douglas-firs are highly useful sources of lumber. Far from their native environments, some of them drifted all the way to Hawaii, where the indigenous people used them to build some of their double-hulled canoes. Closer to home, they are often used as Christmas trees. Beyond this decorative use, Douglas-firs are widely employed for construction. Although its coarse texture makes it difficult to work with hand tools, the wood is strong, stable, and stiff—the stiffest of all softwoods. As a result, it performs well when assaulted by powerful forces like high winds, storms, and earthquakes. It is widely used for many building components—structural frames, doors, moldings, window frames, flooring, cabinets, and furniture. It is also often used for plywood veneers.

### **The virtues of wood derived from Douglas-firs**

have **made the tree** the major source of timber produced in the western United States, contributing more lumber than any other species. In 2006 Douglas-firs accounted for 9,110 million board-feet,\* comprising more than 18 percent of total U.S. lumber production of 48,773 million board feet. Like the redwood, the Douglas-fir is a splendid combination of utility and aesthetic appeal.

\*A board foot is a unit of volume equal to one inch by twelve inches by twelve inches, or 144 cubic inches (2,360 cubic centimeters).

The following article is reprinted by permission from the Claremont Garden Club

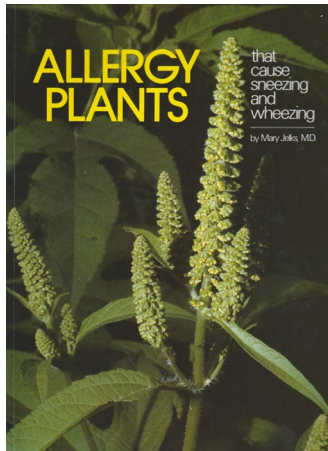
## CALIFORNIA THISTLE



*Cirsium occidentale* is also called the “cobweb” thistle because of the mass of soft, white hairs in the flower heads. It is a biennial or a short-lived perennial and is not at all invasive. Most of these at the Bernard Field Station have deep pink flowers up to 3 inches across in the spring, and grow 4–5 feet tall, with silvery, hairy, deeply-lobed, prickly leaves. They attract butterflies and hummingbirds, and insects that eat the plant attract predatory insects and insect-eating birds. The hairy seeds provide nesting material as well as food for various birds as well.

## BOOKS OF THE MONTH

Christine Ilgen, Volunteer  
Library Committee



*“Allergy Plants” by Mary Jelks, World Publications, 2012, 64 pp. in the Gift Shop. Library Section: Reference, For reference use only, not available for check-out.*

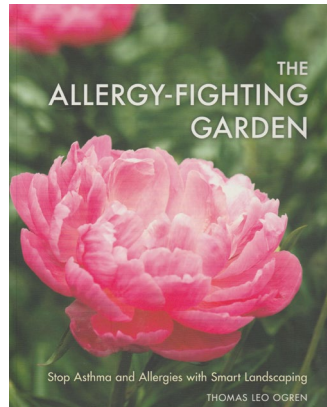
*Allergy Plants* is written for the 10–20 percent of the population that either have allergies or

may develop them. Allergy is not just a childhood disease; it may appear at any age when provoked by even a small dose of a substance (an allergen) to which the individual has been sensitized by prior exposure. Allergic reactions due to plants range from sneezing and itchy eyes to asthma and anaphylaxis, a very serious breathing difficulty requiring medical attention. Allergens range from food and drugs to dust and molds, although most allergens are plant-related. Oddly, most allergenic plants, the topic of this excellent book, grow in disturbed soil.

The superb introduction to *Allergy Plants* defines allergy and its symptoms. It also explains the term “pollen count,” a measurement often mentioned during allergy season that is an indicator of allergy

risk. Next follows a description of the seasonal appearance of pollen ranging from gymnosperms (cone-bearing plants), angiosperms (those with seeds), to other allergens such as dust, spores and grasses. High-definition photographs aid in the identification of each of the offensive plants. I particularly appreciate the detail given to my nemesis, ragweed, basking in all of its glory on the book cover.

Clearly-written, *Allergy Plants* would be a useful addition to any household and definitely should be required reading for NI’s.



*“The Allergy-Fighting Garden” by Thomas Lee Ogren, 10 Speed Press, 2015. 247 pp., Library Section: Reference. Usage: reference only, not available for check-out.*

This superb book should offer insight into the question “Why pursue

a landscaping project, beautiful in its appearance, only to discover that you are allergic to one or more of your plants?” Before planting, it is wise to consult the OPALS (Ogren Plant Allergy) scale derived by Thomas Ogren, author of this valuable book, then choose plants with low numbers on the OPALS scale (1 being best to 10, worst). Described in this book are over 3000 OPAL-ranked plants from which to choose.

Like *Allergy Plants*, this is also an excellent book. Starting with an M.D. allergist’s concise foreword, *The Allergy-Fighting Garden* moves next to plant anatomy and sources of common allergens; i.e., from pollen to mold. Chapters include topics such as allergy-blocking hedges, ways to counteract allergy-causing spores (e.g., attract songbirds to eat them) and finally, an alphabetical listing of plants, their features and OPALS number.

I can’t say enough good things about these two books. *Allergy-Fighting Garden* takes a more global approach to plant allergens and is the more comprehensive of the two. It’s an especially good read for anyone contemplating landscaping. *Allergy Plants* is more basic but includes many original features helpful to avoid sneezing and wheezing.

# SEPTEMBER CALENDAR

## Events

**September 7:** Volunteer Quarterly Business Meeting & Luncheon, Friday, 11:30 a.m.–1:30 p.m., Outdoor Classroom

**September 8:** Claremont Village Wine Walk, Saturday, 4–8 p.m., Shelton Park (Harvard & Bonita) (donation to RSABG by Claremont Village Merchants)

## Volunteer Opportunities—Meetings, Classes, Workshops

**September 1:** Garden Walking Club, Saturday, 8 a.m., Admission Kiosk

**September 2:** Pomona Valley Audubon Society Beginner's Bird Walk, Sunday, 8–9:30 a.m., Admission Kiosk, FREE

**September 3:** Labor Day, Monday

**September 4:** Public Relations Committee Meeting, Tuesday, 9:30–10:30 a.m., Volunteer Library

**September 6:** Volunteer Organization Board Meeting, Thursday, Noon–1:30 p.m., East Classroom

**September 7:** Volunteer Quarterly Business Meeting & Potluck Luncheon, Friday, 11:30 a.m.–1:30 p.m., Outdoor Classroom

**September 8:** Saturday Grounds Crew, 8–11 a.m., Horticulture Building

**September 8:** Garden Walking Club, Saturday, 8 a.m., Admission Kiosk,

**September 10:** Volunteer Library Committee Meeting, Monday, 10:15 a.m.–Noon, Volunteer Library

**September 15:** Family Bird Walk—Wild Birds Unlimited, Saturday, 8 a.m., Admission Kiosk, FREE

**September 15:** Garden Walking Club, Saturday, 8 a.m., Admission Kiosk,

**September 16:** Native Designs Luncheon, Sunday, Potting Shed, 11 a.m.

**September 17–22:** Native Designs Wreath Workshop, Monday–Saturday, 9 a.m.–12:30 p.m. & 12:30–4 p.m., Horticulture Classroom. Email: [NativeDesigns@rsabg.org](mailto:NativeDesigns@rsabg.org) for more information.

**September 19:** Volunteer Personnel Committee Meeting, Wednesday, 9:30–11 a.m., Volunteer Library

**September 21:** RSABG 101: New Volunteer Training Part I (Friday Track), 8:30 a.m.–12:30 p.m., East Classroom

**September 22:** Garden Walking Club, Saturday, 8 a.m., Admission Kiosk,

**September 22:** Saturday Grounds Crew, 8–11 a.m., Horticulture Building

**September 22:** RSABG 101: New Volunteer Training Part I (Saturday Track, 8:30 a.m.–12:30 p.m., East Classroom

**September 28:** September Volunteer Service Hours Due, Friday, 8 a.m.–5 p.m.

**September 28:** RSABG 101: New Volunteer Training Part II (Friday Track), Friday, 8:30 a.m.–12:30 p.m., East Classroom

**September 29:** RSABG 101: New Volunteer Training Part II (Saturday Track), 8:30 a.m.–12:30 p.m., East Classroom

**September 29:** Garden Walking Club, Saturday, 8 a.m., Admission Kiosk,

**September 30:** Medicinal Plants of California Herb Walk, Sunday, 9 a.m.–12 p.m. \$25 members/ volunteers (pre-registration required).



# DROUGHT & HEAT STRESS

**Fred Brooks, Nature Interpreter**

The summer heat of 2018 has been uncomfortable and sometimes dangerous. Most people can limit their time in the sun and drink fluids, but what about our plants? Some sources don't recommend watering established California native plants during summer, but is this a valid generalization? To help you decide whether or not to water, let's look briefly at how plants respond to drought and heat stress, and then consider some management options.

Plants need water, carbon dioxide and sunlight. Water comes from the soil. Carbon dioxide in the air enters plants through their stomata and some oxygen and water are released. During drought conditions, plants close these stomata to reduce water loss. Conversely, during high temperatures plants cool themselves by opening their stomata and releasing water (transpiration), much as we sweat through pores in our skin. If conditions are dry and hot, however, plants close their stomata, internal leaf temperatures increase, and damage can be caused by reactive oxygen species, denaturation of enzymes

and other proteins, etc. Even California native plants that tolerate drought or heat stress are more severely affected when both occur simultaneously.

Here are some suggestions that may help your plants survive until the winter rains. They are mainly based on personal experience and will need to be adapted to your environment.

- Apply 2 to 3 inches of mulch to cool the soil and roots and reduce evaporation.
- Use shade cloth for sensitive plants or in high light, but don't block air circulation.
- Water before expected hot weather to reduce plant heat stress.
- Water in the early morning to minimize evaporation.
- Water slowly, deeply and less often.
- Leave damaged foliage on plants to protect undamaged leaves and stems.
- Observe plants regularly and revise your watering accordingly.

For a more scientific approach to watering your plants, visit the California Irrigation Management Information System at <https://cimis.water.ca.gov>. See the Resources tab for an introduction to the site.



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