



THE JEPSON GLOBE

A Newsletter from the *Friends of The Jepson Herbarium*

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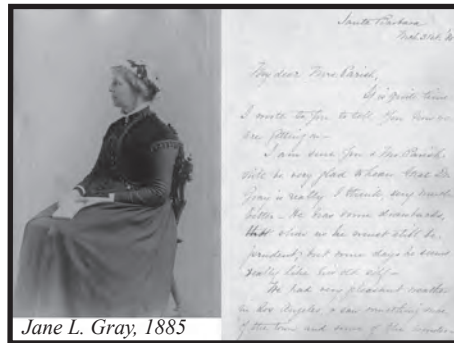
Curator's Column: Update on the second edition of *The Jepson Manual*

By Bruce G. Baldwin

Revision of *The Jepson Manual*, the principal reference on California's vascular-plant diversity, has been a mammoth undertaking but is approaching a successful conclusion. Over 95% of our 200+ authors have submitted complete drafts of their treatments and the remaining authors are reaching that point. I am deeply grateful to our authors for their efforts in revising previous treatments and constructing new ones where necessary. I also appreciate the authors' efforts to adhere to the exacting standards of the revised edition, which I will discuss a bit below.

With over 15 years of vigorous use by a wide audience, *The Jepson Manual* has been subject to extraordinary scrutiny and its shortcomings have been a target for remedy in the upcoming second edition. In addition to the need for extensive revisions dictated by new botanical discoveries, perhaps the most important goal of the second edition is accurate plant identification. To help achieve this goal, treatments in the second edition are undergoing careful checking of key leads against "keying of descriptions." That effort has proven to be a painstaking but highly effective strategy for rooting out problems that were present in the first edition of *The Jepson Manual* and

Continued on page 6.



Jane L. Gray, 1885

Cataloging Hidden Special Collections and Archives: Building a New Research Environment

By Andrew Doran, Administrative Curator

In November 2008, the Herbaria received just over \$250,000 from the Council on Library and Information Resources to support the survey and cataloging of archives housed in the University and Jepson Herbaria. The archives are one of the primary resources for the history of western American botany from the 1860s on. The geographic scope is world-wide, but the main focus is California. The archives contain letters and field books of at least 200 individuals in addition to documents, photographs, slides, and correspondence from scientists around the globe, including gaps in the history of the California Academy of Sciences, San Francisco, whose records were destroyed in the 1906 earthquake. The archives encompass botanical expeditions on a world-wide scale including seven trips to South America, and col-

Continued on page 5.

Taxonomic studies on Californian *Orthotrichum*

By Ricardo Garilleti and Francisco Lara





We are part of a Spanish bryological research team with labs in two cities: Ricardo Garilleti is a Professor at the Universidad de Valencia and Francisco Lara is a Professor at the Universidad Autónoma de Madrid, where the team has its headquarters. Our main research interests are the ecology of epiphyte bryophytes in Mediterranean environments and the taxonomy of family Orthotrichaceae.

The genus *Orthotrichum* is one of the largest moss genera that have outstanding environmental importance. Its more than 150 species are distributed throughout the world and live mainly as epiphytes, frequently dominating the moss communities of tree trunks. Besides their intrinsic value, these communities constitute an interesting source of information for environmental studies and are useful as bioindicators. So, both research lines are tightly connected.

As a result of our taxonomic

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ALSO IN THIS ISSUE

-  Welcome Cecile Shohet
-  Welcome Doug Goldman
-  Ines Mexia
-  Events and Volunteer Opportunities

Welcome Cecile Shohet Public Education Coordinator

Cecile arrived in Berkeley to coordinate the Jepson Public Programs in December 2008. Cecile came from Ashland, Oregon where she was a partner in a small botanical consulting company, which primarily focused on rare plant surveys on federal lands. Prior to that, she worked for the US Forest Service, as a district botanist on the Siskiyou National Forest, being fortunate to work on the same ground that was home to large numbers of Klamath Mountain Province serpentine endemics.

Cecile grew up in New York City, largely unaware of the natural world (too much concrete!) until she began working for a desert ecologist studying predator-prey relationships in the Negev Desert, for the Ben-Gurion University of the Negev, Israel. The open landscapes of the desert coupled with the physiologic adaptations of the plants to their environment made an impression, and, after a few more adventures, the vegetation of the Sonoran Desert drew her to Arizona where she received her master's degree from Arizona State University.

While living in Oregon, Cecile participated in three Jepson Workshops. Each felt like an invitation to a previously closed space, an opportunity to explore further, and pay closer attention... It was that invitation that drew her here.



Cecile at Smith Rock, near Redmond, Oregon

Welcome Doug Goldman, Scientific Editor second edition of *The Jepson Manual*

Doug joined the editorial staff of *The Jepson Manual* in October, 2008, to assist with the completion of the second edition. Doug first became interested in plants at about the age of six, when his family moved to a house in a forested area near Rochester, NY. Learning the identity of the trees was of immediate interest, later followed by a curiosity for other types of plants. At an early age he was fascinated with fens and sphagnum bogs, primarily because of the orchids and insectivorous plants they contained.

Doug's botanical interest continued through high school into college, where he obtained a B.S. in Plant Sciences at Cornell University in 1991. Thereafter he attended the University of Texas, Austin, earning a Ph.D. in Biological Sciences, focusing on the taxonomy and systematics of the orchid tribe Arethuseae and the genus *Calopogon*. He returned to Cornell University in 2000 as a Post-Doctoral Associate investigating monocot and grass phylogeny. In 2002, he moved to the Harvard University Herbaria, completing manuscripts and processing the herbarium's large backlog of specimens from the southeastern United States dating back to the mid 19th Century.

Doug has extensive field experience worldwide, but especially throughout North America. During the academic year 2004-2005, Doug traveled extensively along the West Coast for botanical fieldwork, from Cabo San Lucas northward to Fairbanks, Alaska, covering California in more detail than anywhere else that year.

Doug will be performing his duties for *The Jepson Manual* at Harvard University, making use of Harvard's library system and the herbarium's thousands of Californian and western North American specimens (including types). At Harvard he is known for his enthusiasm for plants but also for his love of pizza and burritos.



Doug in the Dominican Republic, 2001

At Home in the Wild: An Exploration of the Life and Work of Ynes Mexia

by Dr. Kathryn Davis, Assistant Professor, San Jose State University & Volunteer, University and Jepson Herbaria

I first came across Ynes Mexia while I was a graduate student in history at San Francisco State University. I had to set my interest in her aside while working on my doctorate in Geography at UC Berkeley, but have since returned to a project on one of the most fascinating persons in the history of twentieth century naturalists. Born in Georgetown, MD, Mexia spent her youth in Texas, Philadelphia, and Mexico. Her family history is full of mystery, innuendo, fabrication, and half-truths. Just trying to find out the truth behind her family connections has been an adventure in itself. While I think I have it figured out, I may never be completely sure. I do know, however, that she came to San Francisco from Mexico and from 1910 until her untimely death in 1937 considered the Bay Area home. As a “special student” in Botany she developed a long-held interest in botany and natural history. She was a member of the Sierra Club and the Save-the-Redwoods-League, leaving both organizations substantial bequests in her will.

While she never received her degree (short one plane geometry course), Mexia became one of the most prolific and respected botanical collectors of the early 20th century. She traveled, and collected, extensively throughout Mexico and South America. While the primary focus of her travels was botanical collecting, she also collected insects and small animal specimens. A talented and lively writer, Mexia left letters and notes filled with detailed descriptions of the human and non-human worlds in which she traveled. She was a perfectionist and her specimens reflected her attention to detail and a drive for excellence. While this character trait did not always serve her well in personal relationships, it defined her work as a botanical collector and garnered unqualified respect from scientists.



Inez Mexia holding her herbarium press, 1929.

Mexia herself never pretended to be a botanist or scientist, but rather defined herself as a naturalist and collector.

She was also a fearless adventurer who traveled east to west up the Amazon, in the company of two trusted native guides. During this trip she spent time in the Pongo de Manseriche and after collecting along the banks of the river and waiting for the torrential rains to let up she and her guides made their way out on a balsa raft they had constructed. Mexia traveled to Tierra del Fuego where she noted the environmental and cultural changes wrought by the introduction of European ranchers and their sheep. She wrote about the impact of those changes on the indigenous groups pushed to the margins of survival by sheep farmers. She was the first collector to make a survey of the vegetation in Denali National Park in 1928, spending nearly three months alone in the Alaskan wilderness. She developed and provided the collections for the first herbarium at the Agricultural College in Minas Gerais, Brazil.

Mexia became so well-respected as a botanical collector that she financed many of her trips through specimen sales even though she generally asked a higher price than herbaria were accustomed to paying. Many of the world’s most prestigious herbaria have either complete or partial collections. Her collections, meticulously processed in the field, were sent to her lab in the Botany Department at Berkeley where they were further processed and distributed by N. Floy Bracelin, her assistant. There is much we can learn from Mexia’s collections and from her written work. After her death William Colby encouraged Bracelin to compile Mexia’s letters and essays into a book. This did not come to pass and, in 1955, the suggestion was made that perhaps Wallace Stegner might be interested in editing such a volume. I am currently working on that project and while my work is about 70 years late, I hope it will contribute to Ynes Mexia finally taking her place among the most celebrated naturalists and botanical collectors of the twentieth century.



Inez Mexia at Puente del Inca, Argentina, January 1936.

work during the last fifteen years, several new species have been described, mainly concerning the genus *Orthotrichum* from Europe and North Africa, but also from South America and East and South Africa. Occasionally, some novelties in the orthotrichaceous genera *Zygodon* and *Ulota* have also been published.

For some years now, we have been paying special attention to the huge diversity of the genus *Orthotrichum* in California. First results, based on the study of specimens from several American herbaria, led to the description of three new species: *Orthotrichum underwoodii* F. Lara, Garilleti & Mazimpaka, known only from a couple of historic collections from Santa Clara County, *O. anodon* F. Lara, Garilleti & Mazimpaka, based on a collection from Los Angeles Co., and *O. norrisii* F. Lara, Medina & Garilleti, widely distributed throughout California and named in honor of Daniel H. Norris, one of the most outstanding contemporary bryologists and a Research Botanist at the University and Jepson Herbaria. Another species, *O. shawii* Wilson, has been rediscovered for the Californian (and American) bryoflora after a century without recorded occurrences. These findings and other unpublished results stimulated our interest in initiating extensive study of the genus in California. The contact with Dan Norris, Jim Shevock, and Brent Mishler presented us with the possibility of consulting the magnificent collections kept at UC/JEPS and the California Academy of Sciences.

The Spanish Ministerio de Ciencia e Innovación, and the University of Valencia funded the taxonomic revision and collection of new material in western North America. Our work is also part of the international project "Taxonomical, systematic and biogeographical studies on *Orthotrichum* subgenus *Pulchella*, a worldwide revision", also funded by the Spanish Ministry of Science.

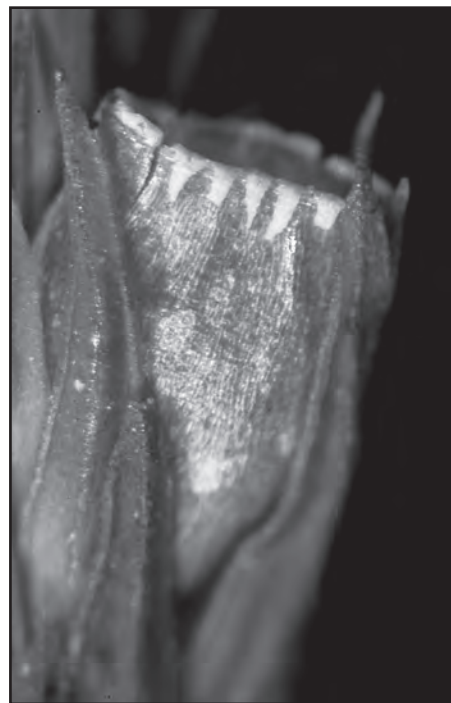
After two months of intensive work in the lab and in the field, our results have exceeded all of our expectations: new localities for some overlooked or undercollected species, including some new continental records, have been found and several new species have been recognized from California and Nevada. Some of those new species will be described soon, but others need to be described within the context of a complete revision of the complexes they belong to. All of these results have been possible because of the richness of the examined collections and the very valuable collaboration of Dan and Jim, and the support and resources rendered by the Herbaria of the University of California, Berkeley. We are deeply grateful to our hosts at the Berkeley herbaria for advancing our research on *Orthotrichum*.



Ricardo Garilleti



Francisco Lara



Orthotrichum shawii

Consortium of California Herbaria reaches 1 million records!

The CCH serve as a gateway to information from California vascular plant specimens that are housed in herbaria throughout the state. The database now (in January 2009) includes information from about 1.03 million specimens, all searchable through a single interface. Sixteen institutions are currently sharing data via the CCH.

Users can access the data in a variety of ways including searches on a plant name or geographic locality. Data is returned in the form of a list or a series of database records linked to detail pages.

<http://ucjeps.berkeley.edu/consortium>

lections by women botanists such as Ynes Mexia (see p.3) and Lauramay Dempster. Highlights include renowned botanist Willis Jepson's 62 field books, 25 research books, and 25,533 letters in 52 volumes, as well as his personal archives. Our archives also include John and Sarah Lemmons' hundreds of correspondents, field books, and manuscripts, including veteran J. Lemmons' sketches of Confederate prisons. Our correspondents range from Asa Gray and William Hooker, to John Muir and the Red Cross's Clara Barton. Subjects encompass Mexican and Pacific expeditions to world expositions, and the formation of the Sierra Club and the Save-the-Redwoods League. The image collection represents an historical record of people and ecological sites worldwide. The unique map collections (vegetation plots) are augmented by Jepson's place name index. The coverage and value of the collection is well noted for its importance to scholarship, not only with respect to botany but also associated fields and historical information from the period 1860 to present. The Jepson archives alone cover 70 important years of the history of California and America. Jepson's correspondence of 25,000+ letters with leading botanists and others of this period document world events from political science to natural science, providing an overall view of life nationally and internationally. Correspondence with principal botanists of this period and the advent of modern botanical pursuits on a world-wide basis are also well recorded. In addition to their value to the history of western American botany, by focusing on the early important botanists, the archives also provide historical background on many activities that transcended professional botany, due to the activities of a diverse range of 'amateurs' with different backgrounds and interests. Such examples are inexhaustible, including preservation of natural areas, development of conservation organizations (e.g. the State Floral Society), professionalization of forestry,

provision of botanical information to a world-wide audience for educational purposes, popularization of botany as an avocation, and the inclusion of women (many botanical illustrators) into scientific activities (e.g., Charlotte Smith, Sarah Lemmon). Peripheral subjects also include military and civic involvement from the American Civil War, including diaries of importance to civil war researchers that document incarceration in Andersonville Prison. Photographs, particularly those of historic landscapes and people, are increasingly in demand with requests for high resolution scans to document change in historical biodiversity and the history of institutions and science. There is no catalog of our thousands of glass plates, lantern slides, kodachrome slides, negatives, photos, and prints. Scholastic activity will be enriched when researchers can access relevant materials in our archives. Although we have more than 50 individual archive collections, only Jepson's and Lemmon's can now be accessed with minimal assistance. The new grant will provide greater access to all of our archives and we look forward to sharing these treasures with our *Friends*.

Caption for cover photo:

Photograph and letter to Mrs. Parish from Jane Loring Gray, wife of Asa Gray, discussing their trip to California and the positive effects it had on Dr. Gray's health. The photograph and image are from the guest book of Mr. and Mrs. Samuel B. Parish, which contains photos and signatures of botanists who visited their San Bernardino and Berkeley homes.

THE JEPSON HERBARIUM PROJECTS & RESOURCES

The Jepson Flora Project

Second Edition of *The Jepson Manual*
Online Interchange for California Floristics
Jepson Desert Manual

Online Horticultural Database

Electronic Publication of Jepson's

A Flora of California

Ecological Flora of California

Publications & Research Projects

Constancea: University of California

electronic publications in botany

Flora of Mount Diablo

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

Systematics and Evolution of California tarweeds and relatives (tribe Madieae, Compositae)

Unravelling the dynamics of mating-system evolution in tribe Collinsieae

Niche conservatism, functional trait evolution, and the diversification of the California vernal pool flora

Flora of the East Bay

North American Potentilleae

Evolution and origin of Calif. alliums

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Agnew, Heather Driscoll, Rebecca Guenther, Kim Kersh, and Ana Penny

Research Botanist: Barbara Ertter

Public Programs: Cecile Shohet

Development & Globe Editor: Staci Markos

**CALIFORNIA BOTANICAL SOCIETY
FREE LECTURES**

- 🕒 **March 19** *Tom Daniel* A Botanical Tour of the "Chocolate Islands:" São Tomé and Príncipe
- 🕒 **April 16** *Bruce Baldwin* Diversification and Diversity of *Collinsia* (Plantaginaceae)

Lectures start at 7:00 p.m. Refreshments will be served before (starting at 6:45 p.m.) and after.

2063 Valley Life Sciences Building, UC Berkeley
www.calbotsoc.org

**MICROSOFT ACCESS VOLUNTEER
NEEDED**

The *Friends of the Jepson Herbarium* are seeking a volunteer with expertise in setting up a MS Access databases.

We'd like to combine a File Maker Pro database and a series of MS Excel spreadsheets that we use to manage the public programs.

If you (or someone you know) can help, please contact Cecile Shohet
(510) 643-7008
cshohet@berkeley.edu

Curator's Column, continued from page 1.

sometimes in previous floras of California. Although this goal has lengthened the editorial process, the value gained has been well worth the modest delay in publication of the second edition.

Another challenge of the revision effort has been to improve the quality of geographic distribution information for minimum-rank taxa (species, subspecies, and varieties) in *The Jepson Manual*. In the first edition, a novel, hierarchical system for describing Californian plant ranges was implemented (the Geographic Subdivisions of California) that allows for concise, detailed range descriptions within an ecologically meaningful framework. That system has become so widely adopted by Californian biologists and geographers since 1993 that its continuation in the second edition of *The Jepson Manual* is essential. Growing use of geographic range information from *The Jepson Manual* for ecological and evolutionary studies has made refining the accuracy of those data a high priority for authors and editors. To that end, the rapidly expanding Consortium of California Herbaria (now at over one million specimens) has been invaluable as a means of quickly identifying possible

range extensions (as well as possible overstatements of plant distribution) in California and pinpointing specimens in herbaria that need attention to confirm (or reject) such possibilities.

All of these efforts require dedicated, hard-working staff, in addition to the selfless work of our authors, family editors, and principal editors. In response to the need to accelerate progress in the face of a more daunting editorial

task than originally conceived, another scientific editor, Doug Goldman, was recently contracted by the Jepson Herbarium and is now actively involved in editing of floristic treatments (see p. 2). Financial support of our *Friends* for the second edition of *The Jepson Manual* has been essential — it has allowed us to sustain key staff positions throughout the course of the project. Thank you so much for your continued help toward this important goal, and stay tuned!

**TJM2 treatments
posted since
October 2008**

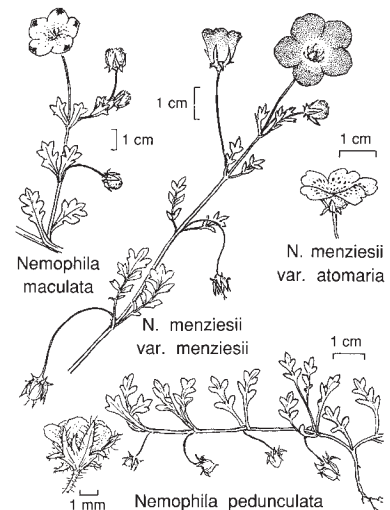
<http://ucjeps.berkeley.edu/jepsonmanual/review/>

Convolvulaceae: *Calystegia*, *Convolvulus*, *Cressa*, *Dichondra*

Crassulaceae: *Aeonium*, *Cotyledon*, *Crassula*, *Dudleya*, *Rhodiola*, *Sedella*, *Sedum*

Elatinaceae: *Bergia*, *Elatine*

Myricaceae: *Morella*, *Myrica*



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\$25,000 Honor the contributions and founding principles of W. L. Jepson, former Jepson Trustees Lincoln Constance and Robert Ornduff, and former Jepson Curators Rimo Bacigalupi and Lawrence R. Heckard

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are exclusive and will be available on a first-come, first-served basis. With approval from the donor, gifts at the \$1,000 level and above will be acknowledged in the front pages of *The Jepson Manual*. Gifts may be made as one-time payments or as a pledge.



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Jepson Herbarium Public Programs

These workshops still have space, but don't wait too long!

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April 25, 2009

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JUNE

Mid-elevation Flora of the White Mountains

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June 18 – 21, 2009

SEPTEMBER

Botanical Field Sketching

September 12–13, 2009

Intermediate Plant Identification: Spotlight on

Asteraceae and Grass-like Plants

September 26–27, 2009

OCTOBER

An Introduction to Herbarium Specimen Curation

October 10, 2009

DECEMBER

Evolution and Diversity of Mushrooms

December 12–13, 2009

For more information, contact Cecile Shohet
(510) 643-7008, cshohet@berkeley.edu or visit our Web site: <http://ucjeps.berkeley.edu/jepwkshp.html>

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2009 marks a yearlong celebration of why science matters.

Activities for the Year of Science are arranged thematically and each month. The Year of Science website (<http://www.yearofscience2009.org/home/>) will introduce you to the scientists, connect you to content, and provide opportunities to become engaged.

Bay Area institutions are hosting specially themed events. To find out more, visit Bay Area Science! (<http://www.bayareascience.org/>) and Science at Cal! (<http://scienceatcal.berkeley.edu/>)