

THE JEPSON GLOBE

A Newsletter from the *Friends of The Jepson Herbarium*

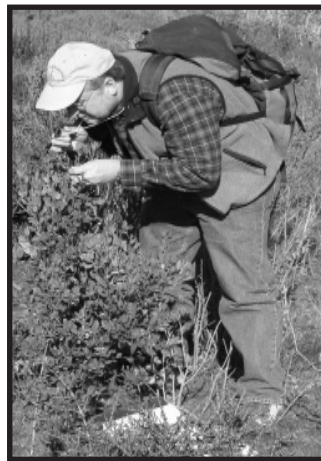
VOLUME 15 NUMBER 3 DECEMBER 2004

A Quantum Leap in Cryptogams! The herbarium of the Natural History Museum of Los Angeles County moves to UC Berkeley

by Brent Mishler

During recent restructuring at the Natural History Museum of Los Angeles County (LAM), the botanical program was proposed for disestablishment and its collection of cryptogamic plants (some 215,000 specimens) was threatened to be orphaned. I strongly encouraged the LAM administration to reconsider their decision, since their cryptogams (a polyphyletic but useful designation for spore bearing plants encompassing algae, bryophytes, and fungi including lichens), themselves a consolidation from several southern California institutions, are highly significant and must remain accessible for study. Many of my own collections, made as a masters student at Cal Poly Pomona, were consolidated into this collection years ago; other institutional collections that had been assimilated into LAM include UCLA, Rancho Santa Ana Botanic Garden, Pomona College, and Cal State Fullerton. When it was clear that their decision was final, the collection's building was slated for seismic demolition and renovation, and thus the LAM collections indeed needed a new home, I worked with the LAM Curator, Don Reynolds, to make the case that the University Herbarium at UC Berkeley should be the new home for this scientifically important collection.

Comparisons have shown that
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Participant's Perspective: Adventures with *Arctostaphylos*

by Larry Loehrer

I'm a geographer by training and inclination, not a botanist. Not even a full-time geographer, my daytime existence is as an administrator. So I was intimidated by leaving my familiar office desk top and signing up for a Jepson workshop deeply embedded in the specialized world of biology – where I would have to know the meaning of obscure words such as “cladistics” and “polyploidy”, or what the taxonomist's interpretation of “habit” was. I didn't feel up to the task, but thought I would venture out anyway, and risk suffering the indignity of ignorance.

Behind this was a particular need. As a result of happy circumstance, I am deeply interested in the California Islands – especially the land use history and the rehabilitated prognosis for Santa Cruz Island. I'd come to realize that while the chaparral community was a key element for interpreting the island's

pre-historic and historic past, I was not up to the task of identifying all the plants at which I was looking. Worse, as a former wildland firefighter, I was biased in placing plants into two basic categories: important woody plants with unique fuel characteristics, and herbaceous LTGTs (Little Tiny Green Things) that could be safely called “fine fuels” and thereafter ignored. Even so, I was having trouble using the existing key to manzanitas – which on some substrates, constitute over 70 percent of the canopy of Santa Cruz Island chaparral. For example, the presence of a burl is a critical identification factor, but some young plants didn't appear to have time to develop burls, and some older plants had root platforms so huge that it was hard to determine if it was a burl or not. In other cases, an ancient *Arctostaphylos tomentosa* – easily identified by its large burl – lacked some of the other characteristics it was supposed to have – most obviously being not tomentose! Or *A. insularis* seemed to be growing happily on the wrong substrate! I needed a more botanical understanding of the genus, so I turned to the Jepson workshops for salvation; I was an ideal candidate for the *Arctostaphylos* weekend at the University of California's Hastings Reserve in upper Carmel Valley.

When I called to enroll, I was stunned to find that the class was full and had a waiting list of more than ten people. Could it possibly be true that there were more than twenty *Arc-to-phil*es in the whole state? Evidently

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there is almost no overlap between LAM and UC in historical material and, once we acquire additional compactor cabinets, there is adequate space in our herbarium to integrate all collections from LAM. Many of the LAM collections have a California and West Coast emphasis, and all are from the Pacific Rim region, thus it would be best to have them remain physically located in the West. For all these reasons, a critical and immediate need was presented to move the LAM cryptogams to UC Berkeley, give them proper housing, preserve them from harm, and make them available for enhanced research and teaching programs. The good news is that all the many necessary approvals were obtained, and the majority of the LAM collection has arrived at UC Berkeley! At present, we have moved the algae, lichens, and bryophytes; the fungi will be sent in stages following some necessary curation that will take place in Los Angeles.

True for many good ideas, the hard work really begins after the convincing is done. Moving the collection presented a huge, costly endeavor. The LAM staff were willing to help us to prepare the collection for shipping on their end. The generous financial support of Dr. Paul Silva and Dr. Dan Norris and oversight of the move made by Dr. Richard Moe made this move a reality (read more about the move in Richard Moe's personal account found on page 6 in this issue of the *Globe*). All present and future researchers and appreciators of cryptogams owe a debt of gratitude to these individuals.

The collection is now scattered about the University and Jepson Herbaria; the specimens wait in temporary cabinets for a more permanent, and easy-to-use configuration. The acquisition is complete but much work is left to be done. We have submitted a proposal requesting NSF funds for compactor carriages and cases, as well as temporary help to curate damaged,

Pictured below: Richard Moe, Dan Norris, and Paul Silva stand with the new acquisition. Card-catalogue style files are in the foreground and wooden box drawers filled with Bryophyte packets are to Richard's right.



poorly packaged, or inadequately documented specimens, and integrate the collections.

Cryptogams, because of their small size and lack of roots (thus taking water in directly over the cell surface), are superb ecological indicators. They are also important components of the ecosystem, forming soil crusts that retard erosion and serve as seed beds, epiphytic communities that trap and store nutrients and are an important part of nutrient cycles, and soil communities of decomposers, pathogens, and symbionts (including the critically important mycorrhizal associations with seed plants). Their distribution is tightly associated with substrate chemistry, other plants and animals (e.g., the recent federal attention paid to bryophyte distribution as an indicator of spotted owl habitat), and pollution, thus the cryptogam flora of an area is an important indicator of habitat quality and can be quite predictive about the level of particular pollutants. For using cryptogams in this predictive manner in practical applications, a good understanding of their systematics and

biogeography is necessary. Protecting the LAM collections and making them easily accessible will enhance our ability to understand the taxa and their distributions, thus making this information available to academic ecologists, land managers, agency biologists, environmental consultants, educators, students, and the general public through hard-copy publications and the web.

With the UC Herbarium as the sole remaining major institution in western North America with strong research and training programs in cryptogamic botany, and already possessing a large collection of cryptogams (some 430,000 specimens), the LAM collections will not only be safe, they will be put to good use. It is clear that the already strong programs at UC, bolstered by the important additional collections from LAM, will make it one of the major centers of cryptogamic study in the world, training new generations of students that can help to redress the current research imbalance between cryptogams and seed plants. In particular, the increased accessibility and visibility of additional material from California and the Pacific region will benefit current studies of biodiversity and biogeography of bryophytes, fungi, and seaweeds.

*Read more about the move in Richard Moe's personal account found on page 6 in this issue of the *Globe*.*



so!

A year rolled past, and I had made only modest progress in my taxonomic endeavors. Fortunately, another *Arctostaphylos* workshop was planned for the 2004 workshop season and, this time, I enrolled early. As the weekend approached, I prayed for good weather, copied as many descriptive guides to botanical terms as I could, packed my rain gear, and drove north through the Salinas Valley.

The Hastings Reserve is another of the unique treasures managed by the University of California, dedicated to understanding our natural environment. Approached from the east, the Reserve was easily reached over a beautiful twisty road through the Sierra de Salinas. Strands of lichens in the oaks gave testimony to the good air quality, and gathering clouds presaged the onset that night of much-needed rain. The Reserve buildings ranged from historically funky to a modern teaching lab that could be honestly described as “a clean, well-lighted place.”

At the Reserve, a friendly and efficient check-in and a brief welcome led to a wonderfully hearty dinner. The Jepson crew surprised me with excellent cheese and crackers appetizers, a brilliant homemade soup, and one delicious choice after another. The participants were even more interesting than the dinner, ranging from graduate students to nursery owners, lawyers, curious amateur botanizers, and even entomologist Don Miller, a specialist on gall-forming aphids that had an affinity for manzanitas, a man I knew by reputation from the literature he'd published – it was pleasing to meet him first-hand! What we had was a gathering of like minds from vastly different backgrounds – a table surrounded by what my wife would call “serious FOMs” (friends of manzanitas.)

Our workshop leaders, Mike Vasey and Tom Parker, seemed to be of that indeterminate age somewhere between youthful enthusiasm and

field-hardened experience. They loved their topic, yet transcended it in their academic and scientific interests – there is nothing better than perspective with deep insight! We had introductory lectures late into the evening – enough to whet our appetites for the next day's lab exercises, yet accessible enough to allay any concerns (namely mine) about nomenclature.

We slept well that night, serenaded by a steady rain, leaning towards a lightly pelting sleet before dawn. The kitchen crew prepared another stellar meal to prepare us for heading into the lab on Saturday morning to face 50+ samples of manzanitas. We heard the story of the Ericaceae family and closely related genera within it. It was almost all too easy – I understood nearly everything! It got even better – the leaders began to describe the derivation of the genus in spatial terms and identify the number of species as a distribution from a central coast locus. They *knew* geography and they were talking *my* language!

One of our tasks during the lab was to flight-test an ingenious new classification key – one that could be used at almost any time of the year, rather than just when the plants were in flower. Grad students, lawyers, and nursery owners are a wily and opinionated mix, and we seemed to find deep satisfaction in questioning as much of the key as we could. The key was a good prototype, but the relentless assault of the workshop members punched a few holes in it – to everyone's mutual satisfaction – and sent the leaders off to ponder the development of an even more comprehensive approach. Science is always more exciting when it is still being defined, and this workshop was full of adrenaline. Some able souls continued keying until one or two in the morning, but I had to rest my eyes – blurry after a full day of checking leaf surfaces for stomata, and sizing up the lengths of flower pedicels.

Sunday morning was bright and clear and we drove to one great

site after another, dived deep into the undergrowth to test for burls, and peered intently at the flower stalks, the shreddy reddish bark, and the few lingering fruits. From Monterey to Ft. Ord's backcountry (where they mean it when the signs say, “don't step off the road”), up to Castroville, and then high into the Gabilan Range. It was great! I started to feel competent about knowing the differences among some of the most complex woody species in California! Some identifying characters were still difficult to discern, but my confidence was growing as I thought about the “*Arctostaphylos* gestalt.” The other members of the workshop were very skilled, and more than willing to share their knowledge and taxonomic understanding. Best of all, Mike and Tom were always nearby, ready to help – or even impishly mis-direct if you seemed too smug!

A cold and graying afternoon sky shrouded us as we drove south past Fremont Peak. We crossed a private ranch to a granite outcrop with a stand of endemic manzanitas, recently identified by our able leaders as a new species. We were among the first several dozens of people to know the *Arctostaphylos* “*gabilanensis*” first-hand! It was a tall, handsome shrub, resplendent in full flower. And there, while scrabbling over the decomposed granite from plant to plant, as the fog building to the west was split by the luminous setting sun, I experienced the feeling that author Diane Smith has her character, A.E. Bartram, express: “It is that moment in a naturalist's life, and we are all naturalists if we open our eyes, when the curtain lifts around us, and it is good, so good, to be alive.”

Larry is Associate Vice Provost and Director for Instructional Development at UCLA. His research interests include the geography of natural hazards, especially wildfire. 🌲

Profile of Layne Huiet

One word describes Layne Huiet's feeling for ferns: *passionate*. She has always had an attraction to plants. Her grandparents had a 200 acre farm, and she recalls fondly the family garden, pulling weeds, and harvesting vegetables in North Carolina. Her mother, a botany major at Duke University, taught her the names of local trees, which later led to a leaf collection. In high school, Layne's chemistry teacher fostered her interest in science by encouraging her to do an independent study project her senior year. After taking her first undergraduate course in taxonomy at Duke, Layne became a botany major with tentative plans to focus on systematics. In 1975, at the suggestion of Dr. Bob Wilbur, Layne undertook a literature-based senior project to curate the neotropical fern collection in the Duke herbarium. It was there, for the first time, she realized the diversity of tropical ferns, as she handled and sorted specimens from Costa Rica, did filing, packaged loans, and made preliminary identifications. She obtained her BA in botany at Duke, in 1976, but by then her life had already taken a slight turn.

While still at Duke, and a botany major, Layne took a genetics course and fell in love with molecular biology, then in its infancy. This led to a Ph.D. in genetics in 1983 at the University of Georgia, working on an analysis of regulatory genes in the fungal genus *Neurospora*, a favorite "model organism" for geneticists. After that, Layne was awarded a National Science Foundation Plant Biology Postdoctoral Fellowship and was a Staff Research Associate at the NSF Science and Technology Center at the University of California-Davis.

Her day-job since 1993 has been as a Group Leader at Bio-Rad Laboratories, in Hercules. There, she participates in the development of consumables and equipment for companies and universities doing

molecular biology, genetic engineering, and other kinds of research involving DNA-sequencing and biotechnology. Occasionally, she ventures to meetings to talk about a particular product. For the last three years, in her "spare time," she has volunteered one afternoon a week working in the University Herbarium at UC Berkeley. Most of this volunteerism occurs in the fern herbarium, under the curatorship of Dr. Alan Smith, pteridologist in the herbarium since 1969. Alan is effusive in his praise of Layne, "she is the best volunteer anyone could hope for — responsible, knowledgeable, enthusiastic, and independent, but unafraid to ask questions when she is unsure what should be done or when she has a burning question."

After a year or more doing what some (but not Layne) might regard as mundane filing, loan-pulling, and other curatorial tasks, Alan suggested that she undertake a research project that would build on her biotechnological expertise and love of ferns. A decision was made to pursue a phylogenetic analysis (a study of the genealogical relationships) of the maidenhair fern genus *Adiantum*, comprising about 200 species worldwide. This choice has proven to be a good one because of the apparent monophyly (origin from a single common ancestor) of *Adiantum*, the complexity and need for clarification of the genus, the availability of material for DNA-sequencing (many of the species are cultivated), and the attractiveness of maidenhair ferns. As a result of this work, Layne has been able to resolve about nine monophyletic subgroups within *Adiantum*, groups that will ultimately establish a solid framework for further systematic studies. Layne has identified and been able to redefine, for the first time, a large closely related group of species in neotropical lowlands. Likewise, other groups appear to have radiated in specific regions of the world, for example, at least two groups in Southeast Asia and the Himalayan region. The biogeographical and evolutionary im-



Layne takes a closer look during a field trip.

plications of these findings are sure to be illuminating. The boundaries of some of the maidenhair subgroups transcend limits previously predicted on the basis of traditional morphological characters, for example, blade dissection patterns are not necessarily a good indicator of relationships. The intimate relationships between Californian *Adiantum aleuticum* (five-finger fern) and *A. jordanii* (California maiden-hair), the former with pedate blades, the latter with pinnate blades, is a good example of very different-appearing species being closely related. In this case, they are apparently sister species (more closely related to each other than to any other species of *Adiantum*). The relationships of *Adiantum* to other fern genera is also proving to be fascinating and somewhat unexpected.

As an initial step toward making her results known to the scientific community, Layne recently presented preliminary results of her work at an international fern conference in Edinburgh, Scotland, and again at the annual meeting of the Botanical Society of America and the American Fern Society, in Utah. She has applied for and obtained a grant from the Heckard Fund of the Jepson Herbarium to investigate populational variation

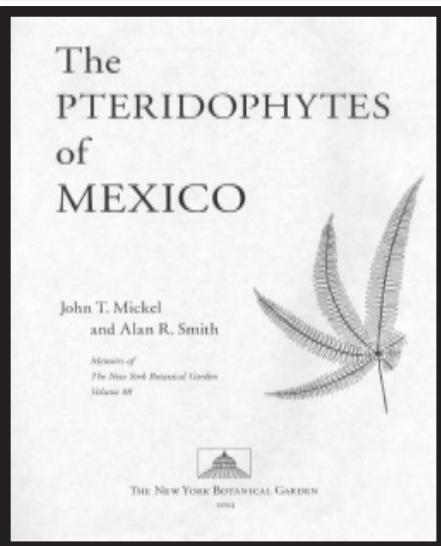
and a unique insertion/deletion in the chloroplast *rps4-trnL* spacer region (more rapidly evolving than some other regions) in the subcosmopolitan species, *Adiantum capillus-veneris*, also a California native. Ultimately, her studies are expected to yield significant and ground-breaking papers in botanical journals.

Layne's hobbies are gardening, travel, following the local sporting teams, and now doing cutting-edge phylogenetic work on ferns. She has participated in many Jepson Herbarium workshops, including Compositae (sunflower family), alpine flora, Siskiyou mountain flora, and, of course, all of the workshops dealing with ferns. Two of the more memorable ones were 10-day trips to Costa Rica and later to Ecuador, where she gained knowledge of tropical fern genera. She lives in Davis with her pet rabbit, tends her garden (supplying friends with delicious tomatoes, peppers, and peaches), and spends an inordinate amount of time thinking about ferns. Other projects and services to the botanical community include reorganization of the fern herbarium at Davis (assisting Dr. Ellen Dean, the curator), helping Dr. Grady Webster with problems associated with the ferns of Maquipucuna, Ecuador, and serving as Secretary of the Board for the Davis Botanical Society.

Layne has traveled widely, to Costa Rica, Ecuador, New Zealand, Japan (she used to read a little Japanese, she says), Europe, and Fiji, and she lived in Australia for 4 years. She has a recurring dream of traveling to Papua New Guinea and Mt. Kinabalu, Malaysia... to collect ferns, what else?



New Book on Ferns Available: *The Pteridophytes of Mexico* by John T. Mickel and Alan R. Smith



Comprehensive Fern Flora of Mexico

1055 pp., 328 plates, 1,004 maps, \$125

The New York Botanical Garden Press has recently released this new Memoir. Now, the fern flora for the entire continent of North America, including Central America, is covered with this new flora, together with the *Flora of North America North of Mexico, Vol. 2*, (Oxford Univ. Press, 1993) and the *Flora Mesoamericana, Vol. 1*, (Universidad Nacional Autonoma de Mexico, 1995). Why should California botanical enthusiasts take notice? 52 of the 104 fern species found in California also occur in Mexico.

This monumental work treats 1024 taxa of pteridophytes (1008 species and 16 varieties and subspecies) in 124 genera, and provides a guide to identification. The emphasis of the book is placed on identification and not the complexities of family relations. The key to the genera is based on mature specimens and is slightly over 10 pages long. The key is well prepared and fairly easy to use, as are the species keys included in the generic treatments.

The scientific name, its author, and literature citation are provided for each species and information about the nomenclatural type and pertinent synonymy is also included. Each account includes a geographical distribution and listing of at least one specimen examined for each state where the taxon has been collected. The occurrence of each species in each state is depicted on maps and additional pertinent information is included in a paragraph about the species. A "Literature" section is included citing bibliographic references to principal works and the last part of the book is an index to the scientific names. All-in-all, a very nice and complete work. The user should have a basic knowledge of fern structure as a glossary is not provided. With the volume measuring 11.75 by 8.25 inches, 2.75 inches thick and weighing in at 6 pounds, it's easy to see why they skipped the glossary and included such fine keys, descriptions, and illustrations.

Alan R. Smith, co-author and Research Botanist in the University Herbarium, has been working on this project for ten years. His first collecting trip in Mexico was in 1969 when he accompanied his co-author, John T. Mickel. Mickel has studied Mexican pteridophytes since the 1950's, becoming interested in the region as a graduate student at the University of Michigan. The two have been back numerous times to collect, research, and study ferns in the field and in herbaria within the United States and Mexico.

The book can be purchased from The New York Botanical Garden Press, 200th Street and Kazimiroff Boulevard, Bronx, New York 10458-5126 or <http://www.nybg.org>. It is \$125, Hardbound, ISBN 0-89327-458-5.

Jepson Flora Project Update

Changes in Araceae and Lemnaceae

by Thomas J. Rosatti, Scientific Editor for TJM2

Research that has been conducted since publication of *The Jepson Manual* has led to many changes – of several different kinds and in many different groups – that have made a second edition of *The Jepson Manual* (TJM2) necessary. The following is a summary of such changes for the Araceae (Arum Family) and Lemnaceae (Duckweed Family).

For TJM2, the Araceae has been re-defined to exclude *Acorus* (Sweet Flag), which has been placed in its own family, the Acoraceae. Conversely, the Araceae has been expanded to encompass the Lemnaceae, including very reduced, floating aquatics in the genera *Lemna*, *Spirodela*, *Wolffia*, and *Wolffiella*. On a finer taxonomic scale, *Spirodela punctata* has been segregated as the only member of its own genus, *Landoltia*, and now is known as *L. punctata*. Such changes have been based on evidence from morphology, chemistry, and molecular biology (DNA).

In addition to these taxonomic changes, a number of species in the

Araceae will be or may be (pending additional research) included in TJM2 as naturalized aliens, including *Arum palaestinum*, *Dracunculus vulgaris*, and *Pinellia ternata*. On the other hand, since TJM, the naturalization in California of other species, including *Peltandra virginica* and *Pistia stratiotes*, has been brought into question but as yet remains unresolved. Finally, for nomenclatural reasons, *Lemna minuscula* is now known as *Lemna minuta*.

Other groups of California plants have undergone similar changes, to greater or lesser degrees. These will be discussed in future issues of *The Jepson Globe*.

This is the first installment of our new column that shares progress and updates from the Jepson Flora Project. See the Curator's Column in Volume 15, Number 2, September 2004 issue of The Jepson Globe for more information. We welcome your questions to address in future columns.



VOLUNTEER OPPORTUNITIES IN THE UNIVERSITY AND JEPSON HERBARIA

Curatorial Volunteers Needed at the University and Jepson Herbaria!

Group Volunteer Saturday begins at 10 am and finishes up by 5 pm (participants need not stay the full time). We also welcome **individual volunteers** who can come in during our regular hours (M-F 8-5). We will try to match your unique interests and abilities.

For more information, please call or write to Ana Penny (510) 642-2465, apenny@uclink4.berkeley.edu.

Upcoming Group Volunteer Saturdays

Dec. 18, Jan. 22, Feb. 5, Feb. 19, Mar. 5, Mar. 19, Apr. 2, Apr. 23, & May 7

LAM Move: A First-hand Account

by Richard Moe

The LAM cryptogam collection consists of specimens mounted in a variety of ways. Most of the algae were mounted on herbarium sheets, but some (mostly crustose algae that were growing on rocks) were stored in small cardboard boxes. The mosses were glued to folded cards and stored in over-size file cabinets or stored in packets, with the packets being consolidated in wooden boxes that fit two-across on a case shelf. The lichens were in packets or small boxes stored in cardboard trays. The algae specimens stored in alcohol were left for later.

The specimens were housed mostly in full-size standard herbarium cases with three double cases – very heavy and awkward. The cases themselves were stored at two locations in Los Angeles: In the LAM first floor lab of Don Reynolds and in the hallways on the first and third floors, and on the second floor of a warehouse a mile from the museum. The warehouse cases needed to be moved by forklift, and the LAM staff did this the week leading up to and the morning of the move. Chief Registrar Vicki Gambill handled these logistics. A floor dolly was used to move the cases, on their sides, out of the museum and into the herbarium. Don Reynolds and Helena Bowman of the LAM Botany Department and I secured the specimens tightly in their cases with cardboard and newspaper.

The day before the move was the first big rainstorm of the year and the morning outlook looked bad. Fortunately, the skies cleared long enough to load the van for transport. The movers, Nor-Cal Moving, were the same people who moved UC and Jepson Herbaria from the old Life Sciences Building to the Marchant Building and back to the renovated Valley Life Sciences Building. Their experience showed – the specimens arrived safely, the cabinets were undamaged, and the walls and objects in the Herbarium were left unscathed. Good work!

UNIVERSITY OF CALIFORNIA PRESS

California

PUBLISHING FOR TODAY PUBLISHING FOR THE CENTURIES

On behalf of the Jepson Herbarium, Brent Mishler and Bruce Baldwin have signed a Memorandum of Agreement with UC Press regarding production of the Second Edition of *The Jepson Manual*.

The agreement was signed after many months of negotiating and both the Herbarium and UC Press will benefit from the effort to produce an equitable agreement.



Holiday Gift Ideas

Gift Certificates:

For Jepson Weekend Workshops \$35 - \$450
Membership to *Friends of the Jepson Herbarium*, \$35 or \$50

Mugs:

Cobalt Blue with Gold Jepson Logo &
"The Jepson Herbarium" on the back - \$5 each

T-shirts:

Navy Blue with Gold Jepson or University Herbaria logo on
the back and front lapel area, S/M/L/XL/XXL - \$15
"Oatmeal" off-white with Blue Jepson or University Herbaria
logo on the back and front lapel area, S/M/L/XL/XXL - \$15

Books:

Trees of California by Willis Linn Jepson - \$100
A Flora of California (4 vols.) by Willis Linn Jepson - \$50

For more information or to order, please call us at (510)643-7008

Save the Date

In October 2005, the Herbarium will hold an open house, festive party, and auction to support the Jepson Flora Project and the production of the Second Edition of *The Jepson Manual*.

Do you own a restaurant, grow exotic plants, paint wildflowers, or have season tickets to cultural or sporting events? We are seeking donations of goods and/or services to be offered during our silent and live auctions. Because our *Friends* are located all over California, we don't have any geographic restrictions on where events take place.

For more information or to donate an item for the
auction, contact Staci Markos
(510) 643-7008, smarkos@socrates.berkeley.edu.

THE JEPSON HERBARIUM PROJECTS & RESOURCES

The Jepson Flora Project

Second Edition of *The Jepson Manual*
Online Interchange for Advances in
California Florisites

Jepson Desert Manual

Electronic Publication of Jepson's

A Flora of California

Publications & Research Projects

Constancea: University of California
electronic publications in Botany

*Tarweeds & Silverswords: Evolution of
the Madiinae*

DeCew's Guide to the Seaweeds

Flora of Mount Diablo

Unravelling the dynamics of mating-system
evolution in tribe Collinsieae

Building the Tree of Life -- A National
Resource for Phyloinformatics and
Computational Phylogenetics

Deep Green Plant Phylogenetics: Novel
Analytical Methods for Scaling Data from
Genomics to Morphology

Beyond "Deep Green": Towards an Integra-
tion of Plant Phylogenetics and Plant
Genomics

Demography and Germination Ecology of
the Endangered Santa Cruz tarplant
Sierra Nevada Plants Project

Educational Services & Resources

Botanical Workshops & Courses

Plant Identification

1,920,000+ Worldwide Plant Specimens

Photographic Slide Collection

Map Collection & Locality File

Botanical Library (non-circulating)

Administration

Trustees: Vice Chancellor Emeritus Rod-
eric Park, Chairman; Vice Chancellor Beth
Burnside (on leave); UC Botanical Garden
Director, Paul Licht; Professors John Taylor
and Brent Mishler (ex officio)

Director: Professor Brent Mishler

Curator: Assoc. Professor Bruce Baldwin
Database Admin. & Webmaster: Richard Moe
Scientific Editor: Tom Rosatti

Managing Editor: Margriet Wetherwax
Collection Research Sp.: Jeff Greenhouse
Research Associate: Bridget Wessa

Administrative Curator: Barbara Ertter
Senior Museum Scientist: Fosiee Tahbaz
Senior Museum Preparator: Ana Penny
Assistant Museum Scientist: Kim Kersh

Office Manager: Jessica Durand

Public Programs & Development:

Staci Markos

Cynthia Perrine

Supporting the production of the Second Edition of *The Jepson Manual* by sponsoring a genus is a big commitment but it brings great rewards including acknowledgment (with approval) in the front pages of the Second Edition of *The Jepson Manual*. Here, donors share the reasons why they chose to sponsor a genus. We hope they will be an inspiration to others who are considering making a gift.

Jake Sigg
Eriogonum



I have matured from a fancier of plants to one who wants to devote my life to their preservation in their native habitats. For this we need, among other things, knowledge about what it is we are trying to save. The Jepson Herbarium is doing crucial work in laying this knowledge base and I want to help it.

Eriogonum, perhaps more than any other genus, provided the inspiration for me to dig deeper into my wallet than I might otherwise have done (*Astragalus* was my close second). As a gardener, and one who encourages people to garden with local native plants, I emphasize plants that are attractive to wildlife, are interesting and beautiful, are easy to grow, and are tough. *Eriogonum*! There are so many species growing in every part of the state and in most habitats, and they all fit this description. - *Jake Sigg*

Kate Mawdsley & Bill McCoy
Parnassia

Why *Parnassia* in memory of Patrick Elvander? It's a tale with several twists, and a Jepson Herbarium tie-in. Lots of people have favorite families and genera; I've long been attracted to the delicate beauty of the saxifrages and the lovely habitats where so many of them are found. So it was a great pleasure to take the Jepson Herbarium class on Saxifragaceae, taught by Patrick Elvander, who had written the treatment for *The Jepson Manual*. And Patrick, who has since died much too young, was also the only Jepson instructor I knew in another context. We'd met several years before the class, at the reference desk at UCSC, where he taught and I was visiting. Both of us arrived there to talk with a mutual friend, and it turned out we all shared active participation in our respective campus chapters of Phi Beta Kappa, the national liberal arts and sciences honorary society. PBK's motto is *Ad astra per aspera*, "to the stars by hard work," more or less. The stars, the heights, Parnassus...*Parnassia*, that gloriously star-like member of the saxifrage family. (What a great story...let's not be dissuaded by the fact that *Parnassia* has been removed from the family in the latest phylogenetic research!) - *Kate Mawdsley*



Dr. Robert Thomas & Margaret Orr © Calif. Academy of Sciences

Samantha Hillaire &
Brian Elliott
Cryptantha



I studied the life history of the rare plant *Cryptantha crinita* for my Master's degree at CSU Chico. I was particularly attracted to this genus because few people knew much about it. If a genus NEEDED sponsoring, it has to be *Cryptantha*. Brian Elliott got involved with *Cryptantha* when he and I worked together in the Plumas National Forest. At that time, Brian was also surveying trails in the Ishi Wilderness for the Lassen National Forest. Looking through borage vouchers that he collected from the Ishi, I found a sheet of *Cryptantha crinita* — I was astonished because the elevation was "too high" and the habitat was "not right." This led to a foray into the Ishi to verify the locality and search for additional occurrences. We've since decided to write a flora of the 41,000 acre Ishi Wilderness. The debate over who really discovered the *Cryptantha crinita* in the Ishi continues to this day — we've never come to a consensus. As a compromise, we decided to both lay claim to it by splitting the sponsorship in the Second Edition of *The Jepson Manual*. - *Samantha Hillaire*

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April 2005 continued

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April 21 - 24
Ferns & Flowering Plants
April 23
Painting Coastal Wildflowers
April 28 - May 1

May 2005

Boraginaceae
May 6 - 8
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May 7 - 8 & May 14 - 15
Eureka Dunes & Inyos
May 12 - 15

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June 2 - 5

June 2005 continued

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Thistles
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June 24 - 26

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July 7 - 10
Salix I & Salix II
July 15 - 17 & July 19 - 21
Convict Lake Flora (wait list)
July 21 - 24
Sierran Wildflowers
July 28 - 31

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For more information, please contact Cynthia Perrine at the Jepson Herbarium; phone: (510) 643-7008,
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