

LISTSERVE STILL NOT A REALITY

Apologies to those of you who were interested in receiving electronic notice of our events rather than paper copies. We had hoped to have a listserv up and running by this issue, but we find that we lack the volunteer help to get one started and maintained. If you have any expertise with listserves and would be willing to help us in this capacity, please let us know!

Contact Ellen Dean at eadean@ucdavis.edu.

LASTHENIA, the Newsletter of the Davis Botanical Society, is published by the Society in collaboration with the staff of the UC Davis Botanical Conservatory and Center for Plant Diversity.

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LAST HENIA

NEWSLETTER OF THE DAVIS BOTANICAL SOCIETY

CONSERVATORY PLANTINGS DELIGHT VISITORS



Plantings of star of Madeira (*Echium candicans*) and tower of jewels (*Echium wildpretii*) outside the Sciences Laboratory Building.
Photo: Darrell Brandon

One of the great satisfactions of horticulture is watching the plants and the concepts that guided their arrangement mature. This is true now, and will be even more evident in years to come, around the Sciences Laboratory Building (SLB) and its nearest neighbors. Many of you have noticed these stunning plantings that have been installed along Hutchinson Drive, around SLB, and in front of Storer Hall. Ernesto Sandoval, Curator at the Botanical Conservatory, kept both themes and plants clearly in mind as he led me on a private tour around the buildings to provide a more detailed examination of the new “teaching beds.”

In a typical University building project, landscaping is virtually an afterthought, with heavy emphasis on ease of maintenance. But with the move of many College of Biological

Sciences laboratory courses from Robbins Hall to SLB, Ernesto and Tim Metcalf approached then Associate Dean Tom Rost, chair of the SLB building committee, to propose plantings with a biogeographical orientation that would enhance teaching and learning. With Rost's support, Conservatory staff worked with Architects and Engineers and the Grounds Division to develop a much more general plan than a landscape designer would typically provide. Ernesto acknowledges the valuable assistance of campus experts in planning for access, safety and visibility: the stunning Aloe bed at the southwest corner of SLB is composed of low-growing plants to ensure visibility in an area of high pedestrian and bicycle traffic.

The opportunity to create specialized plantings came with a price tag. Building funds covered the cost of much of the plant material; many other specimens came from the Conservatory, some grown from seed. But labor has been the responsibility of Conservatory staff, students and friends. Several successful applications to the Slosson

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FLORAS PRODUCE RARE FINDS

The Center for Plant Diversity Herbarium has had a busy spring. We are collecting herbarium specimens as a part of floristic inventories in Yolo, Colusa, and El Dorado counties, and we are involving students and volunteers in the effort.

The Ireland Ranch in Yolo County is located just northwest of the town of Winters near the top of the southernmost extent of the Blue Ridge. The property belongs to the nonprofit Tuleyome, an organization dedicated to the preservation and restoration of natural and agricultural areas within the Putah and Cache Creek watersheds. Although the property is relatively small (<700 acres), in four visits we have already collected the first documented Yolo county specimens of coast live oak (*Quercus agrifolia*), shrub interior live oak (*Quercus wislizeni* var. *frutescens*), and oso berry (*Oemleria cerasiformis*). Pending expert confirmation and further collecting, we also believe we have found populations of two rare species. Volunteers Kate Mawdsley and Mark Bibbo have helped me with the field work for this project.

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DIRECTORS' CORNER

Conservatory

Ted the Titan bloomed again between May 7 and May 9! The entire blooming period was caught on live webcam, with 20,000 web visitors viewing the event. This was the largest single web event in the history of UC Davis. If you are interested in viewing a slide show of Ted, it is available at the Conservatory website at: <http://homepage.mac.com/planthead667/Titan2004/PhotoAlbum81.html>.

The DBS-sponsored Conservatory Open House on February 10 was relaxed and subdued, with cloud-filtered light and a uniform pulsing of visitors. Because it wasn't crowded, people lingered and interacted. Kids and adults wandered freely from lush fern glen to African desert to carnivorous plant bog, encountering diverse shapes, textures, and odors along with animated dialogue from the volunteers and staff in each area.

If you have walked by the Science Laboratory Building plantings, you may have noticed labels popping up in front of the plants. They are

photo-engraved matte black with silver lettering, the work of Darrell Brandon funded by a Slossen Foundation grant. The labels include accurate current name and family as well as distinctive information and graphics. Besides more of the individual labels, larger, full-color engaging signs elucidating the Agaves, Aloes, Cycads, and Deserts are in the last phases of design. We just received word the Conservatory was awarded another Slossen grant to extend the labeling through many more of the notable Conservatory specimens.

There is no way we could afford the fifty tons of rocks to create the raised beds and niches needed for planting the diverse array of plants Ernesto has prepared for the landscape on the east side of the Science Laboratory Building. Shad Canington, one of the Conservatory volunteers and husband of the Botanical Society president, made some phone calls and found Cascade Landscape Rock in Sacramento is willing to give us the rock for the price of delivery, cutting the cost to less than a third!

The Keasling Research Group at UC Berkeley has been using latex from the collection's *Euphorbia resinifera* in the search for genes involved in the biosynthesis of two promising AIDS drugs. It is a succulent plant native to Morocco that has been in the collection since 1969. The piece we had given them three years ago was weakening and tissue they acquired from another source didn't yield the needed RNA. In cutting the samples for them, we experienced first-hand its latex being seventy times hotter than the hottest pepper as well as being very persistent, resistant to water, soap, alcohol, and wear.

Tim Gregory, a cycad expert from the bay area visited campus to see the E.M. Gifford Cycad Garden and attend one of the cycad morphology labs. Judy Jernstedt, who is teaching the course, said the students thoroughly enjoyed his accounts of the ethnobiology of cycads and plant exploration. He had time to review only a small portion of the Conservatory cycad collection and returned two weeks later to complete the survey, furnishing accurate identification that can only be accomplished by someone who has spent copious time in the field and in collections with other experts.

Paul Berry, a specialist in the Euphorbiaceae from the University of Michigan spent several days in the Conservatory taking pictures and samples of the specimens for his research and an international database. We had to increase the cooling and ventilation for the hours he was in the African desert room to avoid his being damaged by the heat and irritating volatile compounds released when he cut the plants.

Every quarter the Conservatory hosts hundreds of students on plant biology-related tours to engage their intellect and passion. But this quarter Gina Werfel released her freshman honors drawing class in the Conservatory for an afternoon session of pencil form compositions. Their plant choices were intriguing and some of the resulting images startling and attractive. It was evident from some of their comments the plants had captivated them.

ERNESTO WINS YOUNG ALUMNUS AWARD!

Ernesto Sandoval, Conservatory Curator and past Davis Botanical Society president, was named Young Alumnus of the Year for his extraordinary teaching, mentoring, outreach, and plant growing. The award was presented at the Cal Aggie Alumni Association Awards Banquet in January. Ernesto, arrayed in an uncharacteristic suit but characteristic aubergine shoes and unmatched socks, acknowledged learning work ethic and plant skills from his father while helping him with commercial yard maintenance, the finer points of personal hygiene from his sisters, and how green the UC Davis grass is from the Conservatory staff. He also articulated the potential of a new Conservatory that would multiply the impact of the current program. Francisco Rodriquez, the Outstanding Alumnus Award recipient who spoke immediately after Ernesto, began his speech by saying he coveted two things that Ernesto has, his youth and hair!



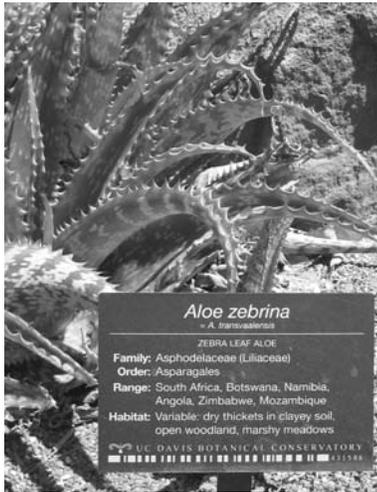
Ernesto with Ted the Titan in May 2007. Photo by D. Walker

T. Metcalf

T. Metcalf

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CONSERVATORY PLANTINGS DELIGHT VISITORS (CONT. FROM PG 1)



Labeled Aloe planting outside of SLB. Photo: Ellen Dean

Foundation have provided signs for identification and interpretation; Tim's Director's Corner in this issue reports yet another, as well as some creative scrounging for hardscape materials.

And what is the grand design? It begins nearer Storer Hall than SLB, where the Gifford Cycad Garden groups these ancient plants by geographical area. Recently the cycads have been augmented with Aloes and Mexican plants in the appropriate beds. The north-facing beds near the Sciences Lecture Hall feature specimen conifers: *Metasequoia*, *Aruacaria*, bald cypress and many others to expand students' mental horizons. Around SLB itself, the southeastern beds are planned for transects illustrating the new

basic biosciences course sequence. Along the main drive, plants from the American desert and western spring wildflowers have begun to demonstrate the richness of the California Floristic Province. Noting that the end of the building nearest Hutchison Drive is wetter, Ernesto planted spice bush and *Anemopsis* there.

Planning, as well as planting, continues. As this is written, a large pile of rocks awaits further planting in a central bed in the drive area and along the northeast side of the building. And Ernesto noted that the north side of the building, initially planted with *Nandina* and *Vinca minor*, would be a lovely spot for a shaded Asian garden.

Come and enjoy the plantings!

K. Mawdsley

GUAMATELACEAE S. OH & D. POTTER, A NEW FAMILY OF ANGIOSPERMS

The October-December 2006 issue of *Systematic Botany* includes an article by my former graduate student Sang-Hun Oh and me, in which we describe a new family of flowering plants, Guamatelaceae. This new family includes only one species with a limited distribution in Mexico and Central America and its description is not the result of the discovery of a previously unknown plant but rather of new phylogenetic information. But it is exciting and relevant to the Davis Botanical Society for two reasons. First, the study was done while Sang-Hun Oh was a graduate student here, as an outgrowth of his Ph.D. dissertation research, and, second, the results were based on analyses of DNA that Sang-Hun extracted from a specimen in our herbarium, which was collected in Mexico in 1969 by Grady Webster and Gary Breckon.

Sang-Hun's dissertation research focused on the tribe Neillieae of Rosaceae, which includes the eastern Asian genus *Neillia* and the primarily North American genus *Physocarpus* (nine-bark). Prior to Sang-Hun's work, the monotypic

genus *Guamatela*, which was originally described from Guatemala and has also been collected in Honduras and Mexico, had also been placed in Neillieae based on its follicular fruits and persistent stipules. However, some of *Guamatela*'s characters, such as opposite leaves and lack of a well developed hypanthium, were quite unusual for Rosaceae. Several taxonomists had commented on these anomalies in the past, but no other taxonomic placement had ever been proposed for *Guamatela* and morphological characters alone did not suggest any likely alternative. Based on nucleotide sequences of DNA from two herbarium specimens of *G. tuerckheimii* (the one collected by Grady mentioned above and another collected from Guatemala in 2000), Sang-Hun showed that *Guamatela* was incorrectly classified in Rosaceae and is instead more closely related to Crossosomataceae and Staphyleaceae of the order Crossosomatales. None of the molecular data supported the inclusion of *Guamatela* in any previously described family in that order, and the unique combination of morphological characters of the genus

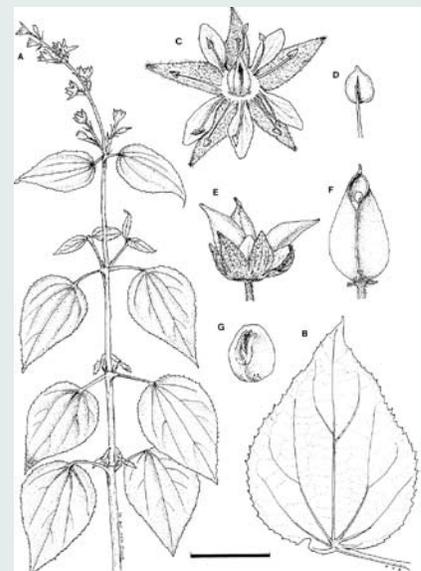


Illustration of *Guamatela tuerckheimii*. Drawing by Sang-Hun Oh, used with permission of *Systematic Botany*

did not fit the description of any of those families. Thus, we named a new family, Guamatelaceae, and that is where you can now find Grady's collection of *G. tuerckheimii* in our herbarium.

D. Potter

HERBARIUM EMPHASIZES HANDS-ON OUTREACH

This year we have been trying new types of outreach to get the public involved in the herbarium. Although we did offer one of our usual, and very well-attended, field trips – see article on page 7, we decided to emphasize inviting the public to join us in more hands-on experiences collecting, preparing, and curating herbarium specimens.

We began with two Saturday workshops on herbarium specimen preparation held in the Center for Plant Diversity's McCaskill Room in December and January. The enthusiastic participants learned about the many uses of herbarium specimens, how to collect and press specimens, and how to mount specimens. Some participants prepared herbarium specimens or art pieces to take home, while others practiced mounting specimens for inclusion in the herbarium.

Our next outreach effort was a



Craig Thomsen placing plants and field labels in his press at Payne Ranch
Photo: Nick Voegtly

series of four Sunday afternoons, one each month from December to March, where 10-12 participants helped us with curation of the herbarium. Graduates of our specimen mounting workshops could practice mounting specimens. Other participants helped us label, file or database specimens. Volunteers also

help us on a regular basis on Thursday afternoons. Nancy and Don Crosby curate our map and reprint collections, Gerald Dickensen files specimens, Romey Haberle makes labels, and Darrell Brandon keys plants and writes species descriptions.

Our final outreach effort is a series of public plant collecting expeditions. The first was at Payne Ranch, just south of Bear Valley in Colusa County, and the second at Washoe Meadows State Park near Lake Tahoe (see article below). The Payne Ranch field trips began in March and will be ongoing, while the Washoe Meadows trips are scheduled for this summer. Both projects will continue in 2008.

Thank you to all of our volunteers. If you are interested in participating in any of these projects, please contact Ellen Dean at 530-752-1091 or eadean@ucdavis.edu.

E. Dean

FLORAS PRODUCE RARE FINDS (CONT. FROM PAGE 1)



Gordon Harrington, Craig Thomsen, Diana Hickson, Karen Hochgraf, and Ellen Dean press plants at Payne Ranch. Photo: Nick Voegtly

Our second inventory effort is located at Payne Ranch, a large (>15,000 acres) BLM property located south of Bear Valley in Colusa County that lacks a plant list. This project was the brainchild of Gordon Harrington, a Botanical Society member and avid photographer of the wildflowers of the Cache Creek watershed. Payne Ranch has a number of sensitive habitats, including serpentine meadows and chaparral. We have documented large

populations of rare CNPS List 1B species, such as adobe lily (*Fritillaria pluriflora*), Jepson's milkvetch (*Astragalus rattanii* var. *jepsonianus*), and pink creme sacs (*Castilleja rubicundula* ssp. *rubicundula*). In addition there are several CNPS List 4 sensitive species that occur on the ranch. This inventory project has had the involvement of dozens of volunteers, including 13 UC Davis students, with major help from Gordon, Craig Thomsen, Sam Bledsoe, Nick Voegtly, Brian Weiss, Diana Hickson, and Jack Alderson. Sam has helped us advertise the trips to YoloHikers, the hiking arm of TuleYome, and that has helped attract new volunteers on most trips.

Finally, on June 15 we started our inventory project at Washoe Meadows State Park near Lake Tahoe. This beautiful park has pine forest, meadow, and fen habitat. Although the park has several partial plant lists from various projects, it has areas that have never been inventoried. We are planning on three visits to the park this summer and several more during the summer of 2008. At the request of the State Parks botanists, we will be collecting duplicate



The fruiting capsule of adobe lily (Fritillaria pluriflora), a CNPS list 1B species that is present in abundance at Payne Ranch. Photo: Ellen Dean

specimens that will be deposited at the University of Nevada, Reno. As always, if you are interested in helping with any of these projects, please contact Ellen Dean at the Center for Plant Diversity.

E. Dean

Center for Plant Diversity Activities

It has been a very busy spring in the herbarium. Ellen Dean has completed a record number of plant identifications and plant inquiries, and visitation to use the collections has been very high since March. Ellen has been making great strides in increasing the participation of volunteers and students in the herbarium's operations and developing new research and inventory projects (see her articles on previous page), while Jean Shepard



Royal Larkspur (Delphinium variegatum), one of the plants collected by UCD students at Payne Ranch.
Photo: Margaret Starbuck

has continued her excellent work to facilitate the completion of several of Grady Webster's projects and to ensure that his loans of Euphorbiaceae specimens are annotated and returned to the lending institutions. Jean has also served as the primary contact with individuals from the Facilities departments on campus who are investigating ways to achieve better humidity control in the collections room of the herbarium. Although the conditions in our new facility in Sciences Laboratory Building are very good, we believe there may be opportunities for further improvement.

After a hiatus of three years, I taught Ethnobotany during the winter quarter. Ellen contributed extensively to the



UCD students take a break from plant collecting at Payne Ranch.

Photo: Ellen Dean

course, offering several guest lectures and helping with set-up and teaching of the labs, for which we use the Center for Plant Diversity ethnobotany collection. This collection includes plant products such as fibers, foods, medicines, stimulants, oils, gums, and resins. It was a great pleasure to teach this course, and we had a group of students with a wonderful diversity of backgrounds and great interest in plant-people interactions. They conducted original group research projects on local ethnobotany, with topics ranging from home gardening to Chinese herbal medicine. Additional guest lecturers included Kathy Wallace, a founding member of the California Indian Basketweavers' Association (CIBA), Renee Sharokh, professor of Ethnobotany at American River



UCD students collecting plant specimens at Payne Ranch. Photo: Ellen Dean

College talking about California Indian ethnobotany, and graduate student Ramona Butz, talking about her research on traditional and changing plant management practices by the Maasai in Tanzania. Renee gave a wonderful talk

on similar topics at last year's Spring meeting of DBS and Ramona, whose research was partly supported by a student grant from our society, was one of the featured speakers at our meeting in May.

I am now finishing up teaching California Floristics, another course that draws on the Center for Plant Diversity's collections. This course is known for producing botanists with plant identification skills that are in demand by agencies and private firms. Thirteen of the 40 students enrolled in this course chose to participate in an optional plant collecting project organized by Ellen. On April 29, we drove the student to Payne Ranch in



UCD student Wayne Murray and volunteer Brian Weiss with Ellen Dean at Payne Ranch. Photo: Margaret Starbuck

Colusa County where they collected and pressed plants to make herbarium specimens. Their collecting was guided by Ellen, Genevieve Walden (a graduate of the course who is now entering graduate school at S.F. State), and me. We made sure that anything they collected added to the plant list we are generating for Payne Ranch and avoided rare species. Each student was responsible for identifying their own collections and using the herbarium's label-making program to label their collections. A number of the students mentioned to us that the plant collection was a valuable learning experience and fun to boot!

D. Potter

TOXIC ASTERACEAE

by D. Crosby

The name of the Davis Botanical Society's newsletter, *Lasthenia*, which is the scientific name for our beautiful California goldfields, suggested a review of toxic members of the aster family — the Asteraceae. This ancient clan is believed to be most closely related to a family of South American plants called the Calyceraceae and was widely dispersed by the early tertiary. Representing over 10% of all flowering plants, the Asteraceae contains over 23,000 species and has been divided in numerous ways into subfamilies, tribes, genera, and species. The current classification, available online at the Angiosperm Phylogeny website, divides the family into 11 tribes.

Formerly called the “Composites,” each “blossom” is actually a composite inflorescence made up of dozens of tiny flowers — the apex of flower evolution. Often the inflorescence contains tiny “disk flowers” in the center which are surrounded by rings of elongated “ray flowers.” The whole structure is supported by a whorl of leaf-like bracts known as the involucre. Think daisies.

Trichomes (hairs) on the stems and leaves often contain toxic lactones (cyclic esters), with a group called *arteglasins* considered the most toxic. Most tribes of the Asteraceae contain hundreds of species with toxic lactones. Over 200 species of Asteraceae cause some sort of allergy, usually an acute contact dermatitis (ACD) whose rash and blisters are like those from poison oak. Sunflowers (*Helianthus annuus*) are typical: The rough, 10-foot annuals bear huge yellow “daisies” as much as a foot across, and the trichomes were known even to the ancients as being toxic to one's skin.

Florist's chrysanthemums provide another familiar example. Renamed *Dendranthema x grandiflorum* (controversially), the original epithet *Chrysanthemum* was bestowed by Linnaeus on a small European annual, the corn marigold (*C. segetum*). Many chrysanthemums have by now been reassigned to other genera, but some of us will no doubt continue to use the old names. However, taxonomists have had remarkably little influence on allergenicity, and ACD from them is widespread among gardeners, horticulturists, and especially florists, who refer to the disease as “florist's

itch” or “florist's dermatitis.”

Toxicity isn't confined to ornamentals, of course. The family's lactone-rich vegetables include lettuce (*Lactuca sativa*), endive (*Cichorium endivia*), and artichoke (*Cynara scolymus*). Milky latex of the first two contains lactucin and lactucopicrin, and artichoke sap contains cynaropicrin. ACD from them is common among pickers, grocers and housewives; at one time 20% of all artichoke handlers suffered from it.

A survey of human responses to 19 common weeds showed that



Tidytips (Layia platyglossa) demonstrates the composite nature of the inflorescence of the Asteraceae with disk flowers in the center and ray flowers on the periphery. Photo: Wes Youngclaus.

almost everyone tested was allergic to mayweed (*Anthemis cotula*); 70% of us reacted similarly to cocklebur (*Xanthium strumarium*), 36% to wild feverfew (*Parthenium hysterophorus*), and 14% to fleabane (*Erigeron strigosus*). Mayweed has a rank odor, blisters human skin and the mouths of animals, and causes ACD. Surprisingly, it is still used occasionally as an ornamental ground cover despite its well-documented danger to skin.

Wild feverfew (*Parthenium hysterophorus*) — so named to distinguish it from the garden variety *Tanacetum parthenium* — is the perfect weed (from a plant's viewpoint). It's tough, drought-tolerant, and adapted to and even dependent upon humans and their agriculture. It flowers at the tender age of four weeks and stays in bloom for up to six months, while releasing huge volumes of toxic seeds and lactone-coated pollen. Some seeds joined a 1954 shipment of grain bound

for India, where the plants were later reported to “invade every nook and cranny along sidewalks, in gardens and vacant lots...and large areas of agricultural land were overgrown by it.” The ACD due to this little plant eventually led to a major public health crisis in that country.

The more familiar feverfew (*Tanacetum parthenium*, formerly *Chrysanthemum parthenium*), a major weed in Europe, is an aggressive ornamental here. It was used for centuries as an effective folk remedy for arthritis, fever, migraine, unwanted pregnancy, and even biting insects — it obviously contains something strong. It burns one's skin and will ulcerate the mouth of anything that tries to chew the ill-smelling leaves. The principal poison, a lactone called parthenolide, occurs widely throughout the Asteraceae.

Some kinds of ragweed (*Ambrosia* spp.) can be found almost anywhere in the United States. Our common ragweed (*A. artemisiifolia*) is a multibranched annual with deeply divided leaves, narrow terminal spikes of tiny, greenish flowers, and spiny burrs. It blooms through summer and fall, and contact with its copious pollen is a major source of ACD. “Hay fever” comes from inhaling either the lactones or protein allergens on its pollen—or on pollen from goldenrod (*Solidago* spp.), or sneezeweeds (*Helenium* spp.) — to produce the all-too-familiar sneezing, coughing and congestion.

There are plenty of other examples. Mountain tobacco (*Arnica montana*) provides the “tincture of arnica” once used to treat cuts, bruises, abrasions, and sore muscles (and become sensitized for ACD in the process.) Even the lowly dandelion, *Taraxacum officinale*, can shower a shirtless power-mower operator with allergenic lactones before he knows it — a none-too-gentle reminder that most people are confronted almost daily with some toxic member of the Asteraceae.

Unfortunately for this story, the toxicity of our little *Lasthenia* — or a lack of it — has never been reported.

Dr. Crosby is author of *The Poisoned Weed: Plants Toxic to Skin* (Oxford University Press, 2004)

SPRING TRIP TO EDGEWOOD PARK TRIP FULL OF DISCOVERIES

The Davis Botanical Society trip to Edgewood Park on April 28 was satisfying both because of the chance to renew old acquaintances and see some beautiful plants. Attending the trip were four alums of the UC Davis California Floristics class, three of whom are now gainfully employed as botanists. They showed great enthusiasm for the plants we met, some for the first time in our lives. The Friends of Edgewood Park provided two knowledgeable docents, Paul Heiple and Mary Wilson, to lead us on a three-mile loop that passed through moist oak woodland, serpentine grassland, and chaparral. Along the way, we saw three rare plants: San Francisco Collinsia (*Collinsia multicolor*), western leatherwood (*Dirca occidentalis*), and Franciscan onion (*Allium peninsulare* var. *franciscana*). We also



Lucy Stewart, Christie Scarazzo, Erin McDermott, Jennifer Buck, Mark Bibbo, and Eva Bayon stand in front of a rare leather oak x blue oak hybrid. Photo: Ellen Dean

saw an uncommon hybrid of leather oak (*Quercus durata*) and blue oak (*Quercus douglasii*) where serpentine chaparral met blue oak woodland. A big thanks to Kate Mawdsley for making the trip and Botanical Conservatory staffperson Eva Bayon for lending her van, so that we could carpool efficiently to our destination.



Mark Bibbo, Jennifer Buck, and Erin McDermott examine the smallest mint that we have ever encountered, thyme-leaved mesamint (*Pogogyne serpylloides*), which is barely visible to the naked eye. Photo: Ellen Dean

RECENT GIFTS

Herbarium Endowment

Phyllis Graham
Julie Knorr
Robert & Laurie Preston
Mandy Tu
Genevieve Walden
Alan Whittemore
Pat Williams

In Memory of Grady Webster:

Ellen Dean & Thomas Starbuck

In Memory of June McCaskill:

Lewis Feldman

Herbarium Operations

Nancy and Donald Crosby

Herbarium Building Fund

Robert Avalos
Cheryl Coats
Donna Olsson
Ernesto Sandoval

Conservatory Endowment

Ivan Buddenhagen
Eric Conn
Ellen Dean & Thomas Starbuck
Gerald Dickinson
Judy Jernstedt
Maxine Schmalenberger

Conservatory Operations

Eugene Dammel
Matthew Ehlen
Melissa Frey
Thelma Garcia
Stephen & Linda Jacobs
Carole Ludlum
Sara Maxson
Milo Nittler
Lewis & Antonette Rosenberg
Eric Runquist
Anamary Smith
San Francisco Park Trust
Darci Ulven

In Memory of Ernest Gifford:

Jean Gifford
Jeanette & Jonathan Lewis
Thomas and Ann Rost
John Tucker

Davis Botanical Society

Student Grant Fund

Eric Conn
E. Eric Grissell
Daniel Potter
John Tucker

Larry & Charlotte Mitich Memorial Student Grant Fund

Ellen Dean & Thomas Starbuck
Estate of Charlotte Mitich
James and Catherine Murray
Mandy Tu

Jack Major Memorial Student Grant Fund

Michael Barbour & Valerie Whitworth
Brenda Grewell & Stephen Kidner
Ann F. Johnson
Mary C. Major
Marcel Rejmanek
& Eliska Rejmankova
Maxine Schmalenberger

In Kind Gifts

Gerald Dickinson
Joe DiTomaso
Kate Mawdsley

*Thank you for
your support!*