

UPCOMING EVENTS

See: <http://herbarium.ucdavis.edu>

Thursday Nov. 17. Student Grant Recipient Talks and free pizza.

Sunday Dec. 11. Herbarium Volunteer Sunday Afternoon.

Wednesday Jan. 18. Botanical Tea and Exhibit: Conifer Seed Cones from the Cone Collection.

Sunday Jan. 22. Herbarium Volunteer Sunday Afternoon.

Saturday Feb. 18. Museum Day.

Sunday Mar. 5. Herbarium Volunteer Sunday Afternoon.

Saturday Mar. 18. Introduction to Plant Identification Using the Jepson Manual.

LASTHENIA

LASTHENIA, the Newsletter of the Davis Botanical Society, is published 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

VEGETATION RECOVERY AT STEBBINS COLD CANYON RESERVE AFTER THE WRAGG FIRE

Fire is a prominent ecosystem process over much of the California landscape, including diverse plant communities of grasslands, shrublands and forests. Lower elevation ecosystems, particularly shrublands, have experienced increased fire frequency since the middle of the 20th century, which is quite unlike the recent history in conifer forests where long-term fire suppression resulted in fewer but more severe fires (see Keeley, J.E., Franklin, J. and C. D'Antonio. 2011. Fire and invasive plants on California landscapes. In: D. McKenzie et al. (Eds.), *The Landscape Ecology of Fire*, Springer, pp. 193-221).

The Wragg Fire started near Lake Berryessa on July 22, 2015 around 2:24

PM. Cal Fire investigators found that the wildfire was caused by a vehicle's exhaust contacting dry grass off Highway 128 near Wragg Canyon Road. The grass ignited the surrounding chaparral and the vehicle. By the time the fire ended on August 5 (two weeks later), it had burned to four miles west of the City of Winters and north of Mix Canyon Road near Vacaville. In total, the fire burned 8,051 acres (32.6 km²) in Napa and Solano counties, including the UC Stebbins Cold Canyon Reserve.

At the end of the summer of 2015, the first impression of many reserve visitors was that the fire had been an environmental disaster. Nevertheless, right after the first rains, the first resprouting



After the Wragg Fire. Dead, non-resprouting Jim brush (*Ceanothus oliganthus* var. *sorediatus*) (left) and resprouting chamise (*Adenostoma fasciculatum*) (right). Photo: M. Rejmánek.

of several woody plants was noticeable, and in April 2016 it was clear that the majority of trees and shrubs would survive (Table 1 - see tables on page 6). However, we will not see many manzanitas, California-lilacs, gray pines, and tall interior live oaks for some time (Table 2). Several herbaceous plant species, both native and exotic, were conspicuously more abundant in 2016, while a few were noticeably less common (Tables 3 & 4).

continued on page 6



Aerial view of Stebbins Cold Canyon Reserve from the south. Photo taken on June 19, 2016 by M. Rejmánek while paragliding. Paragliding pilot: H. Rejmánek.

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CHANGES AT THE BOTANICAL CONSERVATORY

The Conservatory has had a challenging year, but we are working to emerge from these challenges as a stronger facility that better demonstrates its relevance and importance to the University, particularly as it pertains to teaching support. As perhaps the most diverse glasshouse plant collection used for teaching at a U.S. public university, we support a wide array of courses at UC Davis.

After a staff reorganization (prompted by the retirement of Doug Walker at the end of June), Marlene Simon and I are the remaining conservatory/greenhouse staff in the College of Biological Sciences. Doug was the lead staff person after Tim Metcalf retired in 2008, and he directly managed the teaching greenhouse in the Sciences Laboratory Building and supervised the Plant Biology research greenhouses at Orchard Park. With Doug's retirement, Marlene and I have taken over the management of the teaching greenhouses, while continuing our work in the Conservatory. Before the reorganization, our unit consisted of five staff, two of whom, Ian Baker and Cindy Yip, had been solely focused on research greenhouse support functions. Ian and Cindy, along with the Plant Biology research greenhouses, are



A young Amborella cutting with new roots propagated in the Botanical Conservatory. Photo: E. Sandoval.



Aloe seedlings grown as part of the Aloe project. Photo: E. Sandoval.

currently transitioning to merge with the College of Agricultural & Environmental Sciences research greenhouses. As of July 1, Marlene has been moved to full time to keep our staffing equivalent the same (two full time staff) but we effectively have one fewer person at the teaching greenhouses and Conservatory, so Marlene and I have a lot more to cover.

Unfortunately, in the fall of 2015, and much to my dismay, I was strongly encouraged to cancel the very popular Conservatory Internship, which I had taught nearly every quarter for the past 15 years and which has been featured in this newsletter repeatedly. I hope to reinstitute this very useful experience that blends science and hands-on horticulture at a future date, but for the moment, the internship has been removed from my job description. Hands-on skills are very important in the academically-rich UC Davis undergraduate experience. The internship was also important because it gave us a pool of well trained and "tested" students from which to hire future employees. Many of our interns went on to other plant related campus units, such as Foundation Plant Services, and those units were quite thankful for the skilled undergraduate labor they recruited from us!

On a more botanically bright note, we can finally say that we know how to successfully propagate the important basal angiosperm *Amborella trichopoda*! This means that we may soon have enough plants to have them featured in a Tree of Life display in Introductory Biology. *Amborella* is one of the earliest

diverging angiosperms, so it is an important part of our teaching collection. Credit for this propagation coup goes to Marlene Simon!

We thank all of you who have donated to the Conservatory this past year, and here I'd like to particularly thank EZ Clone Enterprises for donating 10 of their small (room for 9 plants) units that I've been using to simplify our growing of nutrient-deficient tomatoes for Introductory Biology. We also need to thank the Saratoga Horticultural Research Endowment (SHRE) which has supported a project on Aloes. We received a grant from the SHRE for the dissemination of Aloes (which are uncommon but hardy in Northern California) along with horticultural information to help gardeners grow them more successfully! At the time of writing this, I am getting ready to go to San Francisco to give a lecture to the California Horticultural Society that will feature some of these Aloes. The lecture will also feature other plants grown in the Conservatory collections that have good horticultural potential in Northern California.

E. Sandoval



A young nutrient-deficient tomato grown in the teaching greenhouse in the Sciences Laboratory Building. The tomato has new healthy roots after just five days in an EZ CLONER. Photo: E. Sandoval.

RECENT GIFTS

Herbarium Endowment

Elizabeth Bernhardt & Ted Swiecki
Joseph DiTomaso
Ron, Diana, & Nora Glick
Hazel Gordon
Brenda Grewell
Al & Barbara Grigarick
Gordon & Delia Harrington
Charles, Jessica & Henry Hughes
Timothy Kask
Charlotte Kimball
Sally Manning
Patrick McGuire
Robert Preston
Lesley & John Randall
Lisa Serafini & James Richards
Ramona Robison
Marie Jasieniuk & Frank Roe
Edwin Royce
Maxine Schmalenberger
Chris Walden
Valerie Whitworth & Michael Barbour

In memory of Nancy Crosby
Donald Crosby
Warren Roberts
Katherine & Jim West

Herbarium Operations

Dylan Burge
California Native Plant Society, Sacramento Chapter
Ellen Dean & Thomas Starbuck (*in memory of Nancy Crosby and Marjorie March*)
Lewis Feldman
Shannon Hickey
Johanna Kwan
Katherine Mawdsley
Jack Maze
Rosalind Pierce
Shirley Tucker
Craig Thomsen

Herbarium Gifts in Kind

Bohart Museum of Entomology
Gerald Dickinson
Brenda Grewell & Steve Kidner
Brad Hanson
Marcel Rejmánek

Conservatory Endowment

Sonia Cook
Marie Jasieniuk & Frank Roe
Warren Roberts (*in memory of Nancy Crosby*)
Katherine & Jim West (*in memory of June McCaskill*)

Conservatory Gifts in Kind

EZ-Clone Enterprises, Inc.

Conservatory Operations

Saratoga Horticultural Research Endowment
Gold County Rose Society
Victoria Veen

Student Grants Fund

Gerald Dickinson (*in memory of Nancy Crosby*)
Ron, Diana, & Nora Glick
Brenda Grewell
Al & Barbara Grigarick
E. Eric Grissell
Charlotte Kimball
Andrew Latimer
Sally Manning
Lisa Serafini & James Richards
Marie Jasieniuk & Frank Roe
Maxine Schmalenberger
Katherine & Jim West (*in honor of Eric Conn*)
Valerie Whitworth & Michael Barbour
Roger Willmarth

*Thank you for
your support!*

2016 STUDENT GRANT RECIPIENTS

The Davis Botanical Society is a relatively small organization, yet we continue to be able to support student research in a big way! This year we were able to award a total of \$7,100 to various student projects. Thanks so much to everyone who has supported this program. Also a big thanks goes to the Student Grants committee members who took on the responsibility of selecting the following projects from a very impressive group of applicants:

Ross Brennan, a Ph.D. student in Neal Williams' lab is asking how "Fire and soil type regulate species diversity, plant-pollinator interaction networks, and pollination in California native plant communities." The UC Davis McLaughlin Reserve, Brennan's study site, provides a great opportunity to look into these questions, since some parts of the reserve burned recently and other parts did not. His study was funded with the Grissell Award.

Colleen Rossier, a Ph.D. student in David Rizzo's lab, is studying "Ever-



green huckleberry (*Vaccinium ovatum*) ecology, management, and use within the Karuk Ancestral Territory of northern California." Rossier will investigate causes and possible solutions to the recent problem of low fruit sets in this ecologically and culturally important species. This grant was made possible by contributions to the Society Student Grants fund by members of the Davis Botanical Society.

Brian Smithers, a Ph.D. student co-advised by Malcolm North and Andrew Latimer, is studying "Fire disturbance-mediated effects on species range shifts and on plant understory diversity in Great Basin sub-alpine forests." As

alpine treelines shift on a warming planet, Smithers is making important observations about how some species are able to quickly move up the treeline while others are not able to keep up. Brian received the Jack Major Award.

Kyle Christie, a Ph.D. student in Sharon Strauss' lab, is studying "Cryptic diversity and phylogenetics of the *Streptanthus breweri* complex." Cryptic diversity refers to a situation where groups of organisms may look exactly the same and may even be called by the same name but may have genetic traits that suggest they belong to different evolutionary lineages. Kyle will be talking about his work on November 17th during the Davis Botanical Society's annual "How I spent my field season" event (see <http://herbarium.ucdavis.edu/> for complete details). Kyle received the Larry and Charlotte Mitich Award.

D. McNair

CALIFORNIA'S BOUNTY OF STICKY, OILY, SLIMY, AND OTHERWISE INTERESTING PLANTS



A predatory stilt bug (*Hoplinus*) walks on a sticky stem of Bolander's monkeyflower (*Mimulus bolanderi*) in search of its next dead bug - or caterpillar egg - meal. Photo: E. LoPresti.

Editors note: The author of this article was one of our 2014 Davis Botanical Society Student Grant recipients. To see more about one of the tarplants mentioned in this article, see page six.

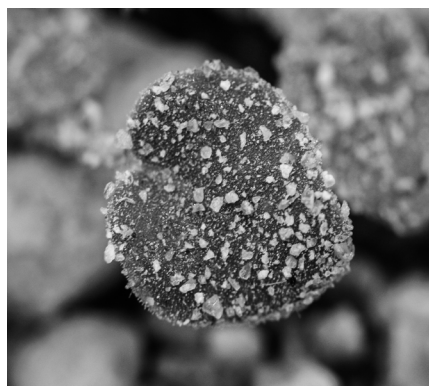
The richness of the California flora is well-known and appreciated widely by botanists, horticulturalists, and nature-lovers. Less noticed, studied, and appreciated are the bounty of weird textures found on the surfaces of these plants. These are familiar to most naturalists in California, at least



Common madia (*Madia elegans*). Photo: S. Chen

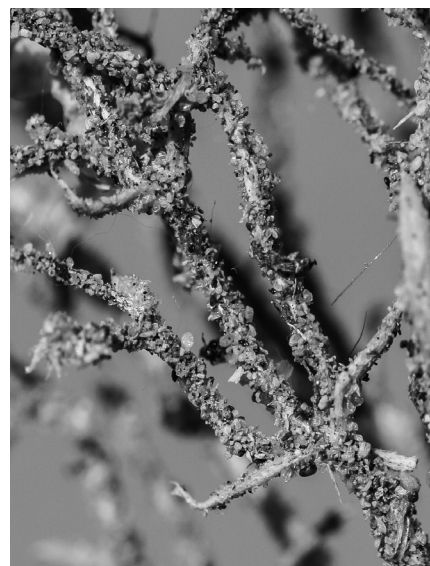
broadly. Field botanists have experienced the scent and sticky feel of the summer tarweeds/tarplants (including *Calycadenia*, *Centromadia*, *Deinandra*, *Hemizonia*, *Holocarpha*, and *Madia*), the ubiquitous gumplant (*Grindelia*), wild tobaccos (*Nicotiana*), catchflies (*Silene*), and many of the monkeyflowers (*Mimulus*), to name just a few. The substances that contribute to the sticky surfaces of these common California plants are called exudates. They have been studied occasionally; some of their chemistry is known, including a little bit about their “sunscreen” functions and their role in plant defense.

I've spent the last four years crisscrossing California, from the southeastern deserts to the northern coast, looking at these plants and wondering what the functions of these various exudates might be. I would be remiss to not credit Billy Krimmel, a past UC Davis ecology student, in starting me down this path. Billy introduced me to the tarweeds, a



A leaf of sand-verbena (*Abronia turbinata*) from the eastern Sierra Nevada showing its namesake sand-coating. Photo: E. LoPresti.

group for which he has rare unbridled enthusiasm. During his dissertation, he did a very clever experiment demonstrating that the sticky surfaces of tarweeds entrap insects, which are then fed upon by a host of scavenging “bugs.” These scavenger bugs also consume insect eggs and caterpillars, which would otherwise feed on the plant. It turns out that these scavenging “bugs” – a collection of spiders, assassin bugs, stilt bugs, mirids (the little gray bugs you often see



The stems of Mono gilia (*Aliciella monoensis*) from the north shore of Mono Lake show a heavy sand-coating. Photo: E. LoPresti.

on tomatoes), and even a cricket – are widely associated with sticky plants and provide a benefit to sticky serpentine columbine (*Aquilegia eximia*), some monkeyflowers, tobacco, your garden petunias and likely many, many more sticky plants around California.

That's not the only trick that sticky plants are up to. Many of them also catch loads of windblown sand or dust particles – so much so that in the sand-verbena (*Abronia*) and sandfood (*Pholisma*), the particles coat the entire plant surface. This seems potentially detrimental, because it restricts the amount of light reaching the plant surface. However, the coating of particles makes the plant far less appetizing to both mammal and insect herbivores. Interestingly, it turns out that no matter what color the particles are – whether colored or bright green – it deters herbivory, suggesting that the plant is not using it as camouflage, but rather as a physical barrier.

Next time you are out botanizing, whether on the coast, in the mountains, in the desert, or in your back yard, check out the stem and leaf surfaces of even the most common plants. You may find something unexpected!

E. LoPresti

WE SAY GOODBYE TO NANCY AND MARJORIE

Earlier this year we lost two long-time volunteers: Nancy Crosby, who volunteered in the herbarium for 13 years, and Marjorie March, who assisted with Davis Botanical Society events for 20 years. Both Nancy and Marjorie joined the Davis Botanical Society in the 1990s when it was the Davis Herbaria Society, and both were recipients of Davis Botanical Society appreciation awards.

Marjorie came to the herbarium to volunteer when I first became Curator. I assigned her the job of making labels for oak specimens collected in the 1930s by the famous entomologist (and later sexologist) Alfred Kinsey. The specimens were collected in Mexico and had handwritten information with them, and they had been sitting in the herbarium for 60

years awaiting labels. Marjorie dutifully made all the labels in our database, and then the specimens sat for another 20 years until Nancy Crosby mounted them onto paper. The specimens were finally filed into our main collection in 2015, only 80 years after they had been collected.

Marjorie decided that herbarium work was not for her, but she continued to help the Davis Botanical Society with events, arriving at our fall and spring meetings with paper goods and helping us set up our refreshments. She did that for 20 years. Meanwhile, Nancy decided that herbarium work was for her, and she became a weekly volunteer in 2003. She and her husband Don would arrive on Thursday afternoons,

unless they were traveling. Nancy first assisted us with refolding our specimens in preparation for our move to our new facility in 2004 (many of our genus folders have Nancy's neat printed handwriting on them). After we moved our collections, she curated our reprint collection (which took many years), assisted with filing specimens, mounted and sorted our wine grape collection (mostly Harold Olmo collections), and helped with the library. Her last task was mounting the Kinsey Mexican oaks.

I am grateful to have known both of these strong and intelligent women, and I thank them for helping the herbarium and the Davis Botanical Society. They will be missed.

E. Dean

SOCIETY PROFILES

Judy Jernstedt

We are happy to re-introduce the President of the Davis Botanical Society, Dr. Judy Jernstedt, Professor of Plant Sciences at UC Davis. Judy has been an active user of both the UC Davis Herbarium and the Conservatory for over three decades, first as a graduate student and then as a faculty member, for both research and teaching. She was President of our society during the 2000-2001 academic year.

Over her career, Judy's research has encompassed plant systematics, developmental anatomy, and morphology. Noteworthy systematics projects included taxonomic treatments of the genus *Chlorogalum* ("soap plant") for *Flora North America* and both editions of *The Jepson Manual*. (And only the family name changed!) As a member of the Department of Plant Sciences, Judy's research area is structure and development of crop plants. She and her lab have been involved in investigations of seed coat breakage in almonds, olive fruit set, and the effects of post-harvest processing on fruit and vegetable preservation. Judy also manages to fit in a few non-crop plants projects, such as studies of shoot branching in the "fern ally" *Selaginella* (a genus which includes "resurrection fern") and in *Ginkgo biloba*.

Judy grew up in rural western Oregon on her family's farm. Every spring, her great-aunt would take her, her sisters, and her cousins to look at wildflowers, and Judy learned the

names of many native species as well as their habitats. When one of her sisters made a plant collection for an elementary school project, Judy eagerly helped. She went on to make her own plant collection in high school, sampling both the local flora on and near the farm and making special excursions to the coast. Her collections were sought after by other students, and she used them as barter to obtain insects for another required collection.

By the time Judy entered college, she knew she wanted to be a scientist, although it took awhile to discover botany itself. She earned a B.S. in Botany from Oregon State University, where she took undergraduate and graduate plant systematics courses and completed an honors thesis on leaf color morphs in *Trifolium wormskjoldii* (tomcat clover). She went on to complete both a Master's degree and a Ph.D. at UC Davis, the latter under the tutelage of our own Grady Webster. Her Ph.D. thesis centered on the systematics, structure, and development of *Chlorogalum*.

During her graduate research, Judy realized that she was more interested in morphology, anatomy, and development than systematics. Accordingly, her postdoctoral training at the University of Manchester, UK, was in plant morphogenesis, with Prof. Elizabeth Cutter (formerly of the UCD Botany Department). Following that, she assumed a faculty position at the University of Georgia as their plant



Judy Jernstedt. Photo: E. Dean.

anatomist and morphologist. From there, she moved to UC Davis, where she teaches a very popular course in plant morphology and evolution (where the students sample food from nearly every major group of vascular plants). She has also been a mentor to the students of the Botany Club as well as an academic advisor for Plant Biology undergraduates; in 1998, Judy was awarded a campus Outstanding Undergraduate Advisor Award.

We are very fortunate to have Judy as our President, for not only does she have an in-depth understanding of the collections of the herbarium and conservatory, she brings a wealth of administrative experience. She has served as President and as Treasurer of the Botanical Society of America and recently completed ten years as Editor-in-Chief of the *American Journal of Botany*. We look forward to her leading us this coming year.

E. Dean & J. Jernstedt

VEGETATION RECOVERY AT STEBBINS (CONT. FROM PAGE 1)

In May and June, 2016, I found five species that had never been reported from the reserve before. Unfortunately, three of them are non-native invasive Eurasian species (Table 5). [A continuously updated list of vascular plants in the Cold Creek Basin by Ellen Dean and Katherine Mawdsley is available on http://herbarium.ucdavis.edu/pdfs/plantlists/Stebbins_vascplant-full%202015_final.pdf.] All fire-prone ecosystems of California can be highly vulnerable to plant invasions during the immediate post-fire period. Many pre-existing invasive plant species recover very successfully after fires. Himalayan blackberry (*Rubus armeniacus*) and smilo grass (*Oloptum miliaceum*, previously known in California as *Piptatherum miliaceum*; under *Stipa* in the current Jepson Manual) are two such species that were present pre-fire in Stebbins Cold Canyon.

M. Rejmánek

Table 2. Woody plants almost completely killed by the fire, not resprouting

Arctostaphylos manzanita ssp. *manzanita* (common manzanita; only a very few individuals survived close to the stream and on ridges)
Ceanothus cuneatus (buckbush)
C. oliganthus var. *sorediatus* (Jim bush)
Frangula (*Rhamnus*) *californica* (coffeeberry – small sample, reported as resprouting from other areas)
Pinus sabiniana (gray/foothill pine – all small and many large trees did not survive)



Whispering bells (*Emmenanthe penduliflora*) dominated burned chaparral in April 2016. Photo: M. Rejmánek.

Table 1. Post-fire resprouting woody plants in Stebbins Cold Canyon

Adenostoma fasciculatum (chamise – vigorous resprouting and carpets of new seedlings in June)
Aesculus californica (California buckeye)
Baccharis pilularis (coyote bush)
Calycanthus occidentalis (spice bush)
Cercis occidentalis (western redbud)
Cercocarpus betuloides (mountain mahogany)
Eriodictyon californicum (California yerba santa)
Fraxinus dipetala (California ash, flowering ash)
Heteromeles arbutifolia (toyon – no seedlings)
Mimulus aurantiacus (bush monkeyflower)
Quercus douglasii (blue oak – only epicormic sprouting from branches; survival rate of trees will be known only after one year or two)
Quercus berberidifolia (scrub oak)
Quercus wislizeni (interior life oak – vigorous resprouting, mostly only from the base)
Rhamnus crocea (redberry)
Rhus aromatica (*trilobata*) (skunk bush)
Sambucus nigra ssp. *caerulea* (*Sambucus mexicana*, blue elderberry)
Toxicodendron diversilobum (western poison oak)
Umbellularia californica (California bay)

Table 3. Species conspicuously more common after the Wragg fire

Acmispon glaber (*Lotus scoparius*, deerweed)
Anagallis arvensis (scarlet pimpernel)*
Antirrhinum vexillocalyculatum (snapdragon)
Briza minor (little quaking grass)*
Calandrinia breweri (Brewer's calandrinia)
Calochortus amabilis (golden fairy lantern)
Calystegia occidentalis (western morning-glory, chaparral false bindweed – smothering other plants under a solid blanket of leaves)
Centaurea melitensis (tocalote)*
Cuscuta californica (California dodder)
Dichelostemma volubile (twining brodiaea)
Emmenanthe penduliflora (whispering bells)
Epilobium brachycarpum (annual willow-herb)
Erigeron (*Conyza*) *canadensis* (horseweed)
Eucrypta chrysanthemifolia (common eucrypta)
Gastidium phleoides (*Gastidium ventricosum*, nit grass)*
Gilia capitata (blue-headed gilia)
Helianthemum scoparium (peak rush-rose)
Lactuca serriola (prickly lettuce)*
Rafinesquia californica (California chicory)
Stephanomeria virgata (twiggy wreath plant)
Toxicoscordion (*Zigadenus*) *fremontii* (death camas)

*Non-native species

Table 4. Species conspicuously less common after the Wragg fire

Aristolochia californica (California pipevine)
Clematis lasiantha (Virgin's bower)
Dodecatheon hendersonii (Henderson's shooting star)

Table 5. Species new to Stebbins Reserve after the Wragg fire

Aegilops triuncialis (barbed goat grass)*
Camissoniopsis hirtella (hairy sun-cup)
Conium maculatum (poison hemlock)*
Helminthotheca (*Picris*) *echioides* (bristly ox-tongue)*
Nuttallanthus texanus (blue toadflax)
 *Non-native species

LIVERMORE TARPLANT ADDED TO THE CALIFORNIA ENDANGERED SPECIES LIST

The California Fish and Game Commission voted unanimously at its August 25, 2016 meeting to add the Livermore tarplant (*Deinandra baciagalupii*) to the California endangered species list. The Livermore tarplant is an herbaceous annual plant in the sunflower family (Asteraceae) that grows to a height of 40 centimeters and produces bright yellow flowers that bloom in summer and early fall. The leaves and parts of the stems, flowers, and flower heads are covered with yellowish or clear sticky glands that give Livermore tarplant a strong odor similar to paint thinner. It grows in poorly-drained, seasonally-dry, alkaline meadows in the vicinity of barren alkali scalds, alkali vernal pools, and playa-like pools, and is associated with Solano fine sandy loam soil.

Livermore tarplant's distribution is restricted to four known populations in the eastern portion of the Livermore Valley within the City of Livermore and in unincorporated Alameda County. All known populations occur in the vicinity of intensive residential and industrial land uses, in areas likely to be targeted for future urban development. However, adding Liver-



Livermore tarplant (*Deinandra baciagalupii*).
Photo: Jeb Bjerke.

more tarplant to the endangered species list makes it illegal to kill or possess this species except in limited circumstances, such as through a permit or agreement issued by the California Department of Fish and Wildlife under the authority of the Fish and Game Code. This new status affords Livermore tarplant the high-

est level of protection in California. The decision was made almost two years after the species was petitioned for listing under the California Endangered Species Act. Livermore tarplant is the first plant species added to the California endangered species list in almost ten years. The decision to list this species as endangered was based on a recommendation by the California Department of Fish and Wildlife. The species is in serious danger of becoming extinct throughout all or a significant portion of its range due to one or more causes, including loss of habitat, changes in land use, impacts associated with invasive plant species, and/or other human-related activities. Its small population size and restricted range also makes it vulnerable to extinction.

The California Fish and Game Commission recently received two additional petitions to add coast yellow leptosiphon (*Leptosiphon croceus*) and Lassics lupine (*Lupinus constancei*) to the California endangered species list. The California Department of Fish and Wildlife is currently evaluating these petitions.

C. Burton

ASPHALT VERSUS THE INDOMITABLE SNOW PLANT



The Center for Plant Diversity is doing a survey of vascular plant species at D.L. Bliss State Park (located just north of Emerald Bay, Lake Tahoe). Ellen Dean and I visited the park to survey about twice a month from early May through early September. We've identified approximately 310 plant species in the park, and of the plants I've encountered in the park, one of my favorites is snow plant (*Sarcodes sanguinea*). In particular, I was very impressed by a certain street-tough individual that pushed itself up through a layer of asphalt at one of the ranger residence parking lots (pictured at left; photo by the author).

Full disclosure: this is a rehash of one of our Facebook posts... and we'd be thrilled if you would 'like' the Center for Plant Diversity's Facebook page (<https://www.facebook.com/UCDherbarium>) so you can be in-the-know about our upcoming events and other plant-related things.

D. McNair