

THE JEPSON GLOBE

A Newsletter from the *Friends of The Jepson Herbarium*

VOLUME 16 NUMBER 3 JANUARY 2006

Director's Column

by Brent D. Mishler

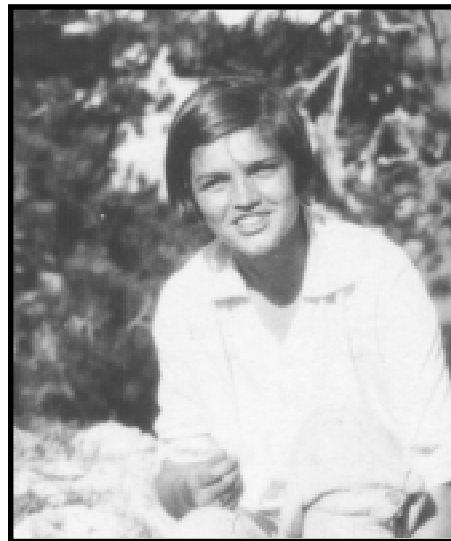
Genomics and the Modern Herbarium

This is the era of whole-genome sequencing; DNA sequence data are becoming available at a rate unanticipated even a few years ago, providing biologists with both tremendous opportunities as well as serious challenges (because of the overwhelming mass of data). This would seem on the surface of things to have little to do with herbaria, which have traditionally conducted their operations at the opposite end of the scale of biological organization, dealing with whole organisms, ecology, systematics, and evolution.

Whole-genome sequencing has led to a new, mutual understanding between molecular biologists and systematists/evolutionary biologists. The pivotal moment may have been when the human genome was analyzed in detail and found to be a jumble reflecting the history of life much more than the particular biology of humans. Only a tiny bit of the human genome has to do with being a human; most has to do with being a primate, a mammal, a vertebrate, an animal, a eukaryote, and so forth. The human genome is far from an efficiently designed blueprint for human biology — on the contrary it is an attic full of heirlooms, rigged together.

For animals or plants, the only way to make sense of genomes is to

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Mary on top of Mt. Pinos

In Memoriam:

Mary Leolin Bowerman 1908 — 2005

by Barbara Ertter

Inspired by their botany teacher at Pasadena Junior College, two young friends entered the University of California at Berkeley in 1928. Here they would both find their respective life-time passions and arenas for accomplishment, involving geographic areas with which their names would become irrevocably linked. For Annetta Carter, this proved to be Baja California, thanks to the generous patronage of Annie Alexander and Louise Kellogg [See Page 3]. For Mary Leolin Bowerman, the flora, ecology, and conservation of Mount Diablo became an all-consuming focus, with a digression into British Columbia along the way.

Continued on page 2.

Jepson Flora Project Update:

by Cynthia Perrine

Chris Meacham Joins the Project

The newest member of the Flora Project team is Christopher Meacham. He serves as our web site and database developer. Although Chris's most recent post began this fall, he is not new to our herbarium. He first came to us as a visiting scholar in 1985 from the University of Georgia's botany department. There he worked on mostly theoretical, quantitative mathematical problems related to botany. In 1986, Chris was hired by the University of California as an IST staff consultant to the biology departments and later became one of the first staff members in the Museum Informatics Project. After nearly ten years in these roles, he left to pursue his own projects, especially the *Synthesis of North American Flora* with John Kartesz. We are glad to have him back with us! One can already see a new look for our Web pages and, in the near future, we'll start to see expanded relational databases and what we hope is an improved, user-friendly tool for virtual use of our herbaria resources.

Chris's background is in botany and computer science has been central to his studies for many years. His PhD was completed in 1981 at the University of Michigan after which he pursued a post-doctoral position in computer science at the Memorial University of Newfoundland.

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compare them in an evolutionary context. Comparative genomics is greatly aided by taking a phylogenetic approach: relating nested sets of genomes on an evolutionary tree, using complex computer algorithms. Natural history museums, and the research they enable, are thus poised to take an increasingly important role in collaborations with genomic biologists and computer scientists.

A recent synthesis of phylogenetic systematics and molecular biology/genomics — two fields once estranged — is beginning to form a new field that could be called “phylogenomics.” Something can be learned about the function of genes by examining them in one organism. A much richer array of tools is available using a phylogenetic approach. Close sister-group comparisons between lineages differing in a critical phenotype (e.g., desiccation or freeze tolerance) can allow a quick narrowing of the search for genetic causes. Dissecting a complicated, evolutionarily advanced genotype/phenotype complex (e.g., development of the angiosperm flower or the vertebrate backbone), by tracing the components back through simpler ancestral reconstructions, can lead to quicker understanding of gene function and interactions. Most importantly for the systematist, the new comparative genomic data should also greatly increase the accuracy of reconstructions of the Tree of Life.

University and Jepson Herbaria researchers and students are involved in an increasing number of genomics collaborations. Current projects include:

- **The Moss Genome Project** <http://www.jgi.doe.gov/sequencing/why/CSP2005/physcomitrella.html>
- http://www.berkeley.edu/news/media/releases/2004/08/24_genome.shtml
- **Green Tree of Life Project** <http://ucjeps.berkeley.edu/TreeofLife/>




Mary at the Summit of Mt. Diablo in 1930. As one of the few students to own a car, she was granted Mt. Diablo as her graduate project.

Bowerman, continued from page 1.

Mary, known to her friends at the time as Leo, was strong-willed and a bit of a rebel, making choices and decisions as she saw fit (e.g., favoring boys' haircuts and clothing). The only child of relatively well-to-do parents, she was born in 1908 in Toronto, Canada, and spent some years in England before ending up in southern California as a teenager. Her parents, who had hoped to see her go to Stanford and become a physician, instead joined her in the East Bay.

“Mary, known to her friends at the time as Leo, was strong-willed and a bit of a rebel...”

Director's Column, continued

- **CyberInfrastructure for Phylogenetic Research (CIPRES)** <http://www.phylo.org/>
- **Deep Gene** <http://ucjeps.berkeley.edu/bryolab/deepgene/> 

Coinciding with the onset of the Great Depression, Mary and Annetta received their A.B.'s in botany with 5 other graduates, all women, in 1930. The two friends remained at UC to pursue master's projects, at one of those heady times when a cohort of exceptionally talented and inspired students overlapped and contributed to synergy of ideas from which all benefited. Notable among Mary's fellow students were David D. Keck (Ph.D., 1930), Katherine Esau (Ph.D., 1931), Herbert Mason (Ph.D., 1932), Lincoln Constance (Ph.D., 1934), and Daniel Axelrod (Ph.D., 1938), who were destined to make significant advances in fields as diverse as biosystematics, plant anatomy, and paleobotany.

When Mary started at UC, Willis Linn Jepson was the reigning professor of vascular plant systematics. When Mary began her graduate work in 1930, however, Jepson was on leave, visiting distant herbaria and participating in the International Botanical Congress in Cambridge, England. It was Herbert Mason, acting as Jepson's assistant, who first directed Mary toward Mount Diablo as a floristic project. At that time, it was common for botany majors at UC to be assigned the flora

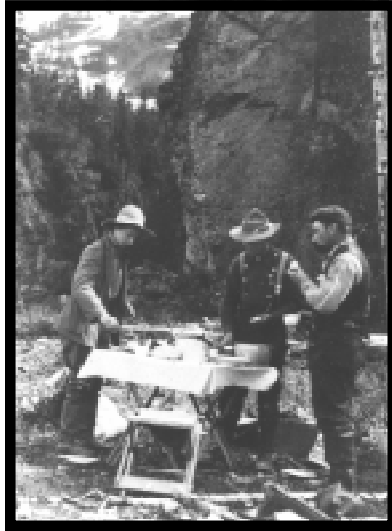
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Miss Louise Kellogg

(excerpted from *On her own terms* by Barbara Stein, (c) 2001 with permission from The Regents of the University of California)

Louise Kellogg was born on August 27, 1879, the youngest of five children. Her parents lived in Oakland in a house that had been built by her grandfather, who had come west during the gold rush. Louise's father was an officer of Tubbs Cordage in San Francisco and the founder of the Cordelia Shooting Club. It was from him that Louise learned to hunt and fish. As a young woman, Louise attended the University of California. Her enrollment may have been encouraged by her cousin who was a faculty member; it was also an indication of her parents affluence and social standing within the community. She graduated in 1901 with a degree in classics, and soon after, began teaching school.

In the summer of 1908, Louise (approaching 30, single and not engaged to be married) was invited by Miss Annie Alexander to accompany her and others from the Museum of Vertebrate Zoology on a collecting expedition to Alaska. Although Annie was an experienced traveler, many times on her own, at that time it was not the norm for women to travel alone and so the expedition party was thankful that Miss Alexander had found a travel companion. This trip marked the beginning of a 42 year relationship between the two women and so the story of Louise Kellogg's life cannot be told without also including Annie Alexander (1867-1950); the two were life long compan-



Louise (at left) prepares specimens in Alaska

ions and friends.

Annie Alexander's father, Samuel, was the founder of an Hawaiian sugar empire, and his wealth afforded his adventurous daughter the opportunity to pursue her many interests. In the late 1880's, her family moved from Hawaii to Oakland, and although Annie never liked life in the city, her new home did have one advantage — it's proximity to the newly established University of California. In 1900, Annie attended a paleontology course, and from that point forward, she pursued her interests in natural history. Her father recognized her interest and dedication to the field and, in 1904, he invited Annie to go with him on an African safari. Her purpose would be to collect wildlife, both on film and as trophies. The two had a wonderful time, and Annie wrote "...We have made every day count. I doubt if there are two more delighted people in the country than Papa and I."

Sadly, their trip would end in tragedy. On the morning of September 9th, the two were visiting Victoria Falls.

Construction of the Zambesi Railway Bridge was underway and Annie and her father descended into the Palm Grove Ravine to view the falls. Just as they reached the point that afforded them the best view, they became aware of rocks falling from above. Hearing a sharp noise, Annie looked up to see a three foot boulder hurtling toward her father. It struck Samuel on his left side, crushing his left foot and leaving him in severe pain. He was bleeding profusely and although medical help arrived and Samuel was moved to the doctor's residence and treated, he died the following morning.

Her father's death served as the catalyst for Miss Alexander to found the Museum of Vertebrate Zoology on the Berkeley campus. At the age of 37, she

“Over the next 40 years.... the two women conducted biological and botanical surveys and collected thousands of specimens throughout western North America and abroad.”

felt the need to give meaning to her life and the idea of creating a natural history museum took shape in her mind.

Over the next several years, Miss Alexander continued to make scientific collections of paleontological and vertebrate specimens. By 1906, Annie had planned a trip to Alaska. In asking the Bureau of Biological Survey

Continued on page 8.

This issue of the *Globe* highlights some of the women who have established endowment funds for the Herbarium. Their foresight and generosity have helped build the University and Jepson Herbaria into internationally renowned research institutions.

If you would like to leave a personal legacy at the Herbarium through your estate, please contact Staci Markos (510-643-7008) or the Office of Planned Giving (510-642-6300).

of a local peak. Constance, for example, was doing a floristic survey of Redwood Peak in the Oakland Hills, published in 1932. As one of the only botany students to own a car, Mary was granted Mount Diablo, surely a plum in its stately dominance of the East Bay landscape.

In later years, Mary delighted in relating how she had the effrontery to *inform* Jepson (her Major Professor) that the Mt. Diablo project was going to be her doctoral project, not just a master's thesis. Although taken aback by Mary's boldness, Jepson concurred, presumably influenced by the extent to which Mary was going well beyond a simple floristic checklist. The final product, published as a book in 1944, was in fact trend-setting in several respects, notably in the inclusion of ecological information when ecology was still a new, and somewhat suspect, addition to the family of biological sciences. As noted in the forward, "This is the first attempt in California to describe the habits of each species individually. The habitat, altitudinal range, abundance, period of blooming, associated species, and distribution upon the mountain have been independently determined for each species." Concurrent studies and revolutionary new ideas by Mary's fellow students were also incorporated; e.g., the Geoflora concept of Daniel Axelrod, and floristic assemblage comparisons with Mount Hamilton, then being studied by Helen Sharsmith. Overview discussions of climate, soils, geology, paleobotany, collecting history, and especially plant communities comprise the first third of *The Flowering Plants and Ferns of Mount Diablo, California*, with keys and synopses of each species occupying the remainder.

It took Mary six years to complete the requirements for her Ph.D. (1936), and another eight years for the resultant book to be published. Parental resources allowed Mary to remain financially independent, a particular boon during the war years when suitable jobs were few and far between. The apparent draw-

back, however, was that without the external pressure to produce, Mary's perfectionist streak was left unfettered. In a 1940 letter to one of his favorite former students, Jepson expressed his frustration with this aspect of Mary: "Poor girl! She is seeking the impossible for her thesis – now six years plus 4 years old. . . . She would like, however, to talk it all over from now until Doomsday. She cannot reach decisions!"

What kept Mary busy during the years following the publication of her grand opus in 1944 is a bit of a mystery. Evidently fieldwork on Mount Diablo continued, but the expectation of a new, updated edition somehow remained unmet even after the original book was long out of print. A primary competitor for Mary's attention during this period was the flora of British Columbia, triggered by the collections and influence of Thomas T. McCabe. McCabe, a research associate at the Museum of Vertebrate Zoology, had made extensive animal and plant collections in remote parts of British Columbia during the 1930's and 1940's. Perhaps influenced by her own Canadian roots, Mary began preparing a flora of British Columbia based on McCabe's extensive collections. This project suffered a serious



setback when McCabe died of a heart attack in 1948. Mary's determination to finish the flora remained strong, but the manuscript was both incomplete and increasingly outdated as the years went by.

"Mary's scientific interest in Mount Diablo, while remaining strong, became increasingly eclipsed by the urgent need to ensure the preservation of the mountain's natural character in the face of galloping development pressures."

McCabe's was not the only death impacting Mary's life during this period. Jepson had died two years previous, leaving the endowment that subsequently established the Jepson Herbarium. Mary's father died several years later, in 1954, at which time Mary and her mother moved to the house in Lafayette that would be their home for the rest of their respective lives. Mary's mother lived to 1980, dying at the age of 108, and was a major presence in Mary's life throughout this time. As another setback, a developing space crunch at the University Herbarium resulted in the loss of work space for Bowerman at UC. The specimens she was working on were moved to her home in Lafayette, returning to the herbarium years later.

Mary's scientific interest in Mount Diablo, while remaining strong, became increasingly eclipsed by the urgent need to ensure the preservation of the mountain's natural character in the face of galloping development pressures. Mary began her study shortly before a mere 1,463 acres at the top of the mountain were set aside as a state park in 1931; Mary's fieldwork largely

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In addition to the classic Jepson and University logo shirts, we have 5 new designs and 5 shirt styles to choose from (including men's, women's, children's, and infant onesies). Prices range from \$13.50 to \$20, tax included. Show your herbarium support and order yours today!



See the Web site for more information and additional designs.
Contact Staci or Cynthia at (510) 643 - 7008 to place an order.

Bowerman, continued from page 4.

took place on private lands. Public holdings had expanded to 6,788 acres by 1971, but most of Mary's favorite piece of earth was still in great danger of being carved up into view lots. In 1971, Mary and Art Bonwell, an electrical engineer at DuPont, organized a meeting that resulted in the establishment of Save Mount Diablo. Mary's commitment to this cause became her crowning accomplishment, for which she received multiple awards (as listed in biography at savemountdiablo.org).

Mary's connection with the University of California, and the Jepson Herbarium in particular, was reinitiated in the early 1980's, when she became a significant contributor for the first edition of *The Jepson Manual*. In 1994, Mary agreed to lead a field trip to Mount Diablo in conjunction with the first Jepson Herbarium Symposium. This in turn led to a collecting trip to the summit of Mount Diablo on June 19 with Barbara Ertter, who was unable to attend Mary's field trip because she had been responsible for one herself.

Mary and Barbara hit it off well enough that arrangements were made in 1995 for the Jepson Herbarium to take on the challenge of updating *The Flowering Plants and Ferns of Mount Diablo*, by then an increasingly hard-to-obtain collector's item. Barbara tackled the taxonomic updating, various sections

were "farmed out" to appropriate specialists, and Susan D'Alcarno served as project "midwife." Funds provided by Mary allowed graduate student Lisa Schultheis to serve as technical editor, beginning with the scanning of the original edition. What was initially intended as a straightforward 2-year update reached completion in 2002, with the publication of a second edition by the California Native Plant Society. Amazingly, the number of species known from Mount Diablo was increased by one-fourth, a combination of new weeds, taxonomic "splits", and outright new discoveries.

"...Mary entered her 90's in excellent health and continued to enjoy walks on her beloved mountain whenever possible."

Blessed with good genes and a temperate life-style, Mary entered her 90's in excellent health and continued to enjoy walks on her beloved mountain whenever possible. Declining health was evident by age 95, and

after several hospital stints she passed away on 21 August, 2005, at age 97. Fortunately, this was not before she was able to enjoy the celebrated rediscovery of the Mount Diablo Buckwheat (*Eriogonum truncatum*), which Mary had been the last person to see nearly 70 years previous. Mary was interred with her parents at Chapel of the Chimes in Oakland, and a memorial was held for her at Mitchell Canyon on 9 October.

Mary is remembered by those fortunate enough to know her as unfailingly courteous and cheerful, balanced against the dogged persistent streak that made her such a capable advocate for Mount Diablo. She retained her identity as a botanist first and foremost, such that her conservation battles were always based on solid science. Mary's careful management of financial resources allowed her to be generous with friends and causes that she supported. The Jepson Herbarium is honored to be a recipient of that largesse, which will ensure that her dedication to co-author Barbara can be fulfilled: "With appreciation for all that you have done to update our book, and with encouragement to accomplish your vision of yet another future edition. With affection, Mary B. December 6, 2002" 🍀

Support for the Jepson Flora Project &

In December 2005, we reached the half-way point of our five-year goal to complete the Second Edition of The Jepson Manual (TJM2). In support of this important work, the Herbarium has received several grants and an enthusiastic response to the sponsorship program. All gifts of \$1,000 or more will be acknowledged in the front pages of TJM2. We are very grateful for the gifts and pledges we have received so far—each one has contributed to the success of the project.

\$1,000-\$1,999

Anonymous
Corethrogyne
Anonymous
Jepsonia, in memory of Robert Ornduff
Bob Battagin
Deschampsia
Ann & David Bauer
Castilleja
Richard & Linda Beidleman
Cerastium, in memory of Lincoln Constance
Robert J. Berman
June M. Bilisoly
Beth Burnside
Beth Lowe Corbin
Sidalcea, in memory of Dr. Vernon Oswald
Toni Corelli
Gerald & Buff Corsi
Calochortus
Patrick Creehan
in memory of Yvonne Doreen Creehan
Katherine Cuneo
Sally Davis
in memory of Julie Davis Leap
Chris Davidson
Paeonia
Dudek & Associates, Inc.
Lathyrus
Jim Duncan & Elaine Plaisance
Cirsium
Brian Elliott & Samantha Mackey
Cryptantha
Gordon W. & Jutta Frankie
in memory of Herbert and Irene Baker
John Game
Erythronium
Verne Garcia
Arctostaphylos
Judy & Jeff Greenhouse
Cypripedium
Carlyn Halde
Linnea Hanson
Linnaea

\$1,000-\$1,999 continued

HELIX Environmental Planning, Inc.
Jane Hicks
in memory of Rob Schonholtz
Natalie Hopkins
Susan Hedge Hossfeld
Aquilegia, in honor of Wilma Follette
Lori Hubbard & Gregory A. Jirak
Lupinus, in honor of Teresa Sholars
Neal Kramer
Barbara & Philip Leitner
Grayia
Carol & Brian LeNeve
Clarkia
Jim Loughlin
Penstemon
Karen Markos
Nemophila, in honor of Staci Markos
Steve Matson
Carex
Katherine F. Mawdsley & William F. McCoy
Parnassia, in memory of Patrick Elvander
Diane L. Mitchell
Quercus
L. Maynard Moe
Chorizanthe
Craig Norvell
Enceliopsis, in memory of Garrison Norvell & Herb Norvell
Joel Perlstein
Felice Pope
in memory of Robert L. Pope
Betsy Ringrose & Edward Adasiak
Astragalus
Phoebe Watts
in memory of Tom Watts
Julia Savelle
in memory of Dr. Glenn D. Savelle
Steve Schoenig
Mimulus
Jake Sigg
Eriogonum
James Payne Smith Jr.

the Second Edition of The Jepson Manual

\$1,000-\$1,999 continued

Tree of Life Nursery

Washingtonia

Edna Vollmer

Allium

J. Giles Waines

Phaseolus

Chris Walden

Ribes

Phoebe Watts

in memory of Tom Watts

Vern Yadon

Xerophyllum

Stella Yang

in memory of Ssu-sung Yang

Stella Yang & Stephen Buckhout

Trifolium

Desi & Karen Zamudio

Salix, in honor of Elly Platou

\$2,000 - \$2,499

Frank W. Ellis

Fritillaria

Claire Englander

Potentilla & Sequoiadendron,

in memory of

Ralph Marco Boemio

and Herman Englander and in

honor of Frances Hull Englander

Robert Garner

Pinus

S. B. Meyer

\$2,500 - \$5,000

Anonymous

Compositae

Elizabeth Crispin

Dwight L. Johnson

John W. Reynolds

Senecio

Georgie Robinett

in memory of Jim Robinett

Thomas J. Zavortink

in memory of David M. Zavortink

\$15,000 - \$24,999

California Department of Food & Agriculture

Elvenia J. Slosson Endowment Fund

Giles W. and Elise G. Mead Foundation

\$25,000 - \$99,999

Roderic & Cathy Park

Institute of Museum and Library Sciences

National Fish and Wildlife Foundation

\$500,000 and above

California Digital Library

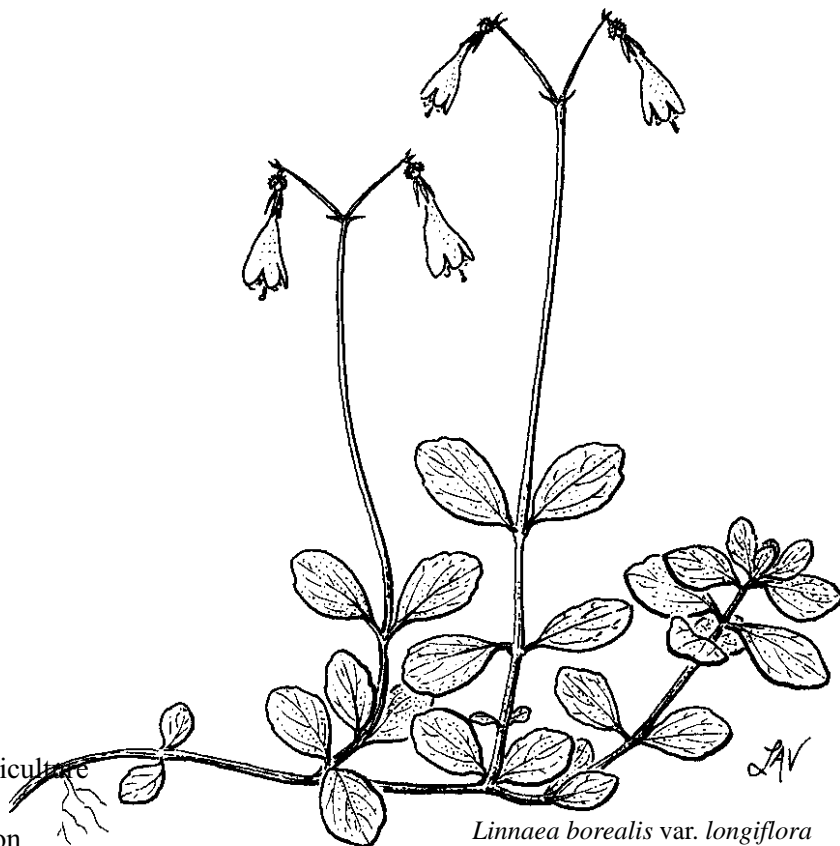
The Mary L. Bowerman Fund for Western North American Floristics.

The Jepson Herbarium gives special recognition to Mary L. Bowerman whose bequest has established a new endowment fund: *The Mary L. Bowerman Fund for Western North American Floristics.*

The fund will be used to support floristic studies in California and the rest of western North America, with preference to the flora of Mt. Diablo and/or the East Bay in general.

As an endowment fund, Mary's gift will help provide core funding for the Jepson Herbarium. Endowment funds, like the one Mary established, are especially important to the Herbarium because revenue will be generated in perpetuity. Because the Jepson Herbarium is not supported with public funds, private gifts are essential to our continued success.

Thank you, Mary, for your generosity and foresight.



Linnaea borealis var. *longiflora*

to grant her permit, she justified her request by stating “My objective in making this collection is to form the nucleus for a collection representing the fauna of the Western coast. ...The work is something that especially interests me and I would like to make it a life work.” Alexander and Joseph Grinnell, who she would later appoint to be Museum director, both recognized the importance of permanently documenting biodiversity.

After a year or more of negotiating with the University of California, the Museum of Vertebrate Zoology was founded in 1908. During her life, Annie provided substantial financial support to the Museum and her legacy continues through an endowment fund. She also had a keen interest in paleontology and supported that museum as well.

The quality of Alexander and Kellogg’s specimen preparations continually elicited admiration from University scientists. Not only were they meticulously prepared but they also came with maps, photographs, and detailed field notes.

One of the first Museum sponsored trips was that to Alaska in 1908. Louise Kellogg, a companion who could share both the physical labor and joy of field work, proved to be ideal. Over the next 40 years (until Annie was in her early 80’s and Louise in her late 60’s), the two women conducted biological and botanical surveys and collected thousands of specimens throughout western North America and abroad.

The quality of Alexander and Kellogg’s specimen preparations con-

tinually elicited admiration from University scientists. Not only were they meticulously prepared but they also came with maps, photographs, and detailed field notes.

By 1939, Alexander and Kellogg had collected birds and small mammals for more than thirty years. With characteristic zeal they redirected their energies toward collecting plants. As the winter of 1947 approached, Alexander and Kellogg prepared to embark on their last great adventure together — a three month collecting trip to Baja California. Accompanied by Annetta Carter (University Herbarium), they crossed the border into Mexico on Nov 3, 1947. They reached Cabo San Lucas 44 days after setting out from Tijuana. They returned in January, 1948 with 4608 sheets for the herbarium representing over 700 taxa, many of which were undescribed species or significant range extensions of previously known taxa.

Over the next couple of years, their collecting trips were confined to the US and they spent more time on the ranch that they had developed and maintained since 1911 (525 acres that Annie purchased on Grizzly Island). There, Annie and Louise grew hay, bred milking cattle, and raised asparagus.

In 1949, Miss Alexander had a brief illness and then a major stroke, lapsing into a coma for 10 months. She died in 1950.

“Louise continued her botanical work, coming into the Herbarium to prepare her specimens.”

Without her companion, Louise continued her botanical work, coming into the Herbarium to prepare her specimens. She and Annetta Carter made a second and then a third expedition to Baja California. Eventually, Louise

stopped going on collecting trips, spending more of her time on the farm in Suisun. However, she continued to support collecting expeditions with gifts to the Herbarium.

Louise died in 1967. In her will, she provided an endowment for the University Herbarium and her legacy lives on. The funds are used to support research by the herbarium botanists, a purpose that would have pleased Louise. 🌿

Chris Meacham, continued from page 1

It was in Newfoundland that he married his wife of nearly 25 years. Theirs was a civil ceremony held on Friday the 13th of November. At the time, civil ceremonies were a new alternative to the more traditional church ceremonies and Chris and Edith Summers decided to take the plunge, not fazed at all by the superstitions that Friday the 13th carried. They have a son, Frazer, who is an undergraduate at Humboldt State University majoring in biology with a special interest in mammals and birds. Their daughter Zuriah is a Scottish and Irish dance enthusiast who is, like her father, a computer whiz; she has even developed her own website. Chris’s other interests include learning to play the Great Highland Scottish bagpipes.

Chris is a great addition to our Flora Project team and we are lucky to have his expertise and creative ingenuity on our Flora Project staff. The next time you are in the herbarium, stop by and say hi. Or, you can find him virtually at Meacham@berkeley.edu. 🌿

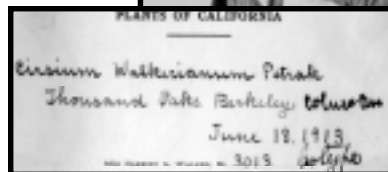
Harriet Walker

by Kim Kersh

Harriet A. Walker was a talented and active plant collector who worked as a curatorial assistant at the University of California Herbarium from 1905 until 1927. She died in 1929 at the age of 83, leaving an endowment to the herbarium that has provided significant support for ongoing work.

Born in 1845, she graduated from Mount Holyoke College in Massachusetts, worked twelve years in the herbarium at Wellesley College, and also for a short while at the Gray Herbarium at Harvard. After beginning work at Berkeley, she often collected specimens used by specialists studying various plant groups. She is acknowledged for help in obtaining specimens in prefaces to Laura Frances McDermott's, *North American Species of Trifolium* (1908) and Harvey Monroe Hall and Carlotta Case Hall's, *Yosemite Flora* (1912). Although she also collected further afield, the focus of her collecting was in the Berkeley area. Reading through her collection notebooks, housed in the herbarium archives, one has the impression that she was looking intently at plants *all* the time, no matter where she was: "Close to Yuba River on dry creek near camp.", "Bolin Bay... at entrance to Miss Parson's yard", "U. C. Campus at Oxford St. & Allston Way", "On hills rear of Panoramic".

In 1917, Franz Petrak, the Austrian mycologist and monographer of North American *Cirsium*, described a new species of native thistle and named it for Harriet Walker — *Cirsium walkerianum*. Walker collected the plant in 1913 in the Thousand Oaks area of Berkeley, near present-day Solano Avenue and Colusa. The species evidently occurred only in and around Berkeley. Petrak expressed his surprise that such a distinctive plant, that he considered not very closely re-



lated to any other, had escaped previous notice in such a populous and well-studied area. Current taxonomy includes it in *Cirsium quercetorum* and further assessment is complicated because no populations of the plant are known to have survived continued development—though it may be difficult to be certain without the careful eye of Harriet Walker on the scene. 🕒

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

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 Integration of Plant Phylogenetics and Plant Genomics
Demography and Germination Ecology of the Endangered Santa Cruz Tarplant
Phylogeny and evolution of the true thistles, genus *Cirsium* (Compositae—Cardueae)

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 Roderic 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: Professor Bruce Baldwin

Database Admin: Richard Moe

Webmaster: Chris Meacham

Scientific Editor: Tom Rosatti

Managing Editor: Margriet Wetherwax

Project Research Sp.: Jeff Greenhouse

Research Associate: Bridget Wessa

Administrative Curator: Barbara Ertter

Senior Museum Preparator: Ana Penny

Assistant Museum Scientist: Kim Kersh

Public Programs & Development:

Staci Markos

Cynthia Perrine

VOLUNTEER OPPORTUNITIES IN THE UNIVERSITY AND JEPSON HERBARIA

Curatorial Volunteers Needed at the University and Jepson Herbaria!

Are you interested in learning more about the California flora, gaining first-hand experience with herbarium techniques, and socializing with fellow native plant enthusiasts? Then have we got a deal for you! Selected **Saturdays** of each month are **Group Volunteer Days** in the Herbaria. What better way to spend those rainy winter weekends!

Group Volunteer Saturdays begin at 10 am and finish 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@berkeley.edu.

Upcoming Volunteer Saturdays
March 11, April 8, May 13

VOLUNTEER FOR THE JEPSON FLORA PROJECT

The Jepson Herbarium NEEDS YOUR HELP!

You can help shape the next edition of the Jepson Manual and help make our web resources more useful.

- 🕒 Would you like to review keys for the next edition of *The Jepson Manual*?
- 🕒 Are there improvements to the Jepson web site that you would like to see?
- 🕒 Do you have ideas about how the herbarium can improve its resources so that they can better serve you?
- 🕒 Do you know of a plant occurring outside of its range as listed in TJM (1993)?

If you have ideas to contribute or time to volunteer, please contact:

Staci Markos
(510) 643-7008,
smarkos@socrates.berkeley.edu

Free Lectures

California Botanical Society

March 9, 2006

The value of vegetation sampling, classification, and mapping for plant ecology and conservation in California
Todd Keeler-Wolf, Wildlife Habitat Data Analysis Branch
California Department of Fish and Game, Sacramento, CA

April 13, 2006

Origin and relationships of the Brazoria Palmetto (Sabal) based on AFLP markers
Mark S. Brunell, Department of Biological Sciences
University of the Pacific, Stockton, CA

Lectures are open to all and begin at 7:30 p.m., 2040 Valley Life Sciences Building, UC Berkeley

Refreshments will be served after the seminars.
For additional information please call
(510) 643-7008 or visit
www.calbotsoc.org.

Berkeley Natural History Museums

April 11, 2006

Tim Flannery, Director of the South Australian Museum in Adelaide, will speak about his upcoming book on climate change *The Weather Makers*.

Tim has received international acclaim as a mammologist and paleontologist, but in recent years he has become better known as an author and speaker with controversial ideas on conservation, the environment, and population control.

The lecture will begin at 7:00 pm and a book signing will follow.

Details will be available at:
<http://bnhm.berkeley.edu/>



FRIENDS OF THE JEPSON HERBARIUM

Name(s) _____

Address _____

City, State Zip _____

Telephone / email _____

- I would like to join the *Friends* / renew my membership (contribution to the annual fund).
- I would like to support the Second Edition of *The Jepson Manual* with my gift of _____.
- Enclosed is _____ of a total pledge of _____ to be paid over _____ years.
- Please acknowledge me as a sponsor of _____ (indicate genus name, e.g., *Lilium*, family name, e.g., Poaceae, or other category) by printing my name in *The Jepson Manual* (for gifts of \$1,000 or more, see side bar).
- Please acknowledge my gift as anonymous.
- My or my spouse's employer will match this gift. (Please enclose company form)
- This gift is _____ in honor of _____ in memory of _____

Please make your check payable to the *Friends of the Jepson Herbarium* or charge your gift.

___ Visa ___ Mastercard

Account # _____

Exp. Date _____

Signature _____

MAIL TO:

The Jepson Herbarium
1001 VLSB #2465
University of California
Berkeley, CA 94720-2465

The information you provide will be used for University business and will not be released unless required by law. A portion of all gifts is used to defray the costs of administering the funds. All gifts are tax deductible as prescribed by law.



CATEGORIES OF GIVING

GIFTS TO SUPPORT THE SECOND EDITION

- \$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)

ANNUAL SUPPORT

- \$500 Contribute to the illustration of a new species
- \$250 Help accession specimens from the backlog
- \$100 Support taxonomic research at the species level
- \$35/\$50 Basic membership in *Friends of the Jepson Herbarium*

SPONSORSHIP OPPORTUNITIES 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, payable over 5 years.



FRIENDS OF THE JEPSON HERBARIUM
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ADDRESS SERVICE REQUESTED

Jepson Herbarium Public Programs

February 2006

Tree of Life: Species Concepts
February 25

March 2006

Frontier Naturalists

March 4 - 5

Bioinformatics

March 4

Tree of Life: Tree Thinking

March 11

Intro. Plant ID (wait list)

March 18 - 19

Tree of Life: Hominids

March 25

SLO County (wait list)

March 25

April 2006

Fifty Families (wait list)

April 1 - 2 & April 8 - 9

April 2006 continued

*Tree of Life: Molecular
Phylogenetics (wait list)*
April 8

*Macrophotography in a Field
Setting (Hastings Reserve)*

April 14 - 16

Mojave Desert Flora

April 27 - 30

May 2006

San Miguel Island (wait list)

May 4 - 7

Poaceae

May 6 - 7

Vegetation Mapping

May 17 - 21

June 2006

Pollination Ecology

June 2 - 4

June 2006 continued

Lava Beds Flora
June 15 - 18

July 2006

Mt. Ashland Flora

July 6 - 9

Sierra Plants and Communities

July 20 - 23

October 2006

Mushroom Reunion

October 7

Medicinal Herbs & Fungi

October 8

December 2006

New Zealand Flora (wait list)

December 1 - 12

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