HERBARIUM/CONSERVATORY BUDGET UPDATE

DAVIS BOTANICAL SOCIETY

Dear Botanical Society Supporter:

These are challenging times for California, UC, and the Herbarium and Conservatory. All programs in the Division of Biological Sciences are taking cuts in their operating budgets this year. This translates into a 6% cut for the Conservatory and a 4% cut for the Herbarium. The Conservatory is reducing paid staff and covering duties with volunteers. The Herbarium cut is being absorbed as part of my voluntary 20% reduction in time. We realize that due to low interest rates and low returns on stock investments, the financial situation of many of our supporters has suffered in recent years. However, if you are able, this is an excellent time to show your financial support and give a gift to the herbarium campaign or the herbarium or conservatory operating budgets. A gift to the herbarium campaign will translate directly into more funds for Division of Biological Sciences programs, including the herbarium and conservatory.

For more information, please contact me at eadean@ucdavis.edu/ 530-752-1091 or Tim Metcalf at hmmetcalf@ ucdavis.edu/530-752-0569, or our new herbarium campaign director Robert Avalos at ryavalos@ucdavis.edu/530-754-4894.

Thank you for your support,
Ellen Dean
Director, UC Davis Herbarium

L A S T H E N I A

LASTHENIA, the Newsletter of the Davis Botanical Society, is published by the Society in collaboration with the staff of the UC Davis Herbarium and Botanical Conservatory.

DAVIS BOTANICAL SOCIETY

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LASTHENIA

NEWSLETTER OF THE DAVIS BOTANICAL SOCIETY

TED THE TITAN BRINGS THRONGS TO CONSERVATORY

"What a smell!!!" The Botanical Conservatory became a focus of campus and regional interest in early June when a corpse flower, *Amorphophallus titanum*, came into sensational and odiferous bloom. Now rare in its native Sumatra, the plant very seldom blooms in cultivation. Literally thousands of people came to the Conservatory the week of June 9 to see the first blossoming of this rare member of the Arum family in northern California. Alerted by a campus news release, a Web cam on the UC Davis Web site and extensive coverage from media in Sacramento and beyond, visitors lined up to sniff, poke and photograph.

The plant came to the conservatory eight years ago as a little-toe-sized seed,

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Tim Metcalf, Director of the Conservatory, checks Ted the Titan's temperature

GROWING OUR OWN:

SYSTEMATICS STUDENTS AT UC DAVIS

This time last year *Lasthenia* featured a report on an unusual number of visitors making use of Herbarium resources. Even more important to its role in an academic institution is use by our graduate students in systematics, ecology and other plant sciences. In light of local and national concerns in recent years about neglect of systematic studies, it is a pleasure to report on this part of the Herbarium's ongoing activity.

The end of summer and Fall quarter 2002 saw three students complete their dissertations and move on to post-doctoral fellowships. Jon Price left in August to begin a prestigious post-doc at the Smithsonian Institution after completing his degree in the Geography Graduate Group. Working under our Past President Debbie Elliott-Fisk, Jon studied the paleogeography and floristic biogeography of the Hawaiian Islands, analyzing the impact of island geography on the evolution and species diversity of the flora. During his field work Jon collected many plants from previously unrecorded locations in the islands; he deposited a number of

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NEW MEMBER BENEFITS

An improved Fall Plant Sale! Davis Botanical Society members are eligible for a 10% discount on their purchases at the Arboretum (and Conservatory) Fall Plant Faire which will be held Saturday, October 4, 8 am - 2 pm. Your membership also allows you to shop early (7 am-8 am is for members only).

The sale will be held at the Arboretum Nursery at Orchard Park, located west of the Recreation Hall at the south end of Visitor Parking Lot 35. This is the same location as where the spring plant sales were held. For a map, please visit our Website at http://greenhouse.ucdavis.edu/special/images/OPNursery.gif.

Davis Botanical Society members are also invited to the Conservatory pre-sale in parking lot 27 east of the Conservatory 10 am-1 pm on Friday, Oct 3. Car drivers can park in the Rec Hall Visitor's Parking Lot 25 for $6. Parking the day of the Plant Faire is free since it is on a Saturday. For directions to the Conservatory go to http://greenhouse.ucdavis.edu/conserv_lg.htm.

E. Sandoval

IN THIS ISSUE

Conservatory

As described on page one, the June flowering of Ted the Titan brought thousands of visitors to the Conservatory. Since we now have three flowering-size plants, we may be able to make the *Amorphophallus titanum* flowering an annual outreach event to add to our February Open House and Picnic Day display (which together accommodate another thousand visitors). Of equal impact are our outreach tours to 1500 non-university participants in groups of 6-12 students each. Some come grudgingly as part of an event scheduled by their school or a campus program, but they often leave with a new plant-oriented appreciation and excitement.

In spite of our skepticism, two inexperienced interns designed, assembled, and installed a practical attractive pond in the middle of the tropical room. Other interns (we had 20) completed projects such as investigating the effects of calcium levels on Venus Flytrap health, the influence of watering frequency on competition between annual and perennial grasses, using willow extracts as rooting stimulators, and the antibiotic properties of bryophytes. Meghan McGinty's two-quarter independent study on the effects of light quality on tropical fruit seed germination yielded interesting preliminary data. This May, she and another Conservatory intern, Michelle Ramos-Curtis, received Plant Biology Departmental Citation Awards.

The Wednesday evening volunteer group Ernesto supervises includes over a dozen plantaholics. With this year's 6% greenhouse budget cut reducing staffing, they and an equal number volunteering during the day help provide skill and hands to maintain our unavoidably labor-intensive collection and programs. The budget cut is especially challenging as the our research greenhouse operation is expanding 20% into two greenhouses in the new Core Greenhouse Complex. At the beginning of summer, we were able to recruit five excellent student staff, all but one with money-saving Work-Study Grants. To help fill the skill and supervision gap, Michelle Higley, a recent Environmental Horticulture grad, will be joining us as a part-time PGR. These are exciting times with the new research space opening this summer and the Lab Science Building greenhouse being completed by next year.

T. Metcalf

Herbarium

Over the past five months, we have had four student interns and three new student assistants working in the herbarium, in addition to eight student mounters. Two of our student assistants are supported by the National Science Foundation. Jean Shepard has continued to obtain label information for our older collections, including those made by Beth Corbin, Rex Palmer, and Michael Barbour in 1982. She is directing students in the curation of these older collections, and it is gratifying to see them get labeled and mounted.

For some time, we have used student help to complete our floristic projects, and Jean is now using student help to complete her flora of Yolo County

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SOCIETY PROFILES — Les Gottlieb

Our new President, Les Gottlieb, has provided a photo of a *Clarkia* (red ribbons, in the evening primrose family). If you want to what he looks like, I recommend that you come to our spring meeting in May 2004 when he will officiate. Les has already provided energetic leadership for the Society in the form of making concrete changes to our Student Grants Program, increasing the amount of the award (to $750) and researching the best way for students to access the funds. Our grants program this past spring was the most successful ever (see article in this issue).

Clarkia, Red Ribbons

Les is a Professor of plant genetics in the section of Evolution and Ecology (EVE). He began his career at UCD in 1969 in the Genetics Department, and when that department was reorganized a few years ago, he joined EVE. He maintains an active research program in genetics and plant evolutionary biology, focusing on plants native to California including species of *Clarkia* and species in three genera of Asteraceae (dandelion family): *Stephanomeria* (wreath plant), *Tragopogon* (salsify) and *Layia* (named to honor the early botanist Tradescant Lay). His research emphasizes studies on the evolution of genes and plant speciation. In general, the plants he has studied have recently evolved as species which makes it possible to compare them to their progenitor species and identify their unique morphological traits and genetic traits.

During his graduate years at the University of Michigan, Les realized that if he wanted to study recently evolved species, one of the best places in the world to do so was California. California's climatic regime and many of its geologic features arose recently in geologic time. Because of this, the California flora has adapted to a relatively rapidly changing environment, resulting in a burst of evolution in many plant families. For his Ph.D. thesis research, Les chose *Stephanomeria*, a taxonomically complex genus that has many morphologically similar species. Using the experimental biosystematic approaches pioneered by earlier California botanists, including our own Ledyard Stebbins, Jens Clausen, who worked at the Carnegie Institute at Stanford, and Harlan Lewis, from UCLA, Les was able to figure out the bounds of each species and come to understand their relationships to each other.

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GROWING OUR OWN (CONT FROM PAGE 1)

specimens at UC Davis. In Washington he will use the Smithsonian's extensive collections to look at the applicability of the patterns he found to the Marquesas Islands.

Sang-hun Oh, a native of South Korea who worked with Dan Potter in Pomology, completed his study of the phylogeny and biogeographic history of the Neillieae tribe in the Rose family. Of the three genera in the group, only *Physocarpus* is represented in California, as the foothill shrub Ninebark. The other species are Asian, mostly from China and Japan. Sang-hun needed to examine an exhaustive range of specimens; Herbarium staff arranged loans and housed hundreds of borrowed specimens during the several years of his research. He recalled special delight in handling type specimens borrowed from the herbarium at Kew Gardens in London. He also mentioned finding the Herbarium library very valuable. After his post-doc at Duke, where he will study *Lithocarpus* and *Quercus*, he hopes to return to Korea and teach at the university level.

The third student to complete his work in 2002 is Esteban Bortiri, who also worked with Dan Potter. Esteban studied the phylogeny of *Prunus* in the Rose family, including such familiar stone fruits as peaches, cherries, plums and apricots. While much of his research was cladistic, he also prepared an extensive collection of specimens of *Prunus* species, both cultivated and wild, which have been mounted and added to the Herbarium's resources. Like Sang Hun, Esteban's associations with the Herbarium included serving as a teaching assistant for PLB 102, California Floristics, for which students collect and identify plants. He was also a research assistant in the grass curation project integrating the Crampton collection into the herbarium.

Tanya Scharaschkin is finishing her studies with Jim Doyle and Mike Sanderson in Evolution and Ecology. She is using morphological and DNA studies to reconstruct the phylogeny of *Anaxagorea* in the Annonaceae. Native to Central and South America and Southeast Asia, it is the only genus of the family not also found in Africa. Tanya completed her undergraduate and Master's work in botany and zoology in her native Pakistan and came to the U.S. intending to study vertebrate paleontology. She realized she could address the same questions of evolution and biogeography using plants, however, and chose Davis on the recommendation of Prof. Herbert Wagner of the University of Michigan.

Kevin Carpenter came to Davis in 1999 after undergraduate work at UC Irvine and a Master's degree at Rancho Santa Ana Botanic Garden and Pomona College. He is examining leaf structure as part of his study on the evolution of early angiosperms, working with Geerat Vermeij, noted paleontologist in the Geology Dept. He hopes to complete his degree by early 2005. Kevin's Davis "connections" date back to high school, when he was an intern with Daryl Koutnik, a former Grady Webster student then at the LA County Arboretum in Arcadia. Along with his doctoral work Kevin has collaborated with Dr. Webster on two papers on pollen morphology in neotropical *Phyllanthus.*

In the field, on the statistical spreadsheet, in the lab, and definitely in the Herbarium, systematic and floristic studies are thriving at UC Davis.

K. Mawdsley

PROTECTING CRAMPTON'S TUCTORIA

Tuctoria mucronata, or Solano grass, was first identified by Beecher Crampton in Olcott Lake at Jepson Prairie Preserve; it became prominently associated with Beecher and the Crampton Herbarium and is one of the plants in the Davis Botanical Society logo. This *Tuctoria* is now known from only two locations, one on private land near Jepson Prairie and the other close to Davis at the Yolo County Grasslands Regional Park at the south end of Mace Boulevard.

Jean Shepard, Assistant Curator of the Herbarium, began documenting and collecting the flora of the park in early 2000. She hopes to complete a draft checklist in the near future. Through her regular and repeated visits, she has become a valuable resource to the county park personnel responsible for managing and protecting the site. Jean reports that there are healthy stands of *Tuctoria* on both the county's property and the adjacent land still controlled by the federal Department of Defense. Yolo County has been pursuing annexation of this land, which contains larger and deeper vernal pools, to the regional park.

Brett Williams, principal overseer of the park in his position as Yolo County Parks and Resources Coordinator, has identified a need for better information on the precise location of vernal pools on the site to use in planning and management. This creates an opportunity for additional volunteers to contribute to protecting local vernal pool resources. A small team working with global positioning equipment could identify and map the pools in early spring and give the county maps containing the detailed information it needs to develop its management plans. The Herbarium has GPS equipment. If you'd like to be part of this project next spring, call the Herbarium at 530/752-1091 or contact jvshepard@ucdavis.edu. People with relevant experience are especially useful, but this is also a learning opportunity for people who want to know more about GPS and our local vernal pools.

K. F. Mawdsley

Limnanthes (meadow foam)

RECENT GIFTS TO NAMED FUNDS

Herbarium Building Campaign
Bo Liu
Donna W. Olsson

June McCaskill Memorial Fund:
Anonymous
Ray & Mary Margaret Evert
Lewis J. Feldman
Harold & Frances Kempen
Robert & Dorothy Laben
Douglas & Luree Ketcham
Sterling M. Leisz
James & Nancy Pollock
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Jack Major Memorial Fund:
Michael Barbour & Valerie Whitworth
Susan H. Matson
Musci-Bits, Bytes & buzzwords
Stephen P. Rae

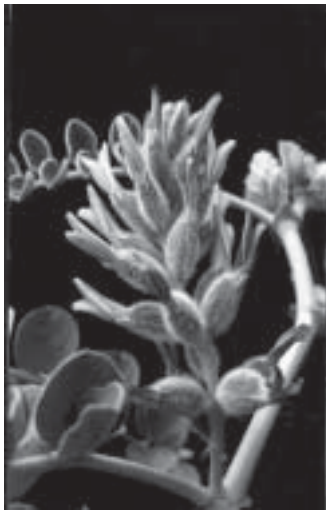
Larry Mitich Memorial Fund:
Fresno Cactus & Succulent Society
James & Catherine Murray
Thomas M. Schwink
Grady & Barbara Webster

Gifts of Books or Slides
William F. McCoy

Thank you for your support!

REVISED STUDENT GRANT PROGRAM ATTRACTS STRONG PROPOSALS

Our 2003 Student Grant competition attracted 10 applications, an all-time high. The award amount was raised to $750, in recognition of the scope of most current projects. The Society's screening committee selected three projects for funding this year, two of which feature major collecting trips, and all of which will result in valuable additions to the Herbarium.



Astragalus

Rosa Scherson, a student of Michael Sanderson, studies biogeography and patterns of chromosome evolution in Chilean and SW U.S. species of the legume genus *Astragalus*. The E. Eric Grissell award will enable Rosa to collect specimens in California, Arizona, New Mexico and Baja California. As she said in her application, "obtaining the right specimens to analyze is the first and most important step toward any further analysis" of the relationship between morphologically similar North and South American species.

Kathren Murrell Stevenson, a student of Michael Barbour, will use the Jack Major award to study patterns of plant and abiotic (water and soil type) diversity within and among Sierra Nevada meadow plant communities. She will analyze data drawn from 40 meadows in the Lake Tahoe area and 20 in the southern Sierra to see the effects of disturbance on total numbers of species, native species and meadow-dependent species. With many meadows under land-use pressure, the findings may be applicable to decisions about prioritizing sites for restoration.

The Larry Mitich award will enable Ramona J. Butz, a student of Dan Potter, to travel to Tanzania. Fluent in the Swahili and Maa languages, Ramona will collaborate with Tanzanian ethnobotanists in interviewing Maasai people and observing and participating in plant-tending to become familiar with women's specialized knowledge. She will record and compare the traditional management practices and ecological knowledge of men and women to preserve traditional knowledge and culturally important plant species for future generations at a time when changes in land use and lifestyle are occurring rapidly.

The Student Grants program is made possible by generous contributions to the Major and Mitich endowments of the Botanical Society and an annual gift from Dr. E. Eric Grissell. We welcome additional gifts to continue and expand the program.

K. F. Mawdsley

TED THE TITAN (CONT FROM PAGE 1)

which then grew and cycled through a series of ever-larger leaves to flowering size. It puts up one leaf at a time from its underground stem (corm) with each leaf getting progressively larger—the leaf proceeding the flower is eight to 10 foot tall— until enough energy has been stored in the corm to support reproduction. Ted's four-foot tall reproductive bud was surrounded by a camouflage-patterned sheath, which fell away three days earlier than our predictions. Then a several foot tall, pale chartreuse spike emerged with a surrounding brilliant magenta ruffle (think of an Elizabethan collar). The actual flowers are at the bottom of the spike, male above, female below. They open at different times, female first, to prevent self-pollination. To attract the meat-eating fly and beetle pollinators, the plant converts starches in the spike to produce heat and spread its "dead meat" scent. A thermocouple attached to the spike recorded a 15 degree increase in temperature in the spike late into the night of June 9, the first day of blooming. This heat disperses the volatile oils bearing the scent.

The stench pulsing from the center of the flower spike wafted throughout the whole conservatory and beyond, drawing botanical thrill-seekers and researchers. Ken Shackel mounted the thermocouples to record the heating of the tissue, Bruce Hammock and team sampled aromatic compounds for later analysis, while the Information and Education Technology's live web-cam transmitted the progression of flowering and expressions and comments of the on-lookers to the world. Between word-of-mouth and the media attention orchestrated by the UC Davis news service, people were waiting to view the "corpse flower" at six-thirty the next morning with no pause until late that evening. With TV vignettes on the local channels and repeated newspaper coverage from Redding to Vacaville, before the end of the week, over two thousand people experienced "Ted the Titan", as Ernesto Sandoval, the Conservatory Curator, affectionately named the flower. Ted projected a fascinating personality, but Ernesto captured the imagination and intellect of the participants with animated explanations of the associated natural history (Ernesto told of flies being attracted from a mile away in the native rain forest). Because of Ted and Ernesto, many people have a new awareness of the wonderful diversity of plant life-strategies and the richness of the Plant Sciences on campus.

Ernesto with Tim the Titan

Ernesto and Tim Metcalf, Conservatory Director, had hoped to pollinate the plant, but pollen from another titan which bloomed several weeks earlier in Southern California did not arrive in time. Perhaps because it was not pollinated, or because of cool weather, Ted faded slowly, rather than collapsing within a day of maximum bloom. The ruffle gradually closed by the late afternoon of June 12, the spike shrank a bit, but the show went on through the week. Visitors also saw several other titan arums in the leaf phase, one or more of which may bloom next year. Judging from the interest of those who saw Ted past its prime, the crowds will definitely come back for more. Curator Ernesto Sandoval became increasingly hoarse as the week went by, but his enthusiastic explanation of the plant's scent production and pollination mechanisms never flagged.

T. Metcalf and K. Mawdsley

Help Support the Conservatory's programs with a T-Shirt Purchase!

The Conservatory still has Ted the Titan T-Shirts available for sale. The illustration, done by Leslie Yamamoto, is a spendid watercolor on cream background. All sizes are are available: youth small and medium, and adult S, M, L and XL. Price: $15. All shirts are 100% cotton, very cool.

Shirts are available at the Conservatory for purchase. If you would like to order a shirt by mail, cut this form out and mail to Ernesto Sandoval, Plant Biology, One Shields Ave., UC Davis, Davis, CA 95616. Circle the shirts you would like to buy:

Ted the Titan shirts: Youth S M Adult S M L XL
Number of shirts x $15/shirt Total: _____
Add mailing costs of $2/shirt Total:_____
Grand Total: _____

THE OFFSHORE WORLDS OF ALTA CALIFORNIA

Natural History of the Islands of California. Allan A. Schoener, C. Robert Feldmeth, & Michael J. Emerson. 2003. ISBN 0-520-23918-0. Paper, US $25.00. California Natural History Field Guides, 61. University of California Press, Berkeley.

This paperback edition of a book that appeared in 1999 will be welcomed by readers interested in California natural history. Illustrated by 16 color photographic plates and over 200 black-and-white drawings and photographs, including a topographic map for each island, it is a great bargain in terms of its information content.

The California Islands, a very discontinous archipelago, stretch for more than 600 miles off of Alta and Baja California, from the Farallones west of San Francisco to Isla Cedros near the tip of the Vizcaíno Peninsula in Baja California. If the fringing islands of Bahía Magdalena are included, the California Islands extend about 900 miles. Archeological sites indicate that some of the islands were inhabited by Indian tribes more than 5,000 years ago. After the "discovery" in 1542 of a number of the Alta California islands by Spanish navigator Juan Cabrillo, the Chumash Indians continued their ocean-oriented life style until they were exiled to the mainland by Mexican and American entrepreneurs whose introductions of livestock during the 19th century led to serious environmental degradation of insular habitat and the extinction of some species. Botanical exploration by botanists from northern and southern California seems to have begun shortly after 1880, with visits by T. S. Brandegee, E. L. Greene, W. S. Lyon, and Blanche Trask. The great interest of botanists and zoologists in the biota of the islands is evidenced by the fact that since the first symposium on the California islands, held at the the Santa Barbara Botanical Garden in 1965, there have been four subsequent symposia, the latest in 1999.

Natural History of the Islands of California differs from the five insular symposia in its organization. Only the land plants and animals of Alta California, including the major islands usually referred to as the Channel Islands, are discussed; they are covered in three chapters: Catalina Island, the northern Channel Islands, and the remaining southern Channel Islands. In contrast to other books on the California Islands, there are three separate (but brief) chapters on Año Nuevo Island, the Farallon Islands, and the islands of San Francisco Bay. Año Nuevo barely merits separate consideration (only because of the sea lion colonies), and the San Francisco Bay islands are merely mainland fragments.

The focus on the Channel Islands in this book, although partly arising from their proximity and ease of access from the Santa Barbara/Los Angeles area, is reasonable because they form an archipelago of six major and two minor islands, a Mediterranean-climate counterpart of the tropical Galapagos. Anyone who hikes across either Santa Cruz or Catalina islands will surely be captivated by their miniaturization of the mainland into an insular microcosm with its own versions of mainland communities: coastal sage scrub, closed-cone pine forest, oak woodlands, and grasslands. The view looking east from the west end of Santa Cruz Island, with an open Central Valley flanked by forested ridges, suggests a scale model of the mainland Central Valley flanked by the Coast and Sierra ranges.

Twelve of the sixteen color plates illustrate scenes with island vegetation, and some of the most characteristic insular plants and animals of each of the Channel Islands are discussed in detail, with emphasis on native and endemic species. There are many common mainland plants, but there are

SOCIETY PROFILES (CONT FROM PAGE 2)

When he arrived at UC-Davis in 1969, Les initiated studies of closely related species pairs in *Clarkia* and his research has centered on this genus since then. However, two years ago, he revisited *Stephanomeria* to carry out a formal taxonomic treatment of the entire genus, for an upcoming volume of *Flora North America*. He worked in our herbarium and annotated more than 8,000 herbarium specimens, loaned from more than a dozen herbaria. In addition to providing a satisfactory key to the species and describing their morphological similarities and differences, he discovered a previously unrecognized species from northwestern Wyoming that he named *S. fluminea*, because it grows among the shifting, granite cobbles in several creek beds that are tributary to the Snake River.

Les thinks of his early years in science as emphasizing reductionist attitudes in which he used various genetic techniques to learn more about species differences. More recently, he has come back to his early love of plants in the field and now appreciates more and more the importance of natural history and understanding how plants adapt to their particular habitats. In this regard, he has collected and placed in our herbarium hundreds of specimens of the genera he has studied. He and his wife Vera (with whom he collaborates daily in the laboratory) are very strong supporters of the herbarium, with its whole-plant focus, and we feel fortunate to have him at the helm of the society this coming year.

E. Dean

a considerable number that are endemic to the islands: the tree poppy is a different species (*Dendromecon harfordii*); the common island oak (*Quercus tomentella*) occurs only on the Channel Islands and Guadalupe; and the ironwood (*Lyonothamnus floribundus)*, which is grown along Putah Creek in the Davis Arboretum, represents a genus endemic to the Channel Islands. The discussion of the plant endemics is interesting, and there is a table enumerating the endemic species and the their distributions. However, the endemics on each island are mentioned under the vegetation types without giving total of species. It would help to have a table of species per island as was provided by Peter Raven in the 1967 symposium. The chapters on island biogeography and evolution of insular species are brief but succeed in elucidating the factors (including geological history) that account for the floristic relationships between islands and with mainland floras.

A prominent and interesting feature of the discussion of the native vegetation of individual islands is the chronicle of changes over historical time. This saga is almost as depressing as—and not unrelated to— the fate of the Amerindian tribes, who either died or were transported to the mainland before 1840. The smaller islands: San Miguel, Santa Barbara, and San Nicolas appear to have suffered the most drastic alterations, largely due to the private takeover of the islands for ranching beginning in the mid-19th century. San Miguel is now without forests, although it supported dwarf mammoths and pine forests during the Pleistocene; trees are also absent from Santa Barbara and San Nicolas. In historic times, San Clemente was apparently forested, with groves of oaks and *Lyonothamnus,* which are now represented by scattered senescent trees.

Quercus tomentella

The conservation history is mostly included in treatments of individual islands. There were no protected areas until 1938, when Anacapa and Santa Barbara were included in the Channel Islands National Monument (later a Biosphere Reserve). In 1980 the national monument was expanded as the Channel Islands National Park to include San Miguel, Santa Rosa, and Santa Cruz islands. At the present time most of the private land on Santa Rosa and Santa Cruz has been purchased with the help of The Nature Conservancy, and flocks of wild sheep and other livestock removed. The situation in the southern Channel Islands is very different. Santa Catalina is mostly a private preserve of the Wrigley family. Despite problems resulting from introductions of exotic animals such as bison, goats, and pigs (the latter supposedly to control rattlesnakes!), the Wrigley foundation has about as good a record in preservation as the federal government. In fact, the fate of San Clemente under the U. S. Navy has been much worse; besides the effect of military activities, and the introducion of pigs, there was a catastrophic failure to control the feral goats remaining from ranches established in the 19th century. The historical discussion in the chapter on San Clemente is rather disappointing in its whitewashed account of the failure of government authorities to heed the repeated petitions of biologists to have the goats removed; nothing is mentioned about the current status of the goat herds and what progress has been made in eliminating them.

With its detailed maps, photographs, drawings, and lists, *Natural History of the Islands of California* provides a well-balanced introduction to the biota of the Alta California islands that will interest both laymen and the specialists: ornithologists will find a good background to the plant life, and botanists readable passages on seabirds and island foxes. The generous bibliography provides a useful key to the interested reader who wishes to further explore the islands and their varied inhabitants, past and present.

G. L. Webster

DIRECTORS' CORNER (CONT FROM PG 2)

Grasslands Park, which is described elsewhere in this volume. I am showing undergraduates how to use herbarium specimens to produce species descriptions. This is a win-win situation, because I need help with my own research for *Flora Mesoamericana*!

Several new herbarium-based projects are being investigated or are in the works. In March, I was invited to participate in a Nicaraguan collection expedition. The Directors of several UC Davis biological collections traveled together, collecting or surveying for birds, insects, yeast, and plants. It was a memorable field trip, and we have jointly submitted an NSF grant to do more of the same. We are also participating in a specimen computerization project spearheaded by UC Berkeley and funded by the California Digital Library. With $10,000 from that venture, we will be able to increase the amount of collection information that we have on-line.

For those of you who have access to it, check out the summer issue of *UC Davis Magazine*. It contains an excellent article on the Herbarium, written by Lisa Lapin, with contributions by Les Gottlieb, Michael Barbour, Joe Ditomaso, and Jason Bradford. A big thanks are due to everyone, especially Lisa, who contributed to that project.

E. Dean