

# THE JEPSON GLOBE

VOLUME 14 NUMBER 2 A Newsletter from the *Friends of The Jepson Herbarium* January 2004

## Curator's Column: *Tarweeds & Silverswords* by Bruce G. Baldwin

Spring of 2003 was a memorable season for California botany, with an unusually spectacular wildflower bloom in much of the state, including the deserts. For this botanist, spring was also enriched by publication of *Tarweeds & Silverswords: Evolution of the Madiinae (Asteraceae)* [Missouri Botanical Garden Press], a book that comprises a wide diversity of information on one of California's distinctive and well-studied lineages of native plants. Much new knowledge about the California tarweeds that is contained within *Tarweeds & Silverswords* was obtained through research at the Jepson Herbarium, with the support of Roderic B. Park and other generous *Friends*.

The effort to produce *Tarweeds & Silverswords* was led by famed plant anatomist and island biologist Sherwin Carlquist (Santa Barbara Botanic Garden), who served as convening editor, in association with co-editors Gerald D. Carr (Univ. of Hawaii, Honolulu) — world-authority on biosystematics of the Hawaiian silversword alliance and the California tarweed genera *Calyca-denia* and *Osmadenia* — and me. Included within the book are chapters by each of the editors and by distinguished authors Bruce A. Bohm, Elizabeth A. Friar, Michael D. Purugganan, David

*Continued on page 4.*



## California Bryophytes A Status Report

Bryophytes (mosses, liverworts, and hornworts) were the first “land plants.” Nonetheless, we generally know much less about them in comparison to the flowering plants. Did you know that California has half of all of the mosses recorded for North America and that California is remarkable for the diversity of BOTH its vascular plant flora and its bryophytes? For the past 5+ years, Dan Norris and Jim Shevock, as researchers in the UC Herbarium, have been actively working toward the preparation of a California moss catalogue and a key to moss species. This monumental work will appear in *Madroño* 51, issues 1 & 2, 2004.

The UC Herbarium bryophyte collection is among the largest in the

*Continued on page 3.*

*Above: Dan Norris and Jim Shevock in the Sierra, summer 2003.*

## Lemmons and Poppies by Richard Beidleman

The year of 2003 was the centennial of the California Poppy's legislative approval as the state flower of the Golden State. Just a century ago, the evening of March 2, 1903, proved special for Sarah Lemmon of Oakland, at the Senate Chambers in Sacramento. The gala celebrated the signing by newly elected George Pardee, fittingly the Golden State's first native-born governor, of the bill finally designating the California Poppy as “the State floral emblem of California.” When Senator F. M. Smith of Los Angeles, author of Senate Bill No. 707, commenced his celebratory speech, it was to Sarah Plummer Lemmon — botanist, artist, author, librarian, public speaker, conservationist, suffragette, nurse, wife of pioneer flower collector and forester John Lemmon — that he paid tribute. For three decades, and particularly over the past twenty years, it was Mrs. Lemmon, supported by many others, who steadfastly promoted the poppy, despite interminable disappointments. After his tribute, Senator Smith presented Sarah with the magnificent Bald Eagle quill-feather pen used by the governor in signing the bill.

In Mrs. Lemmon's response she adroitly noted that time did not allow “any lofty eagle-flights of rhetoric.” She applauded the appropriateness of

*Continued on page 2.*

Continued from pg. 1.

the California Poppy as the state's official symbol, reminding the audience that years earlier Jessie Fremont, wife of California's "first" governor, had enthusiastically supported the choice: "Why, the *Eschscholtzia* [sic], of course; the golden poppy was born for California." Sarah then touched briefly on the role local members of the National Floral Emblem Society of America had played in the long campaign, and the support by Senator Smith, Governor Pardee, and especially Assemblyman J. A. Bliss of Oakland "for his continued and untiring devotion in the stormy past and sunny present." She concluded her remarks by pinning on Bliss's coat lapel a badge embellished with her oil painting of a cluster of the beautiful poppies. The evening's festivities came to an end as Mr. Bliss recited Joaquin Miller's poem, "God's Gold," honoring the California Poppy, which "careless, laughing, freely spills its hoard, far up the happy hills . . ."

During Spanish times, it was this "Copa de Oro", the "Cup of Gold", that botanist and writer Adelbert von Chamisso had come upon at San Francisco Bay. He and zoologist Johann Eschscholtz were naturalists with Russia's *Rurik* expedition, commanded by Otto von Kotzebue. During the month's stay in the autumn of 1816, they collected both plants and animals, but it was the California Poppy that became most famous. Since earlier naturalists had overlooked the poppy, Chamisso wrote the first scientific description, in Latin, naming the flower *Eschscholtzia californica* in honor of his genial companion. Unfortunately, the zoologist's name was misspelled, and by nomenclature rules, it must remain misspelled. In 1820, the description appeared in a Russian scientific publication, accompanied by Chamisso's original sketch of the "type specimen" as a large, exquisite, color plate.

Sarah Lemmon's adventures with the California Poppy began when she and her husband attended the New

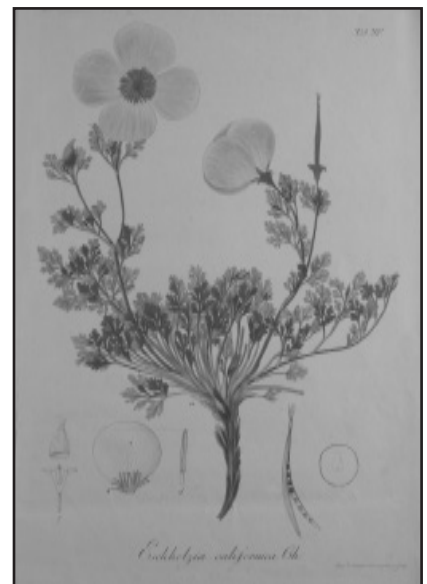
Orleans Cotton Exposition in 1884, where there was discussion about states adopting state flowers. In California the "Golden Poppy" was already considered the unofficial state flower by many. During 1890, two California organizations actually held elections for a state flower. At the Santa Cruz Fruit Growers' Convention in November, the California Poppy was endorsed, while the next month the California State Floral Society offered a ballot with three choices: the California Poppy, Matilija Poppy, and the Mariposa Lily. The California Poppy got all but three votes. Sarah Lemmon and others, however, still felt the selection should be made official by the state legislature.

In 1893, Sarah Lemmon and her husband attended the World's Columbian Exposition in Chicago. At the Woman's Building, after lengthy discussion, the National Floral Emblem Society was established, "for the purpose of legalizing State floral emblems," as well as selecting a national flower. To Sarah's surprise, she was appointed Chairman of the State Committee for California, charged with "confirming the selection of the State flower by act of the next State legislature."

Now the work began. Sarah became an inspired activist, setting up regional committees, corresponding, sending out hundreds of publicity circulars, and traveling around the state giving lectures promoting the California Poppy. In 1895, through her efforts, the first poppy bill was introduced into the legislature, passing almost unanimously. But "for personal, political reasons" Governor James Budd would not sign it. Four years later, Sarah Lemmon presented another request to the legislature, carried by Assemblyman Bliss of Oakland. This bill likewise passed almost unanimously. But the new governor, Henry Gage, at political odds with Bliss, vetoed it, with the excuse that "I do not think the adoption of a State flower a proper subject for legislation." The Assembly thought otherwise

and passed it over the governor's veto. The Senate, however, quailed before Governor Gage's wrath; and the state flower bill "died among its friends." Then in May of 1901, "Professor" John G. Lemmon entered the fray, offering a resolution to the meeting of the Pacific States Floral Congress to support the California chapter's recommendation of the California Poppy as state flower. The next year horticulturalist Emory E. Smith's book, *The Golden Poppy*, appeared, filled with art work, photographs, poetry, and essays relating to the poppy, including several chapters by the Lemmons. Forgotten was Editor Smith's abortive support of the Matilija Poppy. The following year, 1903, a sympathetic new governor, George Pardee, early in his term finally made the California Poppy the state's official floral symbol.

In 2003, California celebrated the California Poppy's centennial, remembering those like the Lemmons, and many others, who contributed their time and effort towards a memorable cause. Still today, across California in season, one may see patches of the brilliant, golden displays that inspired the Spanish exclamation "land of fire" to describe the Golden State. 🌻




A painting of Chamisso's original specimen. Collected in San Francisco, 1816.

## In Memoriam: Wayne Roderick by John Game

Wayne Roderick died on August 10, 2003, at his home in Orinda, California, at the age of 83. Wayne made an immense contribution to Californian field botany and introduced many Californian plants into horticulture. He was a Founder member and Fellow of CNPS and served on the board of the East Bay Chapter for many years. On his frequent field trips, he introduced many people to such wonderful places as Cook and Green Pass, The White Mountains, and Winnemucca Lake. He was widely known for his knowledge of Californian bulbs and his skill at growing them, and was active in the American Rock Garden Society and other groups. His widespread explorations revealed new species, for example



Wayne Roderick on July 4, 1998 standing in front of the "alpha" Bristlecone Pine Tree while leading an East Bay Chapter Trip to California's White Mountains. (Photo by John Game).

*Ceanothus roderickii*, and he did much to support conservation in our state. Wayne was born in Petaluma, California, and worked for his family's horticultural nursery from 1945 until 1959. In 1960, he became head of the Californian Native section at the Botanical Garden of the University of California, Berkeley, and in 1976, he became Director of the East Bay Regional Parks Botanical Garden in Berkeley. After he retired in 1983, Wayne maintained an active seed exchange with enthusiasts in the United States and overseas. Wayne was active until almost the end of his life in sharing his knowledge and enthusiasm for plants and will be missed by many of those he described as "plant-happy people." 

### NSF Grant Awarded to Bruce Baldwin

Bruce Baldwin has received a recent research award from the National Science Foundation (Population Biology Program). The four-year project, "Unravelling the dynamics of mating-system evolution in tribe Collinsieae (Scrophulariaceae s.l.)" will begin in January of 2004. The project is a collaborative effort with W. Scott Armbruster (Univ. of Alaska, Fairbanks) and Susan Kalisz (Univ. of Pittsburgh).



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*Moss update, continued from pg. 1.*

United States — it holds over 200,000 specimens. The collection has grown through the activity of Dan Norris and Jim Shevock working on bryophyte inventories and floristics in California as well as the systematic research on bryophytes from around the world conducted in the laboratory of UC/JEPS Director, Brent Mishler.

Work on the bryophyte inventories for California is ongoing. New species are being located (major disjunct populations) and occasionally species new to science need to be officially named too. The next issue of *Fremontia*, the journal of the California Native Plant Society, will be a special issue on bryophytes. Several amateur and professional botanists are begin-

ning to collect bryophytes to develop inventories of county, mountain range, river basin, or other administrative units such as a national park or a national forest.

With this current activity in bryophyte inventories and floristics in California, the UC collection is increasing in the number of specimens that require proper curation and filing into the herbarium. Another major task is to begin an active bryophyte exchange program with other herbaria so our duplicate specimens can be exchanged for bryophytes from other continents. Besides the California bryophyte activities, Dan and Jim are expanding the bryophyte holdings with their collecting activities in other countries as well.

Perhaps a *Globe* reader has a few hours a week and would like to volunteer to assist Dan and Jim with the curatorial responsibilities of maintaining and expanding a world-class bryophyte collection. No prior botanical experience is required, only an interest to learn coupled with the realization that one would be making a real scientific contribution to a major scientific institution. Contact the Jepson Herbarium for more information on being a bryophyte volunteer (510) 643-7008. 

**Learn more about mosses at  
the upcoming  
Bryophyte workshop  
Feb. 21-22, UC Berkeley**




*Argyroxiphium grayanum*, an Hawaiian silversword.

Remington, Robert H. Robichaux, and Ji Yong Yang. Tarweed topics encompassed by the book include natural history, morphological and taxonomic diversity, chromosome evolution, hybridization, glandular structures, leaf and wood anatomy, secondary chemistry, molecular evolution, conservation genetics, evolutionary relationships, and processes of diversification (speciation). John L. Strother (University Herbarium, Berkeley) contributed greatly toward an invaluable component of the book: appendices on accepted taxonomic names and synonyms, as well as a “nomenclator” (a reference to published taxonomic names in the

subtribe).

Although *Tarweeds & Silverswords* was written for a professional botanical audience, anyone with an interest in California plants will find much accessible and informative reading contained within its covers. Tarweeds are often regarded as unglamorous (e.g., sticky, smelly) components of our flora; the book goes far toward displacing that misimpression and reveals them to be biologically fascinating examples of evolutionary change. Even those who have kept abreast of the tarweed literature will find the book to be a helpful synthesis of available information and a preview of research that is yet to be published in detail.

On-going research in the Jepson Herbarium continues to probe the evolutionary secrets of tarweeds and is documenting previously unrecognized

diversity in the group. Tarweed studies and other investigations in California plant systematics underlie progress in floristics and remain a critical component of Willis Linn Jepson’s mission for the herbarium. The Friends of the Jepson Herbarium have been critically important partners in our research efforts and I thank all of you for helping us to advance botanical understanding in ways that directly affect our appreciation and conservation of the California flora. 



*Madia elegans*, a California tarweed and close relative of the Hawaiian silversword lineage.

**Tarweeds & Silverswords**  
**Evolution of the Madiinae (Astera-**  
**ceae) is available from the Missouri**  
**Botanical Garden Press (\$29.95). To**  
**order call toll-free (877) 271-1930**

**Or visit [www.mobot.org/mbgpress](http://www.mobot.org/mbgpress)**

### MEMORIALS AND SPECIAL GIFTS

*The Jepson Herbarium is pleased to offer thanks to those who chose to honor or remember others with gifts to the herbarium.*

*In memory of Hazel Gardner Anderson*  
*Suzanne Olive*

*In memory of George Frost*  
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*In memory of Lincoln Constance*  
*James R. Sweeney*

*In memory of Herbert Baker*  
*Stephen Rae*

*In memory of Sarah C. Baldwin*  
*Paul Baldwin*

*In memory of Jim Robinett*  
*Georgie Robinett*

*In memory of Jim Hickman*  
*Marcia Wolfe*

*Gifts-in-kind*  
*Wilma Follette, Chirs Lucero, and Cynthia Haggart*

## The Herbarium welcomes a new Coordinator of Public Programs

## 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)

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Assistant Museum Scientist: Kim Kersh

**Office Manager:** Jessica Durand

**Public Programs & Development:**  
Staci Markos  
Cynthia Perrine

Our new Coordinator of Public Programs, Cynthia Perrine, comes to the *Friends* program from the California Department of Fish and Game (CDFG) where she coordinated a professional training program for two-and-a-half years. A native of Chico, California, Cynthia's scientific education began at a young age. She was lucky enough to regularly accompany her father, a wildlife biologist, in the field as he conducted oak mast surveys, cottontail research, and gray squirrel monitoring. Her family jokes that she learned to count by counting acorns for the mast studies. It was during these early years that she realized that the greatest classroom is outdoors; especially in the oak woodland foothills and the Sierra Nevada forests.

Just prior to starting college, she took notes for a class her mother was enrolled in at Chico State. The lecture was on biomes and went into great detail about alpine plants. She spoke with the instructor after class and learned that botany was a discipline of its own. Encouraged by her father who thought there were good job opportunities for botanists, she switched her major to botany on her first day as an undergraduate. She eventually decided to pursue a minor in botany because she was interested in every natural resource and she received her Bachelor's degree in Environmental Biology and Management from the University of California, Davis, in 1994.

She worked for CDFG's Natural Heritage Division from 1993 to 1996 when she started graduate school at CSU Chico. Originally her penchant was for studying the effects of introduced wild turkeys in California, she switched to a less mobile study subject; red fir forests. Her master's thesis, entitled, "Fire Severity Effects on Seedling Regeneration in a Montane Forest Ecotone in Lassen Volcanic National Park" will be complete in Winter of 2004.

In addition to working on her studies and career, Cynthia has co-chaired the Professional Development Committee for the Western Section of The Wildlife Society and is currently a candidate for President-Elect.

She met her husband, John Perrine, at a Wildlife Society Conference in February of 2000 and they married in October, 2002. They share a love for music and the natural world. They are relocating to the East Bay from Sacramento with their two dogs, eight guitars, and 25 house plants. 🐾



Cynthia on the Lost Coast, Fall 1998.

# THE JEPSON FLORA PROJECT

## SECOND EDITION OF *THE JEPSON MANUAL*

In 1993, the Jepson Herbarium completed *The Jepson Manual: Higher Plants of California*. Since then, *The Jepson Manual* has become the authoritative floristic reference for the state and is used by professional botanists, agency personnel, environmental consultants, conservation planners, teachers, and students as a conservation tool and a primary resource for plant identification.

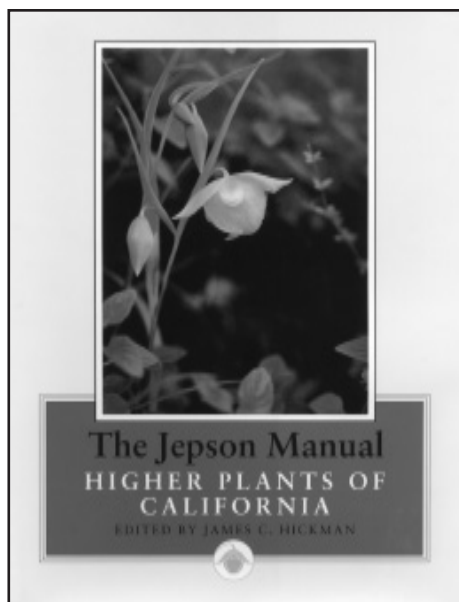
Although the *Manual* was published only 10 years ago, it is out-of-date as a result of the phenomenal progress in plant systematics. Some significant taxonomic changes have already been made and others are on the horizon; it is estimated that 57% of the families in the 1993 edition of *The Jepson Manual* will require substantial revision.

At this time, revised taxonomic treatments are not available for most groups and therefore botanists are forced to use outdated and incomplete references when identifying plants. Because accurate plant identification is essential to guide responsible land use and conservation decisions, revision of outdated treatments, to reflect new insights on plant relationships, diversity and distribution, is an urgent priority.

The Jepson Herbarium has initiated a five-year project (2003 — 2008) to produce a scientifically revised *Jepson Manual*. The Second Edition will provide revised treatments for all taxa in the 1993 edition of the *Manual* and include new treatments for taxa that have been added to the flora of the state since 1993 (either as new to science or as newly reported for California).

To improve the utility of this work for conservation biology and ecology, two substantial operational changes will be incorporated in the Second Edition: (1) where practicable, only monophyletic groups (evolutionary lineages) will be recognized, and (2) taxa that can be identified only by fine-scale characteristics will be recognized. These changes, along with others (such as inclusion of flowering times) will distinguish the Second Edition from the 1993 *Manual*.

Marking a new era in California floristics, the Second Edition of *The Jepson Manual* will be integrated with a variety of electronic resources, available through the Jepson Online Interchange. The electronic resources are projected to include interactive keys, improved distribution maps with georeferenced localities, searchable character and ecological databases, synonymy reference tables, phylogenetic trees, links to photographs and illustrations, and other resources designed to complement and enhance the printed book. Together, *The Jepson Manual* and the Online Interchange will be the most comprehensive, scientifically accurate sources of information on the California flora.



## THE JEPSON HERBARIUM NEEDS YOUR SUPPORT

Although housed on the UC Berkeley campus, the Jepson Herbarium is privately supported through grants and private donations. While the Curator's position and some research is supported with revenue from endowments of the Jepson Herbarium, almost all of the funding for the Jepson Flora Project is provided by government grants, foundation grants, and gifts from individual donors. The *Friends of the Jepson Herbarium* have played a vital role in the on-going operation of the Jepson Flora Project and we are grateful for their past and continued support. To join the *Friends* and support the Second Edition of *The Jepson Manual*, call Staci Markos (510) 643-7008.

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This page also available at: <http://ucjeps.berkeley.edu/jepwkshp.html>

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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
- \$10,000** Support taxonomic efforts in an organizing unit of the *Manual*: Ferns, Gymnosperms, Dicots, or Monocots
- \$5,000** Support floristic effort for a particular bioregion (Twenty-four listed in the *Manual*)
- \$2,500** Support taxonomic work in a particular family. See the Herbarium web site for an up-to-date, complete list
- \$1,000** Show enthusiasm for your favorite genus (pledge \$200 / 5 years)

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### **January 2004**

*Arctostaphylos*  
January 23 - 25  
*Plant Kingdom*  
January 31 - Feb. 1

### **February 2003**

*Cultivating Mushrooms*  
February 7 - 8  
*Bryophytes*  
February 21 - 22  
*Molecular Phylogenetics*  
February 28 - 29

### **March 2003**

### *Describing New Species*

March 6  
*Flowering Plant ID*  
March 6 - 7  
*Basic Illustration*  
March 13 - 14

### *Digital Photography*

March 20 - 21  
*Fifty Families*  
March 27 - 28 &  
April 3 - 4

### **April 2003**

*Death Valley Flora*  
April 8 - 11  
*Mt. Diablo Flora*  
April 23 - 25

### **April 2003 cont.**

*Poaceae*  
April 24 - 25

### **May 2003**

*Plant Evolution*  
May 1 - 2  
*Kern County Flora*  
May 6 - 9  
*Angiosperm Phylogeny*  
May 8 - 9  
*Painting Klamath Wild-  
flowers*  
May 12 - 16  
*Basic Field Techniques*  
May 15 - 16  
*Big Bear Valley*  
May 20 - 23

### **June 2004**

*Fire and Oak Ecology*  
June 4 - 6  
*Spring Mountains, Nev.*  
June 17 - 20

### **July 2004**

*Mt. Lassen Flora*  
July 22 - 25

### **August 2004**

*Cyperaceae*  
August 5 - 8

### **September 2003**

*Vegetation Mapping*  
September 8 - 12

For more information or to register for a class, please contact Cynthia Perrine at the Jepson Herbarium; phone: (510) 643-7008, email: cperrine@uclink.berkeley.edu. Please visit our Web site at: <http://ucjeps.berkeley.edu/jepwkshp.html>