THE JEPSON GLOBE

A Newsletter from the *Friends of The Jepson Herbarium*

VOLUME 22 NUMBER 2, Fall 2012

Curator's Column: The Jepson eFlora

By Bruce G. Baldwin

Since publication earlier this year of the new *Jepson Manual*, the Jepson Flora Project has been kept active with revisions to treatments made necessary by continuing progress in California floristics. Most of this recent activity involves information that came to our attention during the last stages of preparation of the new *Manual*, when no more than a note could be included under each treatment of concern. Even more recent botanical studies, including many still not published, ensure that the Jepson Flora Project will be kept busy far into the future at keeping California's floristic resources current. The good news for botanists is that communication of these important changes to our flora, including additions of newly described or documented taxa for California, will be possible long before publication of a future edition of *The Jepson Manual* could be contemplated. Our mechanism for communicating these changes in botanical understanding will be the Jepson eFlora (http://ucjeps.berkeley.edu/IJM.html).

At this point, the Jepson eFlora closely adheres to the new *Jepson Manual* and includes full descriptions of waif taxa (treated only in keys in the *Manual*), in addition to some notes, synonyms, and other material that could not be included in the book because of page constraints. Care has been taken

(Continued on page 10)

Cover image: Andrew Doran (Administrative Curator UC/JEPS) carrying plant presses onto Brooks Island.
Photo by John Game.

Botanizing Brooks

By Andrew Doran and Dean Kelch

In March, botanists, research associates and friends of the Herbaria collected plants at a locality where few collections have been made, Brooks Island, an island preserve in the San Francisco Bay located just off the Richmond Inner Harbor. Getting to the island requires boats with a relatively shallow draft and these were kindly provided by Dick Spight, Chairman of the Farallon Island Foundation, and

(Continued on page 4)

Speciesism and the Future of Humanity

Brent Mishler, Director, University and Jepson Herbaria, and Brian Swartz, Andrew W. Mellon Postdoctoral Fellow, are organizing a year-long seminar entitled "Speciesism and the Future of Humanity." The Sawyer Seminar, supported by the Andrew W. Mellon Foundation, is engaging academics from the social sciences, natural sciences, and humanities for wide-ranging discussions about the sociopolitical, cultural, and scientific ramifications of speciesism. "Speciesism" refers to the view that unique natural kinds (species) exist as structural elements of biodiversity and is manifested in the cultural attitude that humans are distinct from, and superior to, other forms of life. The broader impacts consider human overpopulation and overconsumption and the challenges they pose to global sustainability, the global economy, and the future of life on Earth.

The year-long seminar will address the implications of speciesism through focused discussion of four themes: (1) Biology: why the scientific and evolutionary worldview matters.

(Continued on page 10)

ALSO IN THIS ISSUE

Three New Grants

Three new grants will provide support for the collection and the library/archives.

The first grant, *North American Lichens and Bryophytes: Sensitive Indicators of Environmental Quality and Change* was funded by NSF and will focus on digitization efforts of lichen and bryophyte specimens from North America (including Mexico) held in U.S. institutions. The project aims to address three questions: (1) How are changes in distribution patterns of lichens and bryophytes over time correlated with man-made environmental changes, such as land use change, atmospheric pollution, global climate change due to greenhouse gases, and damage to the ozone layer? (2) Can mapping of historic and recent lichen and bryophyte collections be used to document such changes and can these organisms be used as bioindicators to draw our attention to issues and geographic regions where action is required to maintain a healthy environment? (3) How accurately can we predict where specific species can be found using existing herbarium data and GIS information, both currently and in the future? Over 45 institutions (including UC) will be participating and approximately 2.3 million lichen and bryophyte specimens will be digitized.

The second grant, *The Macrofungi Collection Consortium: Unlocking a Biodiversity Resource for Understanding Biotic Interactions, Nutrient Cycling and Human Affairs* was also funded by NSF and will focus on herbarium collections of fungi with conspicuous spore-bearing structures commonly known as macrofungi (e.g., mushrooms, boletes, puffballs, club fungi, morels, stink horns, truffles, and cup fungi). The Macrofungi Collection Consortium (MCC) will digitize collection information from about 700,000 specimen labels, capture 100,000 images of fungal specimens, and digitize about 500,000 critical ancillary items such as photographs, field notes, and field book pages. The result will be a dataset of almost 1.4 million enriched specimen records that includes essentially all the macrofungal collections deposited in U.S. herbaria during the past 150 years; UC is a proud partner in the project.

The third grant, *Critical Care, Security, and Improved Accessibility for the University and Jepson Herbaria Library and Archives* was made possible by a grant from the U.S. Institute of Museum and Library Services. With grant funds, the University and Jepson Herbaria will purchase and install compact shelving for its botanical library and archives that focus on the history of western American botany from the 1860s to the present. The collections support a variety of research topics from frontier experiences and personal histories of botanists to changes in ecosystems and the development of conservation organizations.

UC Berkeley students working in the new imaging station that has been developed for our current digitization projects.

Severe leaks in the archives storage rooms have required the archives to be moved to temporary storage closets and wheeled carts in the library. The collections are scattered, and accessibility is difficult and limited. The grant-funded project will reorganize the current library space to accommodate the archives, increase security, and improve environmental conditions for both collections. A conservator will provide training to staff in handling collections and identifying preservation issues. Long-term maintenance and preservation will be ensured, and collections will soon be easily accessible to staff, visiting scholars, and the general public.

The Institute of Museum and Library Services is the primary source of federal support for the nation's 123,000 libraries and 17,500 museums. Through grant making, policy development, and research, IMLS helps communities and individuals thrive through broad public access to knowledge, cultural heritage, and lifelong learning.

Botany Lunch

Please join us for botany lunch on Fridays from noon -1pm. See our website for the schedule at http://ucjeps.berkeley.edu/news/botanylunch/.

If you are interested in giving a seminar for the Spring 2013 season, contact Andrew Doran at 643-4344 or andrewdoran@berkeley.edu.

New Fundraising Campaign Kicks Off

Our New Campaign, *Herbaria Futures*, is off to an amazing start with a $50,000 matching gift from Rod and Cathy Park!

As members of the *Friends of the Jepson Herbarium*, our readers are already aware of the important work conducted at the herbaria, the breadth of subjects covered, and the far-reaching uses of herbarium data in research and conservation projects all over the world.

With the publication of the second edition of *The Jepson Manual* and the initiation of three new grants (see announcements on facing page), we are focused on the future and, now more than ever, we are thinking about how we will sustain all of the resources that have been developed here at UC/JEPS.

Continued success in extramural funding, particularly for the more cutting-edge projects supporting new developments and research, is a must and we have redoubled our efforts in proposal writing and now have the highest level of current extramural funding in our history.

Needs that are primarily infrastructural in nature, for example, basic care, housing, and curation of the collections and databases, are not good prospects for extramural funding. The current endowments of the Herbaria have provided an incredible foundation for the work we have done to date and we have realized that **building the endowment** is one way we can **ensure the future of the Herbaria**.

Our new campaign, *Herbaria Futures*, is designed to significantly raise the endowment to ensure a core foundation of support for infrastructure and care of the collections, continued primary research and its dissemination, and cultivation of the next generation of botanists, ecologists, and conservationists.

We have near- and longer-term goals to improve on our current level of excellence. These can be arranged under 5 headings:

- Digital collection improvements, both for in-house use and web presentation through the *Consortium of California Herbaria* and other products.
- On-line floristics, ecology, and systematics applications, including needed revision and improvements to the *Jepson eFlora* and new initiatives on California bryophytes and West Coast seaweeds.
- Physical curation / space enhancement
- Research by undergrad and graduate students, staff, and faculty.
- Enhancements to our public outreach and formal university teaching.

By giving to the endowment fund, you will support the Herbaria as we help answer one of the most significant questions of our time: how to protect biodiversity in the face of global climate change. The collections of the University and Jepson Herbaria provide a knowledgebase like no other in the world. With emphases in the California flora, marine algae, tropical and temperate ferns, bryophytes, as well as our cutting-edge bioinformatics, the Herbaria's impact is significant and far-reaching. As the collections grow, so must our commitment to curating them and making them accessible to all who can benefit from their riches.

Please join Rod and Cathy Park and the many *Friends* who have already generously supported the campaign with a gift to *Herbaria Futures*. All gifts (up to $2,000 per individual) received by **December 31, 2012** with be matched, therefore doubling the value!

Herbaria Futures — A Campaign to Support Berkeley Herbaria

Please Match My Gift
Amount of gift $_____
I pledge a gift of $_____
to be paid by December 31, 2012

Annual Support
___ $35 Individual ___ $50 Family
___ *New Member* ___ *Renewal*

Please make your check payable to the ***UC Regents****, charge your gift, or give online at:* http://givetocal.berkeley.edu/browse/?u=71

Name(s) _____
Address _____
City, State Zip _____
Telephone/ Email _____
___ *Please send me information about including the Herbarium in my will*
___ This gift is ___ in honor of / ___ in memory of _____

___ Visa ___ Mastercard Amount $_____
Card # _____
Signature _____ Exp. Date _____

Thank you for your support!

(Brook's Island, cont. from page 1)

Tim Herrlinger of the Department of Integrative Biology, UC Berkeley.

Brooks Island has an interesting history. The island, formerly Sheep Island, has several fresh water springs. Evidence that it was a seasonal residence for the Ohlone Indians is provided by numerous middens. Once scheduled to be major railroad hub, the south side of the island was extensively quarried for fill for the Bay Bridge Toll Plaza and for creating Treasure Island. During this time the island experienced several fires; an extensive one in the 1960s burned approximately 90% of the island. It was later leased for shooting game birds by Sheep Island Gun Club whose members included Victor J. "Trader Vic" Bergeron and Bing Crosby. It became East Bay Regional Parks property when it was purchased in 1968.

Because of its proximity to the University, it has attracted the attention of researchers and generated several biological studies, including Paul Anderson's work on salamanders and Bill Lidicker's (Museum of Vertebrate Zoology) work in the late 1950s on house mice and later California voles.

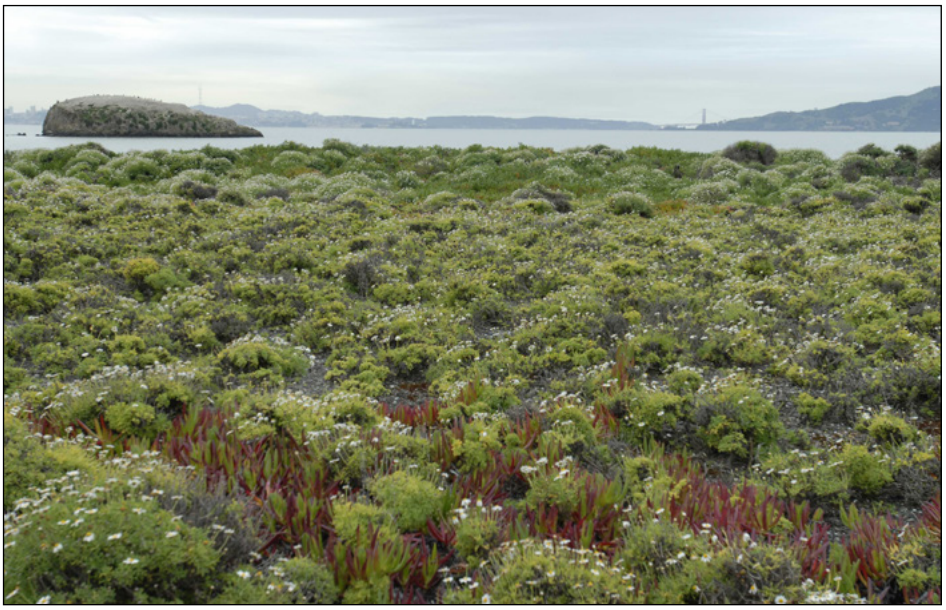
It now has a permanent warden, Matt Allen, who lives on the island and serves as Island Caretaker. His primary duty is to ensure that nobody comes ashore without authorization. The island is restricted as a bird sanctuary. Visiting it requires an East Bay Regional Parks collecting permit or a scheduled tour.

Brooks Island botanists, sitting at the old meeting spot of The Sheep Island Gun Club, from left to right: John Game, Heath Bartosh, Dean Kelch, Andrew Doran, Tim Herrlinger, and Jeff Greenhouse. *Photo by Matt Allen*

Our two Boston Whalers left at high tide from Marina Bay. We had a limited window for collecting as we risked being stranded on the island by the low tide. Brooks Island is substantially bigger than it looks from the shore; the main part is approximately 47 acres (not including the artificial spit to the northwest). It rises to a height of 163 feet at its south end, giving a nice perspective of the surrounding Bay. Our first collection site was at the landing dock where *Argyranthemum foeniculaceum* was collected.

Argyranthemum foeniculaceum is a non-native plant hailing from the Canary Islands. It is one of the Macaronesian plant species that have made themselves at home in California. Other Macaraonesian species naturalized in California include *Phoenix canariensis, Echium candicans, Geranium canariense*, and *Volutaria canariensis*. *Argyranthemum foeniculaceum* forms a near monoculture on the artificial spit that hosts the seabird colony on the northwestern end of the island. This unusual plant community may depend on the high nitrogen soils deriving from seabird guano.

Although the island had been heavily disturbed it contains some good native plant habitats including the coastal bunchgrass prairie along the upper ridge of the island. This



Argyranthemum foeniculaceum *on Brooks Island. Note the smaller Bird Island toward the San Francisco Peninsula.* *Photo by Tim Herrlinger*

(Continued on page 5)

View from the top of Brooks Island looking towards Mount Tamalpais.
Photo by Tim Herrlinger

includes such species as *Stipa pulchra*, *Danthonia californica*, *Sidalcea malviflora*, *Viola pedunculata*, *Bromus carinatus* and *Plantago erecta*. Brooks Island contains a good example of what the East Bay coastal lowlands used to look like before their development.

Over 50 collections were made in our 4-hour window; this effectively doubled the Consortium of California Herbaria records for the Island. One of our objectives was to find the elusive Walker's Thistle, a tall form of *Cirsium quercetorum* with beautiful pink flowers. It was only ever collected in the now-developed lowland East Bay, Point Isabel, and Brooks Island. Our visit in 2012 was too early to easily locate the thistle; we hope to return next year and try to locate this elusive plant.

The story of *Cirsium quercetorum* began with Harriet Walker, a talented and active plant collector who worked as a curatorial assistant at the University Herbarium, UC Berkeley, from 1905 until 1927. Just before the upper Solano Avenue area was developed in 1911, she collected an odd thistle along Colusa Avenue in Berkeley. This handsome, though spiny, plant was 50-90 cm tall and bore heads of pink flowers. Franz Petrak, the early 20th century scholar of the genus *Cirsium*, named it *C. walkerianum* in Ms. Walker's honor. Professor W. L. Jepson associated the plant with the brownie thistle, *C. quercetorum*, and renamed it as *C. quercetorum* var. *walkerianum* in 1925. The current *Cirsium* treatment in TJM2 treats it as a synonym of *C. quercetorum*. Nevertheless, Ms. Walker's thistle is or was a distinctive plant exemplifying how much interesting variation can reside in a group of plants included in a single species. *C. quercetorum* still grows high in the Berkeley Hills in its typical form (nearly stemless with sordid white flowers); it's a very different plant than Ms. Walker's thistle. Ms. Walker's thistle was only collected in four places, all in the East Bay. Only one of these, Brook's Island, still has intact vegetation. Next spring, botanists from the herbarium will sail again to Brook's Island to see if Ms. Walker's thistle still adorns the grassy hills.

Partial funding will be provided by the Harriet A. Walker fund, an endowment fund Harriet established with an estate gift to the Herbaria.

Collecting and pressing Plantago erecta *on Brooks Island.*
Photo by John Game

Plants on Brooks Island.
Photo by John Game

Cirsium quercetorum *last collected on Brooks Island by Rimo Bacigalupi in 1965.*

Grad Student News

The Herbarium Effect

An update on former graduate students

The University and Jepson Herbaria have a well-established graduate student training program where students have access to a world-wide botanical collection, top-notch research facilities, opportunities to interact with systematists and researchers from around the world, and a supportive environment in which nascent ideas develop and flourish. Since the current Director (Brent Mishler) and Curator (Bruce Baldwin) arrived on the scene in the mid-1990s, over 20 students have completed the Ph.D. program and gone on to careers of their own.

In compiling this article, we were struck by the amazingly diverse array of positions now held by former graduate students—both in academia and other, related fields. Collectively, the students included below have published almost 200 articles in scholarly journals and many have contributed taxonomic treatments to the second edition of *The Jepson Manual* and the *Flora of North America North of Mexico*. They are faculty members, CEOs, parents, and mentors to their own students. Here, we share updates from some of our past graduate students with a few personal remembrances of their graduate student days. Listed below are their current positions.

Carrine E. Blank
Research Assistant Professor, University of Montana, Missoula, where she studies microbial diversity and evolution using genomic approaches.

Benjamin E. Carter
Post-doctoral Research Associate & Assistant Curator, Catalina Island Conservancy Herbarium (CATA).

Cover story. Goldfields Revisited: A Molecular Phylogenetic Perspective on the Evolution of Lasthenia (Compositae: Heliantheae sensu lato) by Raymund Chan, Bruce G. Baldwin, and Robert Ornduff. International Journal of Plant Sciences, November 2001, Vol. 162, pp. 1347-1360.

Raymund Chan
Research Associate, Department of Botany, National Museum of Natural History, Smithsonian Institution.

Kirsten Fisher
Assistant Professor, Department of Biological Sciences, California State University, Los Angeles.

Danica T. Harbaugh Reynaud
President and CEO, AuthenTechnologies, a DNA testing service provider that specializes in medicinal plant authentication and genetics of endangered plant species. Danica is also the Founder and Executive Director of a nonprofit, the International Sandalwood Foundation.

Eric S.J. Harris
Sustainability Services Associate, Scientific Certification Systems, Emeryville, California, where he helps develop and implement certification programs related to the social and environmental sustainability of global agricultural supply chains.

Anya Hinkle
Most recently the Associate Director of the Highlands Biological Station, a Center of the University of North Carolina System.

Ruth E.B. Kirkpatrick
Botany and Biology Instructor at Spokane Falls Community College in Spokane, Washington.

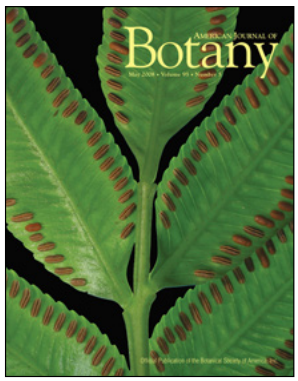
Anna W. Larsen
Independent Consulting Botanist, AuthenTechnologies LLC; Botanist, Nomad Ecology; Research Associate, Jepson Herbarium; Education & Outreach Specialist, Gymnosperm Tree of Life.

Staci Markos
Project Manager for the Jepson Flora Project and Administrative Chair for the Consortium of California Herbaria.

John McMurray
Bioinformatics Program Director at Oklahoma City Community College.

Abigail J. Moore
Post-doctoral Researcher, Institute of Systematic Botany, University of Mainz, Gernmany. With Professor Joachim Kadereit, she is studying a group of species of *Minuartia* in the Caryophyllaceae.

Andrew G. Murdock
US Digital Editor for Lonely Planet where he commissions, edits, and writes for LonelyPlanet.com and the company's social



Cover story. Phylogeny of Marattioid Ferns (Marattiaceae): Inferring a root in the absence of a closely related outgroup, by Andrew G. Murdock, Am. J. Bot. May 2008 vol. 95, pp. 626-64.

media channels. About his graduate student training, Andy says, "My time at Berkeley trained me well—critical thinking, collaboration, self-motivation, data analysis, mass coffee consumption—and would you believe we're in the process of adopting an unranked information taxonomy across all platforms at Lonely Planet? Who knew the idea of a non-ranked classification system would be so far-reaching!"

Terry O'Brien
Associate Professor and Chair, Department of Biological Sciences, Rowan University, Glassboro, New Jersey.

Patricia Sanchez Baracaldo
Royal Society Dorothy Hodgkin Fellow at the University of Bristol where she is studying how events such as the evolution of cyanobacteria influenced the global environment and past climatic events.

Photo by Nick Smith, University of Bristol

Lisa M. Schultheis
Biology Instructor, Biological and Health Sciences Division, Foothill College in Los Altos Hills, California, where she is teaching a diverse array of classes and, this past summer, led a global medical brigade to rural Honduras.

Robert Douglas Stone
Assistant Professor, School of Life Sciences, University of KwaZulu-Natal, South Africa, where he teaches several courses and studies systematics and evolution of the tropical plant family Melastomataceae, subfamily Olisbeoideae. Of his time at UC Berkeley, Doug recalls "being based at UC/JEPS was a great opportunity to exchange ideas with other students and practicing systematists…some of those associations have turned into longer-term collaborations and provided the opportunity to now collaborate with colleagues from around the world." He continues "I will always owe a debt of gratitude to Dr. Isabelle Tavares (the former curator of fungi & bryophytes at the UC Herbarium), who personally underwrote my collecting trip to Cameroon in March – May of 2003. The UC/JEPS herbaria are of course well-known for their extensive collections from California and western North America, but early on in my doctoral study of paleotropical *Memecylon* (Melastomataceae), I benefitted by the surprisingly rich holdings from Indo-Malesia and the Philippines (these were accessioned during the tenure of Elmer D. Merrill, who came to UC from the Philippine National Herbarium and later went on to New York and then the Arnold Arboretum). The representation in the UC herbarium is truly world-wide!"

Doug Stone in the National Herbarium of Cameroon, April 2003

Dennis P. Wall
Associate Professor of Pediatrics and Director of the Computational Biology Initiative at Harvard Medical School where his lab is developing novel approaches in systems biology to decipher the molecular pathology of autism spectrum disorder and related neurological disease.

Carol A. Wilson
Research Scientist, Rancho Santa Ana Botanic Garden and Research Associate Professor of Botany, Claremont Graduate University, where she studies the systematics and evolution of *Iris* and the Loranthaceae.

Elizabeth H. Zacharias
Recently held the position of Research and Curatorial Associate of Vascular Plants, Harvard University Herbaria, and is now a Research Associate in the University and Jepson Herbaria.

2007 Graduation. From left to right: Eric Harris (PhD), Elizabeth Zacharias (Ph.D.), Anna Larsen (Ph.D.), Professor Bruce Baldwin, Ruth Kirkpatrick (Ph.D.), Professor Brent Mishler, Danica Harbaugh (Ph.D.), Professor Tom Carlson, Bianca Knoll (MS), and Andy Murdock (Ph.D.).

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Jepson Herbarium Research Associate and Curator Recognized for Outstanding Publication at American Botanical Meetings

Elizabeth Zacharias with Stutzia covillei. *Photo by Ian C. Bourg.*

This past summer, in Columbus, Ohio, The American Society of Plant Taxonomists awarded Elizabeth Zacharias and Bruce Baldwin, Elizabeth's Ph.D. advisor, their Grady Webster Award at the Society's annual meeting. The award was given for the most outstanding paper published in the Society's journals Systematic Botany and Systematic Botany Monographs during the two-year period of 2010–2011.

Zacharias and Baldwin's winning paper is Zacharias, Elizabeth H., and Bruce G. Baldwin. 2010. A molecular phylogeny of North American Atripliceae (Chenopodiaceae), with implications for floral and photosynthetic pathway evolution. Systematic Botany 35: 839-857. This winning paper may be downloaded at (http://www.bioone.org/doi/abs/10.1600/036364410X539907) or by contacting the Jepson Herbarium at 510-643-7008.

The paper, based on Elizabeth's doctoral dissertation research, exemplifies the power of DNA-sequence-based research, in the context of anatomical and isotopic evidence, to advance our understanding of evolution and classification. This study showed that C4 photosynthesis, which is an adaptation to drought and high-temperature stress, evolved only once within saltbushes. Furthermore, this study showed that morphological complexity and morphologically similar but evolutionarily distinct species misled previous classifications. The new names applied enable botanists to recognize natural lineages of saltbushes.

Financial support for the study was provided to Elizabeth by the Lawrence R. Heckard Endowment Fund of the Jepson Herbarium; the California Native Plant Society (East Bay Chapter); the Nevada Native Plant Society (Margaret Williams Grant); the Department of Integrative Biology, UC Berkeley; and the American Society of Plant Taxonomists (Rogers McVaugh Research Grant). The National Geographic Society and the University of Tehran gave support that made Iranian material available for the study.

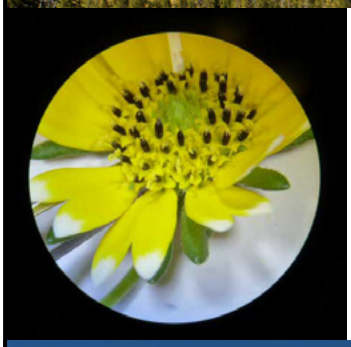
The award is named for the late Dr. Grady L. Webster, a prominent botanist at UC Davis, who published widely on comparative morphology and anatomy, relationships and evolution, and biogeography. He conducted extensive fieldwork in the tropics and subtropics and inspired many students to study systematic botany.

Elizabeth H. Zacharias is a Research Associate at the University and Jepson Herbaria.

Extriplex californica.
Photo by Elizabeth Zacharias

Grayia spinosa.
Photo by Elizabeth Zacharias

2012 Workshop Year In Review



Clockwise, from top: Cory Peak, along the trail from Cabin Meadows in the Klamath Mountains (photo by Jack Alderson), hand lenses getting a workout in Death Valley, pausing to reflect on field notes in San Luis Obispo County, seaweed enthusiasts let loose in Cambria, traversing the White Mountains in search of late-season blooms, and Layia fremontii *under the scope (photos by Jeanne Marie Acceturo).*

(Specieism, cont. from page 1)

(2) The cultural and historical roots of anthropocentric practices;
(3) Conservation and law: the standing of natural objects under the law.
(4) How public policy influences global sustainability.

The first phase is complete and freely available on the web: http://ucjeps.berkeley.edu/bryolab/Mellon-Sawyer/Podcasts/Podcasts.html.

Please join Brent, Brian, and others for the rest of the series. If you are interested in participating as an audience member, please contact Brian Swartz (brian.darwin@berkeley.edu).

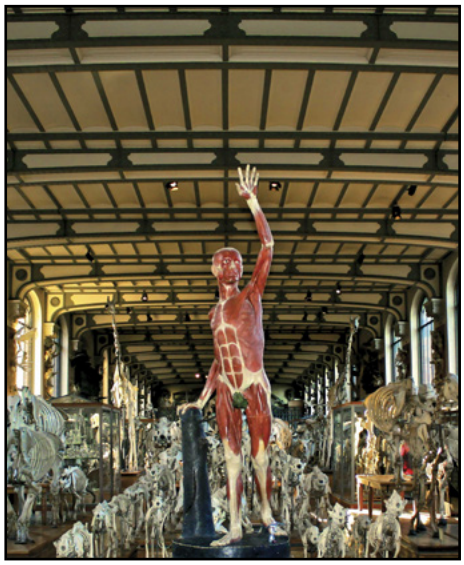


Photo by Brian Swartz, taken at Muséum national d'histoire naturelle, Galerie de paléontologie et d'anatomie comparée, Paris, France.

Floristic Record for North America

Alan Smith, UC Berkeley

Sphaeropteris cooperi (Hooker ex F. Mueller) R.M. Tryon (Cyatheaceae), native to eastern Australia and naturalized in several tropical areas of the world (e.g., Hawaii) is now known from naturalized populations in both Oregon (Wood 2008, Amer. Fern J. 98: 113–115) and California, Santa Catalina Island (Clark & Summers 2012, ms. submitted). In both localities, it occurs in crevices of coastal cliffs, in the fog belt zone, immediately above the Pacific Ocean. These reports are the first known records of establishment of this large (600 spp.), diverse, and predominantly tropical family of tree ferns in Flora of North America North of Mexico. In the California population, some fronds are fully fertile, despite having a trunk less than 1 m tall and fronds to 1.5 m, while the Oregon plants were not yet reproductive in 2008. In native and some cultivated situations, plants attain heights to 12 m, with trunks to 15 cm in diam., and may not form spores until they reach a substantial size. *Sphaeropteris cooperi* [syn. *Cyathea cooperi* (Hooker & F. Mueller) Domin] is commonly sold in nurseries in coastal California and southern Oregon.

Text is reprinted and used with permission from Flora of North America Newsletter - Vol 26, No. 1.

Image of Sphaeropteris cooperi *habit at botanical garden entrance, Hana Highway, Upper Nahiku, Maui*
Photo by Forest & Kim Starr

(Curator's Column, cont. from page 1)

to highlight unabridged content in blue typeface, so that readers can easily spot information unique to the eFlora. In addition, corrections (errata) to the new *Jepson Manual* destined for future printings of the book are incorporated into the eFlora treatments immediately upon their discovery. Also included in the eFlora is a set of tools (http://ucjeps.berkeley.edu/IJM_tools.html) that aid understanding of changes embodied in the new *Jepson Manual* by comparison with the 1993 *Manual*. Other eFlora tools allow for retrieving or generating lists of taxa or names in diverse ways for research purposes and as an aid to general use of the *Manual* or eFlora.

Beginning in early January 2013, substantial revisions to floristic treatments will begin to be incorporated into the Jepson eFlora, as they are completed, with online archiving of the previous treatment versions. The process will be incremental and will affect a minority of treatments at first. By focusing attention where and when it is needed, we foresee a gradual process of revision that is much more manageable and helpful than a comprehensive revisionary effort that is initiated once every decade. The eFlora represents a dynamic new approach to California floristics and one that is needed to ensure that the best information is available for research and conservation purposes during this time of rapid global change. We look forward to a long, productive future of working together with the greater botanical community to make the most of the eFlora and other Jepson Flora Project resources.

Workshop Announcements

Early Registration

The 2013 Jepson Herbarium Workshop Program schedule will be announced in November. Current members of the *Friends of the Jepson Herbarium* can register for workshops one week before registration is made available to the general public. So, if your registration recently expired, or if it will expire soon, be sure to renew by the end of October!

Calling all Mycophiles

We still have spaces available in the last Jepson Workshop of the season, "Evolution and Diversity of Mushrooms." Please join instructor Else Vellinga on December 8-9, 2012, for an introduction to the biology and identification of California's mushrooms. The workshop fee is $235 for *Friends* and $260 for the general public. For more information, or to register, please contact the Jepson Herbarium at (510) 643-7008, or go online to http://ucjeps.berkeley.edu/workshops/2012/index.html.

Curatorial Volunteers Needed at the University and Jepson Herbaria!

Please help us with mounting, databasing, and filing herbarium specimens! We have group volunteer days listed below and also welcome volunteers during regular business hours. Weekday volunteers help with routine tasks and specialist projects such as working on specific collections or taxa.

2012-2013
Group Volunteer Schedule

November	17
December	8
January	12
February	9
March	9
April	20
May	11

For more information about our volunteeer opportunites or to be added to the reminder list, please contact Andrew Doran 510-643-4344. No previous curatorial experience necessary.

WELCOME TO THE EAST BAY SCIENCE CAFE

Held the first Wednesday of every month in the La Peña Lounge adjacent to Cafe Valparaiso at La Peña Cultural Center from 7 to 9pm. 3105 Shattuck Avenue, Berkeley.

The East Bay Science Cafe is an informal forum for discussing interesting and relevant scientific issues. The goal is to encourage public engagement with science by inviting members of the scientific community to present topics for a casual evening of conversation. Cafes may vary in length and format depending upon the speaker and the topic. Audience questions are encouraged both during and after!

Upcoming Talks

Wednesday, November 7th, 2012 Todd Dawson: "Out of the mist and into the mayhem: the biology of redwoods in the changing world"
Wednesday, December 5th, 2012 Mark Laidre: Topic to be announced

The Jepson Herbarium Projects & Resources

The Jepson Flora Project
The Jepson eFlora
Online Interchange for California Floristics
Educational Services & Resources
Botanical Workshops & Courses
Plant Identification
2,200,000+ Worldwide Plant Specimens
Botanical Library & Archives
Publications & Research Projects
Constancea: UC Publications in Botany
Director: Brent D. Mishler
Deep Moss: Reconstructing the early evolution of mosses from comparative genomics
Moorea Biocode Project (a complete inventory of an island ecosystem)
Systematics and ecology of *Syntrichia*
Curator: Bruce G. Baldwin
Systematics and Evolution of Calif. tarweeds and relatives (tribe Madieae, Compositae), *Chaenactis* (Chaenactidieae, Compositae), and *Collinsia* (Plantaginaceae).
Administrative Curator: Andrew Doran
Cultivated plants, UK flora
Curator of Ecology: David Ackerly
Ecology and evolution of California flora; Climate change impacts and conservation strategies
Curator of Monocots: Chelsea D. Specht
Evolution and biogeography of Calif. monocots (including *Allium*, *Nolina*)
Systematics and evolution of Heliconiaceae, Costaceae, and Zingiberaceae
Floral developmental evolution in the tropical gingers (Zingiberales)
Curator of W. N. Am. Botany: Barbara Ertter
Flora of Mount Diablo & Flora of the East Bay, North American Potentilleae
Trustees: Vice Chancellor Emeritus Roderic Park, Chairman; Vice Chancellor Emeritus Beth Burnside; UC Botanical Garden Director Paul Licht; Professors John Taylor and Brent D. Mishler (ex officio)
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Herbaria Futures

To kick off our new fundraising campaign and support development of electronic resources, the Herbaria currently have a $50,000 matching gift challenge from Rod and Cathy Park.

All gifts (up to $2,000 per individual) received by December 31st will be matched, therefore doubling the value.

We have already reached the half-way mark by raising $25,000.

PLEASE RENEW today and help us raise an additional $25,000 to fulfill this amazing apportunity!

More details on page 3.

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