



CROSSOSOMA

SOUTHERN CALIFORNIA BOTANISTS

January, 1979

Rancho Santa Ana Botanic Garden, Claremont, CA 91711

VOL 5 No. 1

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SCB MEMBERSHIP DUES

We have had a fairly good response to our first dues announcement, but many still have not renewed their memberships. If you are one of these, please use the enclosed renewal slip (p. 6).

We hope no one felt that his rights to secret ballot were abrogated by the appearance of the first renewal form on the back of the ballot. We did not consider this a matter of great importance, since several people listed on the ballot had to tally the election results anyway.

CALENDAR

12 February, Monday, 10 AM-12 Noon. Tour of the UCLA Botanic Garden with Dave Verity.

This tour will not include the Japanese Garden, because it is not open on Mondays. Parking at UCLA is sometimes a problem, so the best thing to do is to go to one of the pay-parking lots. We will meet at the Botanic Garden entrance at 10 AM.

17 February, Saturday, 10 AM-12 Noon. Tour of the UCLA Japanese Garden, with student volunteer guide.

We will meet at the Hilgard and Sunset parking lot and shuttle from there, because parking at the Garden is limited to three cars.

24 February, Saturday, 9:30 AM. Seventh Annual Fungus Foray. San Dimas and Marshall Canyon areas.

Take Foothill Freeway (210) to San Dimas Ave. exit in San Dimas; go north on San Dimas Ave. 0.4 mi to Foothill Blvd., then east on Foothill Blvd. 0.5 mi to San Dimas Canyon Rd., then north to San Dimas Canyon Rd. 0.1 mi to San Dimas Canyon Park. Park near the west end of the Park and assemble at the edge of the parking lot. Orientation is at 9:30 AM. Maps to suggested collecting areas in both canyons will be distributed. (Map 2.)

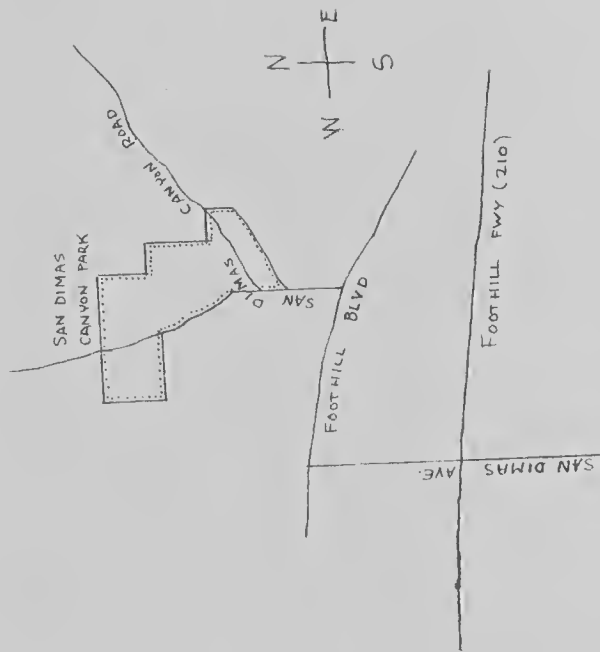
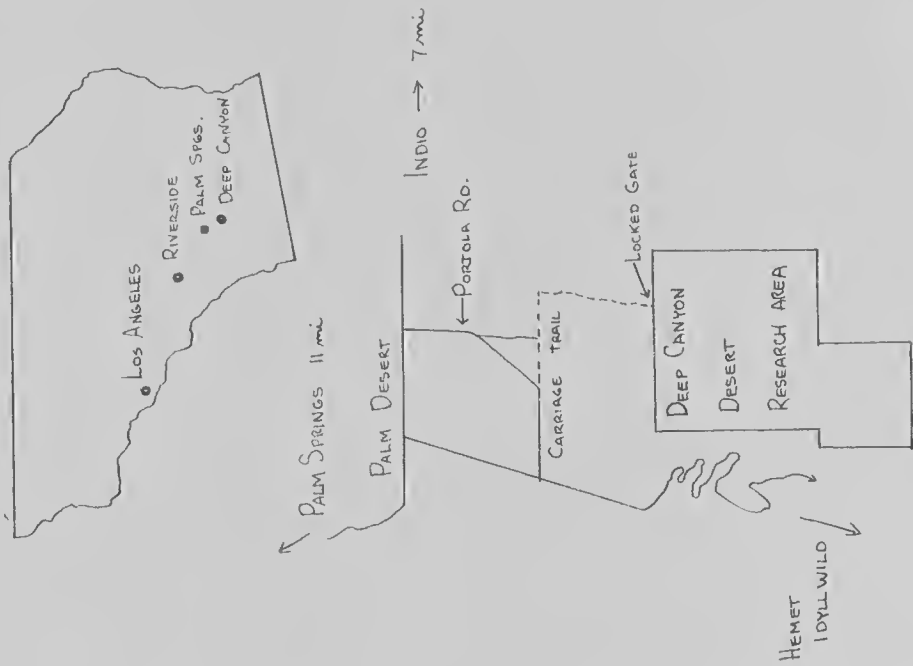
Review. Reassemble at 1 PM at the orientation site (San Dimas Canyon Park) to display and review specimens. Experienced mycologists will be present to assist participants.

Beginners bring collecting sack or basket, waxed paper, digging tool, knife, and fungus keys (if you have any).

Leader: Dr. Martin Stoner, Cal Poly, Pomona.
(714) 598-4462 or 598-4479.

10 March, Saturday. Deep Canyon. With Jan Fabriskie.

The University of California has established the 15,000 acre Deep Canyon Desert Research Area at the western edge of the Colorado Desert. The area is located at the base of the Santa Rosa-San Jacinto Mts., ca. 75 miles from Riverside and 2-1/2 hours from Los Angeles. The purpose of the center has been to



provide wild land on which biologists can make long-term studies of the native desert biota.

To reach the area go south (from Highway 111) on Portola Rd. Somewhere along this road there is, or used to be, a sign saying "dead end road." You may ignore this. Continue south. The turn-off to Deep Canyon is the first one to the left, just as Portola Rd. bends. The gate here is unlocked. Continue on and follow the signs to the locked gate at the research area boundary, where we will meet. Car pools will probably be necessary from here, because parking at the station is limited. (Map 1.)

People who want to camp overnight must call Dave Michener at Rancho Santa Ana Botanic Garden, (714) 626-3922, to make arrangements. Bring water and lunch. Jan Zabriskie says March 10 should be near the peak of the season.

31 March, Saturday. SCB Plant Sale.

The cold weather has bumped off many of our plants. "Chance seedling" that are usually available for potting from the RSA grounds (for instance of Acalypha and Beloperone) were badly frosted. A large group of South African pelargoniums that Walter Wisura was holding for us were killed. And no Arctostaphylos or Ceanothus is available from RSA. So we need contributions desperately. This is not to say there will be nothing, just that we suspect the variety will be less. Apparently it's been a hard season for everyone, but the Theodore Payne Foundation has a good stock still, and we will be able to offer many things that otherwise would be unavailable.

7 April, Saturday. Kearney Mesa Vernal Pools.

Leader: Tom Oberbauer.

10 April, Tuesday. Kearney Mesa.

Leader: Michell Beauchamp.

12 April, Thursday. Kearney Mesa.

Leader: Helen Chamlee.

We have arranged through Mitch Beauchamp for three separate vernal pool trips to the interesting Kearney Mesa area, site of the increasingly rare

Pogogyne abramsii. The mesa is at the Miramar Naval Station. We will meet on each trip under the checkered water tower at 10 AM on Kearney Villa Rd., 3/4 mi north of Clairemont Mesa Blvd., east side of Highway 163. Each tour will last from 10 AM to 12 Noon.

13-15 April, Friday-Sunday. Baja California--San Quentin.

For details call Walt Wright (714) 529-4134 between 9 AM and 12 Noon.

21-22 April, Saturday-Sunday. Annual excursion to Catalina Island.

For details call Walt Wright (number given above). We will need to know at least 30 days in advance if you plan to come along on this trip. Final date for payment will be two weeks before departure.

11-12 May, Friday-Saturday. Southern California Academy of Sciences meetings. California State University, Northridge.

Featuring a symposium on "Rancho La Brea and the Pleistocene in Southern California" and a special section on marine mammals. For more information write:

Southern California Academy of Sciences
900 Exposition Blvd.
Los Angeles, CA 90007

or call (213) 744-3384.

ELECTION RESULTS

The election results are as follows: President--C. Davidson; Vice-President--Marvin Chesebro; Treasurer--Patty Rogers; Recording Secretary--Bonnie Rich; Corresponding Secretary--Jeanine Derby; Directors--Walter Wisura, Michell Beauchamp, Bruce Tucker, Robert Thorne.

NEW BOARD MEMBERS

Michell Beauchamp, a well-known Southern California botanist, is a San Diego native now living with his wife and 2-1/2 year old daughter in National City,

1979 MEMBERSHIP RENEWAL FORM
SOUTHERN CALIFORNIA BOTANISTS

Membership in *SOUTHERN CALIFORNIA BOTANISTS* is for the calendar year (January to January). Please take the time to renew your membership using this form. Make checks payable to: *SOUTHERN CALIFORNIA BOTANISTS* and mail to:

*Southern California Botanists
1500 North College Avenue
Claremont, CA 91711*

- | | | |
|---|----------------------------------|---------|
| <input type="checkbox"/> Student | <input type="checkbox"/> Retired | \$4.00 |
| <input type="checkbox"/> Individual or Family | | \$5.00 |
| <input type="checkbox"/> Group (business, school, etc.) | | \$10.00 |

Enclosed please find \$ _____.

NAME _____

ADDRESS _____

CITY _____ ZIP _____

PHONE _____ DATE _____

where he is principal consultant at Pacific Southwest Biological Services. He received his MS degree from San Diego State and was a post-graduate student at the New York Botanical Garden. He has travelled in SE Asia, Malaysia, and Hong Kong, where he made a large plant collection. In his spare time he is also bulletin editor for the California Native Plant Society.

Bonnie Rich received her BA and MA degrees in botany at UCLA and was working on pollination biology of Lupinus with Dr. Frank Almeda. She is currently a research associate in the herbarium at UCLA. She is co-author (with Jeanette Coyle) of *Common and Interesting Plants of Baja California* (Natural History Publishing Co.) and is working on a book with Norman Roberts on the plants of San Diego County. She belongs to the folk dance group Jazna Planina, plays mandolin, flute, and Bulgarian flute (kaval).

Walter Wisura is Plant Propagator at Rancho Santa Ana Botanic Garden. Born in Czechoslovakia and educated in Germany, Walter has travelled throughout Europe and Scandinavia, has lived in Iceland, and prior to coming to Rancho Santa Ana, worked at the botanic garden at Kirstenbosch, South Africa. Both Kirstenbosch and RSA are devoted to the native floras of their respective countries (or states). He is especially interested in field collecting and can often be identified by his odd habit of placing fresh Penstemon cuttings in an ice cooler, where beer and other important things are usually kept.

EDITORIAL PAGE

Have you received any of those fancy corporation brochures proclaiming concern for environmental protection? I have seen a few, including a beauty from Exxon, full of color photographs of wildflowers, dense forests, majestic panoramas, rugged Alaskan mountainscapes--all the things that make American wilderness and parklands beautiful places to visit. I am impressed by the Exxon brochure, though, of course, one must expect a certain amount of self-serving publicity from the natural resource industries. For instance, Exxon's Highland Uranium operation voices great pride in its restoration of the Wyoming steppe. Not only is the rolling contour of the land returned to hide the ugly scars of open pit mining, but so are the hills seeded to grassland, grassland that is eight times more productive in fodder than the natural range. And naturally this enhances the herds of antelope, the

rabbits, the gophers, hawks and coyotes...and so on. Building up unnaturally high populations of native animals by seeding non-native grasses is not what ecology is all about; but at least something is being done to repair the earth, and we should be grateful for small favors.

American industry is in a difficult position. If a corporation does not grow, it stagnates. Corporate officers have a legal responsibility to shareholders (you and me). They also have a societal responsibility to avoid environmental degradation and pollution. We all realize that balancing the two philosophies is not easy and is becoming more difficult.

Rational policy is not achieved more easily through blind rhetoric and pompous speechmaking, nor by loud crowing of environmentalist victories. Too often we end up in non-productive confrontations between corporate spokesmen and environmental agencies and a noxious misunderstanding arises. The picture given is often one of sharp lines: on the one side, the gallant champions of the virgin forest armed with writs and subpoenas and a vast array of rare species; while on the opposing side may be a legion of little men and big machines hacking and chopping at the green hell of nature. The cumbersome term "environmentalist" itself contributes to the misunderstanding by masking the identity of the real victors--who are all of us--at least those who depend on the earth for survival.

Occasionally, only occasionally, I'm sure, a few irresponsible or exaggerated predictions are quoted in the papers. For instance, Don-Lee M. Davidson (utterly no relation to the editor of this modest letter), President of the National Forest Products Association, responded to President Carter's plan for reorganization of federal resource agencies by claiming it would "reduce the standard of living and U.S. world economic power." When I was young, comic books were going to do this; and later on, when I was in high school, pornography was bringing about the decline of the west.

Then there is the Rare II--Rape I Theater in which the National Forest Service attempt to assess land management practices in western states wilderness areas. This has been met with near violent opposition in some regions by those who oppose the "lock-up" of any more wilderness as tantamount to communist

takeover. Using "lock-up" to mean land closed to mining, drilling, and grazing, but instead open to the public for non-motorized recreation is ironic. "We're highly concerned about jobs, community stability, and utilization of resources that, if left unmanaged, would go to waste," said Howard McDowell, head of the Inland Forest Resource Council. Renewable resources are not wasted simply because we do not use them. That is not what ecology is all about either.

We know the problems facing us. Decline of the West is no longer a joke. We have placed too heavy a burden on our fossil fuel supply as an energy source for manufacturing and transportation and as a source of raw materials in the production of chemicals and fertilizers that enable us to overproduce crops and animals year after year on soil that would otherwise grow just a fraction of what we squeeze out of it. We know the problems and dream of solutions. Somewhere out there yankee ingenuity will devise the *deus ex machina* that will save us all just like in the comic books we read years ago.

I hope so. Otherwise, future generations, if any, will find us listed in the encyclopedia right along with the Assyrians, the Hittites, and the proto-Hattians. And whoever heard of the proto-Hattians.

UCLA BOTANICAL GARDEN NAMED IN HONOR OF
DR. MILDRED MATHIAS

Dr. Mildred Mathias, Professor Emeritus of Botany and Director of the UCLA Botanical Garden from 1956 to 1974, was recently honored by having the university garden named for her. Actually she was at one of her multitude of botanical committee meetings, this time in Ft. Worth, Texas, when the announcement came from Chancellor Charles Young. Of course Mildred imagined something perfectly dreadful must have happened for Chancellor Young to be calling her, and she could not have been more surprised to hear the news. When she returned to UCLA, she asked how everyone had managed to keep it such a secret and was told it was no problem at all--since she was never there. People familiar with Dr. Mathias' incredible schedule, including tours to the Amazon and the botanic gardens of the world, will appreciate this.

Naming of the UCLA garden in honor of Dr. Mathias is a well-deserved tribute to one of Southern California's best-known botanists and long-time friend of Southern California Botanists.

SOUTHERN CALIFORNIA · BOTANISTS

Rancho Santa Ana Botanic Garden
1500 North College Avenue
Claremont, CA 91711



CROSSOSOMA

SOUTHERN CALIFORNIA BOTANISTS March, 1979
Rancho Santa Ana Botanic Garden, Claremont, CA 91711

CROSSOSOMA, vol. 5, no. 2, April 1979 *

Editor: C. Davidson

Editorial: Bruce Tucker

Contributors: Bruce Tucker, David Michener, Chris Davidson

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SCB BOARD MEETING:

The next regular meeting of SCB will be on April 19, 1979 in the main lecture room at Rancho Santa Ana Botanic Garden.

**CROSSOSOMA*, vol. 5, no. 1, January 1979 (was issued February 25, 1979)
Membership dues: \$4, \$5, \$10

EDITORIAL:

Every once in a while, an SCB function occurs without anything going wrong. This happy occasion usually results when one person (almost always a Board member) burns more than the usual amount of midnight oil. What is frustrating is that because one person is just not enough to make an entire organization work, our membership frequently gets disgusted with the work we're doing.

The newsletter you receive from time to time (hopefully six times a year) requires the herculean effort of the editor. What this has meant in the past is that he does everything himself. The difficulties are compounded because no one has volunteered to fill the position in charge of field trips (or for that matter, of the lecture series), so checking all the details, etc., etc. frequently delays *Crossosoma*.

The growth in the membership has also created problems. Dealing with the flood of renewals at the beginning of the year is time consuming. There has always been a strong push to expand the membership, but in realistic terms a small, active membership which is easily managed by a volunteer crew, is preferable to a large and unwieldy organization devouring everyone's time.

The only way that SCB can continue to operate (and improve) is for more people to volunteer their time. There are several positions which need filling: field trip and lecture series chairs are open now. Membership chair, recording secretary, president, vice president and perhaps treasurer will be opening up in the fall. There will be three or four Board positions vacant by the end of the year. Now is the time for interested botanists and amateurs alike to start attending Board meetings, volunteering time to scout out possible field trips, writing articles for *Crossosoma*, offering to give lectures, etc. so that SCB does not stagnate. I hope that many of our "Retired" members, who are frequently some of our most active members, might consider helping with the "chores"; that student members contribute some interesting articles on their current research; and that everyone in general become more active in SCB.

COMMITTEE CHAIRMEN

Book Sales	David Michener
Membership	Bruce Tucker
Publishing	Chris Davidson
Conservation	Marvin Chesebro
Plant Sale	Dick Tilforth
	Walt Wisura

SOUTHERN CALIFORNIA BOTANISTS

OFFICERS AND DIRECTORS, 1979

President	Chris Davidson LA County Museum of Natural History 900 Exposition Blvd. Los Angeles, CA 90007	213 744-3378
Vice President	Marvin Chesebro 510 West 6th St. Los Angeles, CA 90014	213 387-4971 home 213 627-4878
Treasurer	Patty Rogers 11959 Nebraska West Los Angeles, CA 90025	213 820-4149
Recording Secretary	Bonnie Rich Rancho Santa Ana Botanic Garden 1500 North College Ave. Claremont, CA 91711	714 626-3922
Corresponding Secretary	Jeanine Derby 741 Serpentine Drive Redlands, CA 92373	714 792-6946
Directors	Walter Wisura Rancho Santa Ana Botanic Garden	714 626-3922
	Robert F. Thorne Rancho Santa Ana Botanic Garden	714 626-3922
	Dick Tilforth Rancho Santa Ana Botanic Garden	714 626-3922
	Bruce Tucker Rancho Santa Ana Botanic Garden Membership, Assistant Treasurer	714 626-3922 714 626-5922 home
	David Michener Rancho Santa Ana Botanic Garden Book Sales	714 626-3922 714 626-5922 home
	Mitchel Beauchamp c/o Pacific Southwest Biological P. O. Box 985 National City, CA 92050 1843 East 16th St. National City, CA 92050	714 474-7219 714 477-9488

MEMBERSHIP CARDS:

This year all members of Southern California Botanists will receive a membership card (enclosed in this issue of *Crossosoma*). Please sign the card and fill in the appropriate membership category name (Retired, Student, Individual, Family or Organization). When purchasing books at the SCB Plant Sale on March 31, or at the Southern California Academy of Sciences meetings in May, simply show your membership card to insure receiving the 15% discount.

Many of you will notice that the mailing label has other dates stamped on it besides '79. This is because you have overpaid, or renewed more than once. I have tried to keep track of how many times you sent in checks; one family is paid up through 1981! Thanks to one and all for supporting SCB.

SCB EVENTS:

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Leader: Tom Oberbauer.

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Los Angeles, CA 90007

or call (213) 744-3384.

A prize of \$50 is awarded by SCB for the best paper in the Botany Section.

BOOK COUPON:

Agaves of Baja California by H. S. Gentry

A fine monograph by one of Americas well-respected taxonomists. Paperback, printed by the California Academy of Sciences.

\$8.00	list
<u>2.00</u>	-25%
\$6.00	
<u>.36</u>	tax
\$6.36	
<u>.64</u>	postage & shipping
\$7.00	

Mail orders to:

SCB Booksales
 RSA Botanic Garden
 1500 North College
 Claremont, CA 91711

Please send _____ copy(ies) of *Agaves of Baja California*. Enclosed is \$ _____ (\$7.00/copy).

Ship to: _____

CATALINA ISLAND FIELD TRIP UPDATE:

We will leave for Avalon from the Long Beach Terminal at 7:30 AM, Friday, April 20. Camping will be at Empire Landing both Friday and Saturday nights. Facilities include cabins, hot showers, wood stoves, and beach barbeques. Bring your own food and cooking utensils and all your own personal gear. Coast Guard regulations forbid transport of combustible fuels by passengers, so do not bring Coleman stoves or lanterns. Water is available.

On Sunday we will go to the southern part of the island and visit the Renton Mine area, a region of closed canopy forest with *Cercocarpus* and *Crossosoma*.

The number of people is limited to ca. 25 so make reservations early by sending a check for \$15.00 to Walt Wright, payable either to Walt or to SCB.

We will return on the 4:00 PM boat from Avalon on Sunday and will arrive in Long Beach around 5:30 or 6:00 PM.

OPEN LETTER TO SCB MEMBERS:

The previous issue of *Crossosoma* (January 1979) contained an enclosure from a private business. While we in no way comment upon the merit of this firm's activities, we feel it is important to state that the Board of Directors of SCB never approved such an enclosure to be carried by *Crossosoma*. There appears to have been considerable misrepresentation of the nature of this announcement. We deplore this misunderstanding and will endeavor to prevent similar mistakes in the future.

Our apologies to Dr. Martin Stoner for the delay in announcing his fungus foray, which is deeply regretted.

Bruce Tucker
Robert F. Thorne
Bonnie M. Rich
David C. Michener



ERRATA IN *CROSSOSOMA*, JANUARY 1979:

Page 2: The field trips scheduled for February 12 and 17 were cancelled.

Pages 4 and 5: Mitchel Beauchamp not Michell Beauchamp.

Page 7: Norman Roberts not Bonnie Rich, is coauthor (with Jeanette Coyle) of *Common and Interesting Plants of Baja California*. All, however, are preparing the *Common and Interesting Plants of San Diego Co.* for Natural History Publishing Co. of La Jolla, CA.

Crossosoma vol. 5(1) was issued January 1979; no. 1 was issued February 23, 1979.

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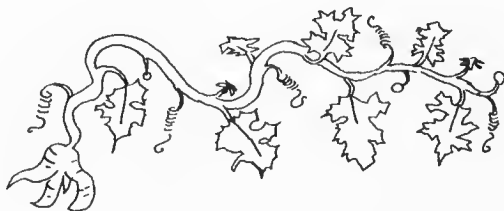
Crossosoma Vol. 5, No. 3 15 May 1979

Editor: C. Davidson

Asst. Editor: M. Chesebro

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The next SCB Board Meeting will be on May 17, 1979 in the large lecture room at Rancho Santa Ana Botanic Garden. Interested members are invited to attend. Henceforth all SCB meetings will be on the third Thursday of the month.

Field Trips

Members who want to go on the following field trips must send a stamped, self-addressed envelope to Walt Wright (326 Redwood Ave., Brea, CA 92621). He will be glad to send more information to you. Please do not call on the telephone! Walt has been inundated with phone calls.

2-3 June. *Coso Mountains*. This is your chance to see the Coso Mtn. pictographs and rock art. The area has become very restricted in the past two years and only a few groups are allowed in. The number of cars is limited, so be sure to write to Walt early if you are interested.

16-17 June. *Greenhorn Mtns.*

23 June. *Mt. Pinos (Pine Mountain)*. The spring flora should be at its peak in many areas, and we may see a few condors.

SCB Field Trips

21-22 July. *Southern Sierra*. Dave Mitchener will lead an SCB trip to the southern Sierra on this weekend, but the exact locality has not been chosen yet. For details call Dave or watch for announcement in the next *Crossosoma*. This will not be a backpack trip, but will involve only day hiking.

10-12 August (13th optional). *Telescope Peak*. Our last trip to Telescope Peak was not too well attended, so here's a second chance to study the natural history of the tallest of our desert mountains. Alan Romspert, who worked in the Panamint Range for 6 years, will be the trip leader. He has prepared a 16-page species list for the Panamints, which will be made available to those who want one.

We will meet at Thorndike Camp in Wild Rose Canyon on Friday night. On Saturday we will make the 7-mile hike to the peak. There is an optional hike to Eagle Spring, the highest spring in the Panamint Range, at 10000 ft. Both bristlecone and limber pines are in the vicinity.

September (date undetermined). Charleston Mountains. Last year's trip didn't work out too well, so we've decided to give it another try. Charleston Peak is an extremely interesting place and a flora is available, done by Ira Clokey.

The Los Angeles State and County Arboretum (LASCA)

A surprising number of people I talk to have never heard of LASCA, one of the finest arboreta in the world, and that's no exaggeration. I've seen botanic gardens from Singapore to Santa Barbara, and I must say that to miss this one is to miss one of Los Angeles' great attractive features. Of course no one who reads *Crossosoma* falls into the above-mentioned category, so I shall simply mention that from now till June and even later will be optimum times to see the Arboretum. Most plantings are organized by continent, with a large number of representative specimens from Europe, South Africa, Australia, China and Japan, and a few tropical localities. Taxonomy students can study great numbers of families and genera otherwise available to them only in dry textbooks, and botanical photographers can add many new families to their slide collections. (Open 8 AM to 5 PM daily except Monday.)

The Huntington Botanical Garden

The above hyperbole notwithstanding, the Huntington Garden is scarcely ready to be outdone by LASCA. Earlier this year Fred Boutin took a small number of SCB members on a much appreciated tour. Situated on Henry Huntington's estate and associated with an equally famous library and art gallery, the Huntington garden attracts masses of Los Angeles' foreign visitors--as you know, if you've been there, it's possible to walk through the magnificent cactus and succulent collection without hearing a word of English.

Students will find an opportunity here to study many families and genera not found at LASCA in addition to the fine palm collection and the cacti.

Rancho Santa Ana Botanic Garden

Known familiarly as "The Rancho" or simply as RSA, this is one of the few botanical gardens in the world devoted solely to the native flora. (Another is the Santa Barbara Botanical Garden.) May and early June are particularly good times to see RSA, though the early bloomers are best seen in April. The garden is located on the top of Indian Hill Mesa, along with a home demonstration garden and the administration buildings. At the foot of the mesa towards the north are about 80 acres of native plant communities in which all or as many as possible plants found in a given plant community (e.g., island chaparral, redwood forest, etc.) are grown together.

On week days guided tours are available for school groups with reservations.

--C.D.

Travel Opportunities

The Sierra Club Outing Catalogue

The Sierra Club Outing Catalogue for 1979 is available from the following address:

Sierra Club Outing Department
530 Bush Street
San Francisco, CA 94108

There appear to be some unusually fine trips planned, both domestic and foreign. Prices range from a low of \$50-60 for service trips (trail maintenance and clean up) to \$2635 for 28 days in Indonesia.

Earthwatch

Travel opportunities of a different sort are offered by Earthwatch expeditions. These are designed by researchers so that the participants who furnish the monetary support of the expedition are able to participate in the research projects they are supporting. The 1979 catalogue of expeditions is available from Earthwatch, 10 Juniper Road, Box 127, Belmont, MA 02178.

The trip that Natural History Museum entomologist Julian Donahue and I made to Costa Rica last year was successful beyond our wildest dreams. We were joined in San Jose by an intelligent and enthusiastic team of six (mostly high school students) who helped us collect over 1300 plant specimens and 30,000 insects in just two weeks. With Earthwatch assistance we will be returning again this fall.

--C.D.

Outdoor Discovery

Akin to the above but certainly much less expensive is Outdoor Discovery. Outdoor Discovery is a group of credentialed teachers, biologists, mountaineers and outdoor enthusiasts who have the common goal of sharing their knowledge and love of the wilderness with others. Every member of the staff is an expert in his field of interest and at the same time is a qualified and energetic group leader. The group was incorporated as a non-profit educational organization in 1978 and grew out of an eight-year old organization called Sierra Guides.

Their purpose is to promote wilderness preservation through education. Their objectives are to expand learning through education in outdoor environments, and to reach people to appreciate and understand the natural world. A further objective is to create a safe yet challenging environment in which participants will feel free to explore their potentials.

Current activities--The staff at Outdoor Discovery is arranging all types of educational field trips. Not only do these encompass many different areas such as deserts and mountains, but also they focus on different aspects of the outdoor experience: botany, ecology, zoology, geology, and practical outdoor knowledge. Instructors have researched field trip sites and know about the important features of each area.

Basic cost for each course is \$18 per day, which covers all meals, group gear, educational materials (plant lists, reprints, etc.) and instructor. There may be an additional fee in some cases for courses with special guest instructors. The \$18 must be paid at least two weeks before the start of the course.

Briefly, the course for 1979 are as follows: Edible Plants Workshop, 17-19 May; Backpacking in Yosemite, 16-20 June; Hawaii: Exploring the Wilderness of Maui and Kauai, 19-29 June; Wilderness Wanderings, High Sierra, 21-30 June; Introduction to Botany and Wildflowers, Hockett Plateau, 7-12 July; Backpacking in Kings Canyon National Park, 15-21 July; Women and Wilderness, Sequoia National Park, 16-22 July; Rock Creek Plant Ecology, High Sierra, 29 July-4 August; Geology Field Study in the Klamath Range, 5-11 August; Mountain Cookery, 11-14 August; August Backpack, High Sierra, 12-18 August; High Sierra Cross Country Backpacking, 19-28 August; Nature Photography with Marion Patterson, Yosemite National Park, 26 August-1 September; The Volcanic Geology of Mt. Lassen National Park, 6-11 September; Yoga and Meditation, Sierra Nevada, 10-14 September.

Members wishing more information on these very worthwhile courses should write to:

Outdoor Discovery
P. O. Box 356
Menlo Park, CA 94025

--C.D.

International Aroid Society, Southern California Chapter

We have received a communication from the Southern California Chapter of the International Aroid Society including their by-laws and an announcement of a \$3.00 charge for local dues.

SCB members with an interest in Araceae, philodendrons, anthuriums, etc., should write to Mr. Bill Virden, President, 14336 Poway Rd., Poway, CA 92064, for more information. Dues for the national chapter are \$10.00, and most of the local meetings appear to be in the San Diego area.

--C.D.

Tips for Home Gardeners

C. Davidson, Natural History Museum

Reader Lawrence Nielson has forwarded to me a few pages of an introductory book on organic gardening that explains the bio-dynamic/French intensive method of cultivation. To be honest I had never heard of this technique, so I read on in Mr. Nielson's enclosure to see what wisdom might be hidden in these large contemporary words. As it turns out they simply mean that optimum soil texture for root growth and natural fertilizer for nutrients can increase the yield per acre by allowing the crafty gardener to plant things closer together. Somewhere along the way to the 21st Century, a few people forgot these simple techniques.

Those of us with some gardening experience have had considerable time while planting, watering, and weeding to ponder how remarkable it is that anyone would not be able to grow a plant in the first place. A woman acquaintance of my father's once approached him for advice, for he was known far and wide as the person to go to with green-thumb questions or black-thumb problems. It seems she wanted to know if her tulip bulbs were correctly placed before she proceeded any farther. They were all carefully placed in the ground upside down.

I saw this happen. And in the intervening years I've heard a number of almost identical stories: apparently this is a very common thing, to plant bulbs upside down. Well, you have to start somewhere.

The garden I work in is in Idaho, at an elevation of just above 5000 ft., where the winters are long and snowy and the plants can benefit fully from a long, undisturbed rest. All the soil is hand-made and replaces the natural glacial clay and rocks.

Long beds were dug out to a depth of 3 ft., and filled with a mixture of 1/3 topsoil, 1/3 cow or sheep manure, and 1/3 compost, along with a few choice mudsuckers or squawfish for good measure and when available. This last bit of "Indian" wisdom I have read was actually first practiced by the English. It can have its drawbacks, if one lives in an area with too many dogs, as they will dig the garden back up.

We have achieved great success in growing truly remarkable Iris, lilies (including native species from other parts of the world), oriental poppies, and peonies. Species from distant places such as *Meconopsis hetonicifolia* (blue poppy of Tibet), and *Thalictrum rochebrunianum* from Japan also thrive. The *Mecconopsis*, usually described in English catalogues as an annual or short-lived perennial, lived over 12 years, reached a height of 3 ft. and is now reincarnated as a ring of offshoots that no doubt some way will equal their former glory.

The point of all this is that the methods described in the book Mr. Nielson has recommended, *How to Grow More Vegetables* by John Jeavons, work equally well for ornamental plants and are not hard to learn. The amount of work will vary with space available and the industry of the gardener, of course. So those who always wanted to return to the earth and have a fine garden, but were in a quandary about where to begin might consider ordering the above book from Ecology Action of the Midpeninsula, 2225 El Camino Real, Palo Alto, CA 94306. No price is given, but I'm sure they will welcome inquiries.

Horticultural Notes from All Over

Dick Tilforth, Rancho Santa Ana Botanic Garden

Do you know what a horticulturist is and what he does? This explanation comes courtesy of *Kinnikinnick*, the publication of the Devonian Botanic Garden.

People who are just setting out on a lifetime of gardening for fun or profit will often meet many unusual persons along the way. Among these are horticulturists, a strange breed with green thumbs, dirty hands, glazed eyes and a distressing lack of concern for trivial things like money. A beginner will often ask "How do I distinguish a horticulturist from a botanists?" Good question. This cannot be done simply by looking at the specimen. Instead one should seat the object of inquiry in front of a plant. If the specimen begins to dissect it, mutters about the xylem connected to the phloem...it is a botanist. If on the

other hand, various colored solutions are brought out and watered into the plant, or cuttings surreptitiously taken when no one is looking, then it is a horticulturist. A good rule of thumb is that botanists cut 'em up while horticulturists pot 'em up.

There are many horticulturists, some of whom actually perform useful services. The plant breeder for example. On the face of it, plant breeding might be considered a fairly safe occupation but it does have hidden dangers. One poor soul tried to cross *Ulmus* (Elm) with *Acer* (Maple) but ended up the Ulcers.

A Wild Goose Chase on Santa Catalina Island

Walter Wisura, Rancho Santa Ana Botanic Garden

At the north end of the sand dunes at Rancho Santa Ana Botanic Garden grows a dark blue *Ceanothus arboreus*. When it is covered with a lacework of countless sweetly-scented flowers in the spring, it is a lovely sight. Elsewhere in the garden are other specimens in "less desirable" hues, appearing to be washed out or faded somewhere between baby blue and white. For reasons that remain to be explained people desire shrubs and other plants with flower colors as close to black as possible, so one sunny morning Dick Tilforth and I set out for Catalina Island to hunt for more of this elusive dark blue *Ceanothus*.

After outliving two successive freeway traffic snarls, we arrived at the Long Beach boat landing with five minutes to spare. The crossing was rewarded by the appearance of spouting gray whales on their way north.

Mark Hoefs of the Wrigley Memorial Garden on Catalina met us at the Avalon Harbor and drove us to Empire Landing. Along the way were many plants of *C. arboreus*, but of course they were not dark enough to please us. Buffalo grazed among the *Quercus dumosa*, and pale *Dodecatheon clevelandii* ssp *insulare*, island shooting star, was in bloom.

At Empire Landing we were received by Mark's parents and soon we set out to explore the island more thoroughly. On the grassy slopes nearby were numbers of *Crossosoma californica* in bloom, the toyons still had lots of red berries hanging on, and scattered individuals of *Lupinus truncatus* flowered in the grass. High above the rocky shores of the west side we saw *Encelia californica*, and in some valleys were beautiful stands of *Prunus lyonii*. On grassy slopes toward the north end of the island were

swarms of *Astragalus trichopodus* ssp *leucopsis* displaying their cream-colored inflorescences. On lonely beaches beautiful dark purplish *Abronia maritima* and light purplish pink *A. umbellata* were lending color to the early season. On the rock outcrops groups of *Dudleya virens* were just developing inflorescences.

On the next day, renewing our search, we roamed through more of the chaparral-covered hills around Avalon. On rocky ledges we found *Dudleya hassei* and *Phacelia cicutaria* var *hispidata*, while higher on the hills we saw flowering *Ribes viburnifolium*; and in some cooler gullies lurk large numbers of *Adiantum jordanii* and *Pityrogramma triangularis*. We investigated a number of stands of *Ceanothus arboreus* each day, but regretablely found none that lived up to our color expectations. So the introduction of a new, darker shade of this island endemic will have to wait for another day.

Preservation of the Santa Monica Mountains'

The office of Congressman Anthony Beilenson has kindly forwarded on to me some interesting literature concerning the congressman's efforts to have the Santa Monica Mountains set aside as a national recreation area.

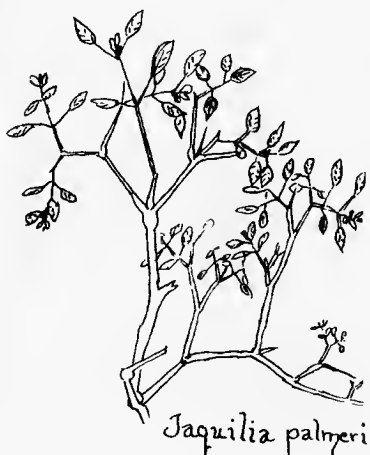
In the text of the law creating the national recreation area appears the interesting neologism "airshed." This is perhaps not the first time this word has been used, but it is the first time I have seen it; and in its own subtle way it signifies a realization that mountains are essential for something else beside being a place to build new houses. SCB members interested in learning more about the Santa Monica Mts. and the various efforts being made to preserve them should write to:

Congressman Anthony C. Beilenson
11000 Wilshire Blvd.
Los Angeles, CA 90024

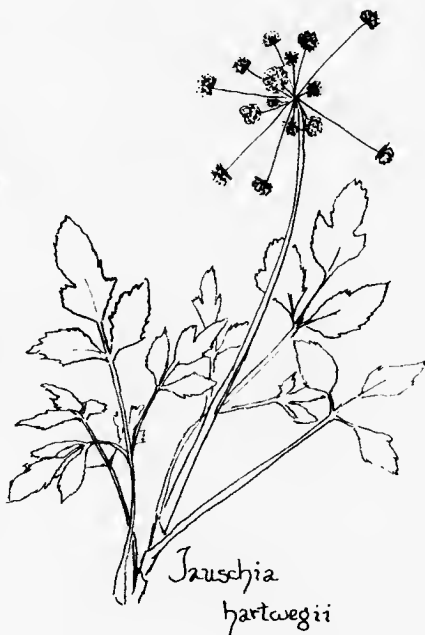
Travel and Lectures of Aventura

It is regrettable that an explanation was not included with the above brochure mailed with the January 1979 *Crossosoma*. The activities are being arranged by Pamela Axelson under the auspices of the Santa Monica Chapter of the National Audubon Society. We are advised that any profit will go to the Natural History Institute of Ecuador. It was believed that our members would like to know of these opportunities, including extension division credits offered by the University of California at Riverside. W. Walton Wright will lead a Galapagos tour and a botanical tour in Ecuador.

Marvin Chesebro



Jaquilia palmeri



*Jauschia
hartwegii*

SOUTHERN CALIFORNIA BOTANISTS

Rancho Santa Ana Botanic Garden
1500 North College Avenue
Claremont, CA 91711



CROSSOSOMA

Between May 20 and June 18, 1978, a delegation of American botanists from the Botanical Society of America toured the People's Republic of China at the invitation of the Chinese Science and Technology Association. A reciprocal visit by a group of our distinguished botanical colleagues from the People's Republic was scheduled for early summer, 1979; and on May 20, I was delighted to receive a telephone call from the biology department at UCLA asking me to assist with the arrangements on the Southern California leg of their one-month stay in the United States. All the logistics of the visit were planned by Dr. William Schoepf, Professor of Paleobotany at UCLA and were coordinated through Dr. Dan Walker, Assistant Professor of Biology. The host was Dr. Harry Thompson, the head of the Biology Department.

The original group of Chinese consisted of ten members, including Trip Leader Dr. Tang Pei-sung, who did not come to Los Angeles, and two deputy trip leaders, Yin Hung-chang and Wu Cheng-yi. All spoke relatively good English, much better than the average American's Chinese, though an interpreter Mr. Chiu Bing-chin, accompanied the delegation (the youngest member at 35); and Mr. Su Feng-lin from the Chinese Foreign Affairs Bureau came along for good measure.

Our first contact was at a day-long "open house" and reception at UCLA on May 25, in which department members arrived at various times to meet and chat with the delegation. We had an excellent lunch prepared pot-luck by faculty wives and students and then saw a short movie on *Asolla* culture techniques in place of a seminar "Fifty years of plant biology in China" that Dr. Tang was to have given.

At 6:00 PM a vast group of local botanists gathered in the banquet room of Ho's Chinese Restaurant for dinner and excessive toasts to fossils, algae, ferns, higher plants, lower plants, physiology, and our host, Dr. Thompson.

On the 21st we drove the delegation to Rancho Santa Ana Botanic Garden in Claremont for a visit to a garden featuring only California native plants. These were in fact among the only native plants seen by the group during its visit, and most deferred a tour of the RSA buildings and facilities to see some actual California species. This was modestly annoying to some faculty members who had planned to distribute loads of reprints and to give a full account of the fine herbarium and laboratories. (However polite they might have remained at their earlier stops, in New York, Miami, St. Louis, Boston, etc., the delegation

finally decided they had seen enough buildings, laboratories and classrooms; now they wanted to see some of the outdoors.) This is what Bill Schoepf felt they would rather do when he organized the trip to RSA and then into the desert.

One member who did not come with us to RSA was Dr. Yin, who spent the two days we were gone visiting Dr. John Bonner at Cal Tech, where he had been a student during the 1930's. He met us later at the airport.

Dr. Yu, Deputy Director of the Botany Institute of Academia Sinica and Vice President and Secretary of the Botanical Society of China, asked John Dourly, Superintendent of the Grounds at RSA, if he might look at the plant introduction records and see the system that was used to keep track of things. This was one of his particular interests. During the ensuing discussions, they kept looking at each other and wondering such things as "Is it?" and "Can it be?" and finally Yu looked over and said, "John, is that you?" Well, yes, it was John, the same John and the same Yu Te-sun who knew each other in Scotland 30 years ago. The tearful reunion was a complete surprise to both.

We had a quick lunch and then drove directly to our motel in 29 Palms. Bill Schoepf and Dan Walker had CB radios in their cars, so they could keep in touch. I drove the middle car. On the way my Chinese colleagues kept up non-stop chatter that I would have given anything to understand. What features of the drive were impressing them? What did they think of the endless cars, Winnebagos, motels, and houses through the San Gabriel Valley? They did not share too many personal thoughts with us, but I was asked how much my camera cost; and Dr. Li, Research Associate from the Nanking Institute of Geology and Paleontology, commented on the number of small private airplanes overhead.

Late in the afternoon we arrived at the 29 Palms Inn, a series of private adobe duplexes, off the main road and virtually surrounded by virgin creosote bush scrub. I had promised Dr. Wu I would go off prowling with him in the desert to see if anything was still flowering, but before I had even moved my modest overnight supplies into the room, he was far off in the distance. Soon he returned with that cheerful Chinese smile that I find so infectious and a clutch of wildflowers he had scrounged up, including *Olneya*, *Prosopis*, *Larrea*, *Atriplex*, and a dried up *Langloisia*.

Dr. Wu is a Chinese botanist of considerable note. Head of the Kunming Botanical Institute in Yunnan, he is in charge of 20 staff botanists, among others, who are compiling a flora of the

Province of Yunnan that will include some 20,000 species. (Volume 1 of this work has already appeared.) This is the southeasternmost province in China and includes tropical, subtropical, and temperate regions as well as some very rugged and scenic topography and steep-walled river valleys. When the political relationship between the US and China became realistic and travel between the two countries became possible, I thought that this would be the most interesting part of China to visit, if not in fact the only part I wanted to see; but I despaired of ever actually seeing it because of its bordering in the south and imagined practical difficulties. How was I ever to find out if there were even any botanists in Yunnan with whom to establish contact. Will wonders never cease? We discussed the possibility of an exchange of herbarium specimens and botanical literature, and I am no longer so pessimistic about the chances of going to China and actually getting some botanical work done.

We arrived back at the motel from our short desert excursion just in time for a magnificent dinner of arroz con pollo that the manager Jane Grunt had prepared for our group. We ate around the swimming pool and again made toasts to everything that seemed appropriate.

After dinner a fire was prepared in a large iron barbecue dish, and we gathered around it and exchanged Chinese and American songs. Mr. Su, who was reported to have a very fine voice, entertained us with a number of arias from Chinese opera and a remarkable number about the victories of Chairman Mao. Several other American motel guests joined us and their children sang some kids' songs that were a little too cute, but the Chinese appeared to appreciate the performance greatly.

The next day (Sunday) we were on a very tight schedule, with 45 minutes leeway between a 6:45 AM breakfast and a 7:00 PM flight to San Francisco. Our itinerary included five stops in Joshua Tree National Monument and a trip up the aerial tramway up Mt. San Jacinto.

I had initially some reservations about how much would still be in flower, but the higher elevations in the monument were at the peak of season. Dr. Wu was delighted, obviously. He and I were always out bounding through the vegetation at each stop, causing Bill considerable consternation, since he was determined to keep the caravan on schedule. Along the way we saw three species of *Yucca* (*Y. schidigera*, *Y. brevifolia*, and *Y. whipplei*), *Fouquieria*, *Lyctum cooperi*, *Salazaria*, *Hymenoclea*, *Peucephyllum*, and a quantity of desert ephemerals like *Anisocoma acaulis*,

Eschscholtzia, and *Mentzelia*. These are all common desert genera to us, but for Dr. Wu and the others they were all "Plantas raras vel minus cognitae." Cameras clicked ceaselessly and voluminous notes were scribbled down in Chinese as well as in English. My slides show Dr. Wu crouched down examining a grey shrub, Dr. Fan and Mr. Chiu posed on a large rock with a grovelet of Joshua trees lurking in the background, Dr. Sheng dissecting an *Eriophyllum* flower, Bill with an array of 3-D topo maps explaining the panorama at Keys View scenic overlook (5185 ft. elev.), Dr. Yu writing notes on everything. One surprisingly interesting stop was the great formidable forest of *Opuntia bigelovii* at a place called Cholla Cactus Garden, in which we had about 4 minutes to wander about.

Our picnic lunch at Cottonwood Springs was pleasant, though windy, and I was excited to be able to show anyone interested the very rare and localized *Tetracoccus hallii* that was abundant around our picnic tables. Drs. Wu and Yu completely ignored it, unfortunately, and darted off across the way to see a few lithe specimens of *Stanleya pinnata*. I will have to admit, too, *Stanleya* really is more interesting than *Tetracoccus*. Dr. Yu, whose specialty is Rosaceae, was perplexed by a shrub of *Prunus fasciculata*, which he did not immediately recognize as a *Prunus*. That is understandable, I think.

I had heard once the noxious, disconcerting rumor that the Chinese did not drink beer and thus had a misgiving or two before we began this trip. I have never gone into the desert without a copious supply of Budweiser or suitable facsimile thereof. And I did not know how Bill and Dan would feel about the subject, since I had not met them. Then I heard from Dan that they do have regular beer in China but that they prefer it warm. Now, I was already firmly committed to drive a car. But warm beer? Well, Dan assured me there was no way he was going anywhere with warm beer. They could drink it any way they wanted, but ours was going to be plenty cold. And in fact no one wanted warm beer at all; and those who did not care for beer had cold Coke and 7-up.

Somehow driving to the tramway we lost time and arrived about an hour late. The ride is spectacular and lifts one through a number of desert hillside vegetation types, finally ending in mixed conifer forest with Jeffrey pine, white fir, and sugar pine. Dramatic fractures and intrusions of lighter colored minerals rampage across the darker cliff faces like lightning bolts. The shorter Chinese in the group edged closer to the windows so they would not miss anything. Cameras clicked and more volumes of notes were taken. We had only a brief 15 minutes at the top, because we were so late; perhaps we can try to stay longer next time.

We drove like mad to get back to the airport in Los Angeles in time. I nearly ran out of gas, and of course practically no gas stations were open late Sunday afternoon. Luckily Bill had an extra five-gallon gas can on his Blazer, which saved the day. We arrived barely in time for a very hasty dinner at T. J. Peppercorn's near LAX and put our friends on flight 522 just a few minutes before it left.

Though we exchanged few personal observations, our kindred interests allowed a friendship to develop, and our hope is that it will not be interrupted again. We have a great deal to learn from our bright, hard-working Chinese colleagues, and it has been too long since we have heard from them. But then good things are worth waiting for.

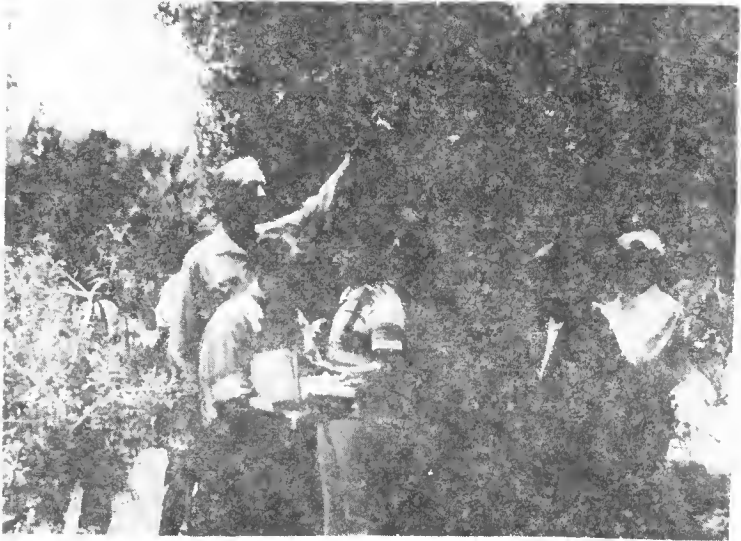
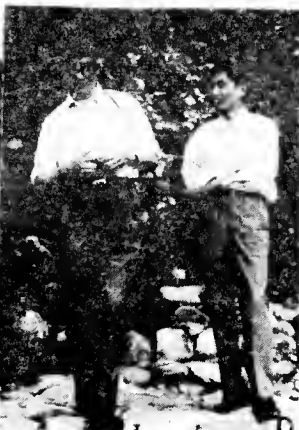


Fig. 1. At Rancho Santa Ana Botanic Garden. Left to Right: Dr. Thorne (pointing), Dr. Wu Ching-yi, Dr. William Tai, Dr. Hsu Jen, and Dr. Li Hsin-hsueh.



Fig. 2. A) Dr. Thorne and Dr. Li. B) Dr. Li and John Dourly. C) Dr. William Schoepf at Keys View. D) Dr. Fan from Shanghai and Mr. Chiu, the interpreter.



The Panamint Mountains form part of the western boundary of Death Valley. One can easily form a picture in one's mind of how the Panamint Mountains must look: broken wagon wheels half-buried in shifting sands, a few pitiful bones and skulls strewn about, helpful signs pointing to "Anywhere 500 mi." and "next water 250 mi.;" and as the name must indicate, no gold whatsoever. The geographical place names on the map do little to arrest this rampant, if not forbidding, picture: Starvation Canyon, Hungry Bill's Ranch Ruins, Shorty's grave, and so on. Looking east from Panamint Valley or west from Death Valley, the Panamint Range in person does much to confirm, in fact, the ill impression. The only relief in the desolation is snow-capped Telescope Peak (11,049 ft. elev.). But a botanist can sometimes see possibilities where others might not be able to. One must always look more closely.

Hidden far up in the rugged canyons one sees from the valley near Badwater, for instance, are cool oases and springs, cold streams and cottonwood trees, and even a respectable waterfall. One might never have guessed such delights judging only from the scattering of blue dots labelled "springs" on the auto club map.

In mid-May I went out to the Panamints with Alan Ronspert, who has been studying the flora of the range for the last six years, to look for additional species that might have been omitted from his extensive checklist. Our first camp was far up Johnson Canyon, just south of Starvation Canyon and about 20 miles southwest of Badwater. The road is strictly 4-wheel drive material and winds for 7 to 8 miles (the odometer read 9) through hot, dry creosote bush scrub and dark stones with a few zebra-tail lizards scampering about on them. The steep walls along the upper parts of the wash bear *Eucnide urens* (rock nettle) and *Pleurocoronis pluriseta* (arrow leaf); large clumps of *Penstemon fruticiformis* grow toward the margins of the rocky channel. Part of the way there is literally no road.

The lower spring in Johnson Canyon (3900 ft. elev.) is not on my auto club map. Here a three-inch pipe spouts cool water into a shallow basin of rocks cemented together and surrounded by cottonwood trees (*Populus fremontii*), arborescent willows (*Salix laevigata*), mesquite (*Prosopis glandulosa torreyana*), and wild grape (*Vitis girdiana*). A short distance up the hillside from the spring is a seepage that harbors *Carex aurea* (a sedge with tiny, golden fruits), *Eleocharis* (spike rush), and *Adiantum capillus-veneris* (maiden hair fern). Characteristic of the immediately surrounding creosote bush scrub are *Coleogyne ramosissima* (blackbush), *Eriogonum heermannii*, *Encelia virginensis* ssp. *actonii*, and *Euphorbia ineisa*. Flowers on the *Salazaria*

(bladder sage) were so dense that entire plants were vivid purple. I hiked up to a pinnacle some distance above the spring and found 30 species even though the best flowering was two weeks past. Resting occasionally on any flat piece of limestone that happened to be about, I began to compare the rugged desert canyon scenery before me with the tropical rainforest, which is to me one of the most biologically exciting areas in the world. For some, temperate botany becomes anticlimatic after a trip to the tropics; but I am relieved that this has not yet affected me, for I still find the California deserts irresistible. Perhaps it is because so many aspects of the environment are immediately discernible and identifiable: the texture of the soil, limestone or granitic sand; the slope and erosion, and the massive desert bajadas; the special relationships of the plants themselves; and then I know the names of more than half of the species. The shapes and forms of geological artistry are impressive, and the relationship between me and what I see is no longer one of a biologist responding to the challenge of nature to unravel some great mystery, but simply becomes an effort to describe my surroundings adequately. I find rapidly that I am no Joseph Wood Krutch. When I returned, Alan had the camp set up, and we survived the rest of the late afternoon with beer, rum and coke, and a good dinner.

On the 17th we walked far up Johnson Canyon to Hungry Bill's Ranch. Fed by melting snow from Sentinel and Porter Peaks and the ridge in between, the creek (presumably Johnson Cr.) has a fine flow of very cold water. Islands of aquatic vegetation occur along the way wherever the creek swells out into flat places and forms small meadows, containing, inter alia, *Eleocharis montevidensis*, *Juncus arcticus* ssp. *mexicanus*, *Equisetum hyemale*, *E. laevigatum*, *Carex nebrascensis*, *Anemopsis californica*, and *Epipactis gigantea* (stream orchis, a rather attractive orchid and not too common in the desert).

Several miles upstream the canyon widens to about 50 m. of flat, arable land that was turned into a farm in the 1880's by a group of Scandinavian immigrants who raised vegetables and packed them over the mountains to Panamint City during its heyday. This strenuous project seems to have been abandoned, and some time later an Indian named Hungry Bill lived there. Some lingering pear trees and a few specimens of *Ailanthus altissima* persist today along with Hungry Bill's "summer cabin," or wickiup and a few rusting shovels and miscellaneous scraps of iron. Running along the hillsides and around the periphery of the original farm site is a thick stone fence that probably kept animals away from the vegetables at one time. Now it is a little dilapidated. Back under the *Ailanthus* trees is a swimming hole that Alan had told me

about and that I had been looking forward to during our trudge up the canyon. Someone had dammed the stream there, but the results were outrageous, and the pool remained about five inches deep and five feet across. However, the water was bitter cold, and a deeper hole was really unnecessary.

We got back to camp about noon and had lunch. I decided not to put the morning's collections into the press so we could reach our next stop early enough to do some more collecting.

Hanaupah Canyon is just two canyons north of Johnson Canyon and has a much better road. We reached the lower end of the canyon where the road begins to get very steep, and there met Sylvia Winslow of Inyokern, a desert veteran of perhaps 70 years. She had driven up in a new Blazer and was waiting for some friends near an abandoned, desert-style dwelling, its door permanently open, its windows permanently broken. The inside walls bore the usual library of graffiti. We talked to Sylvia for a while and then drove on with her about a half mile more, where we parted and she strolled back to the dwelling. The road becomes very steep and untrustworthy not too much farther on, so we parked and decided to walk over to a beautiful waterfall that was visible from the road. This entailed a nearly vertical drop down of about 500 ft. to a dry creek bed and an equally dramatic climb to a ridge on the other side. The creek in Hanaupah Canyon branches just east (below) our point of descent, and we had to cross the dry south fork to reach the wet north fork by walking over and around the rocky ridge formed in the angle of their "confluence." The north fork cascades off a high ledge onto a lush tangle of *Vitis girdiana* at its foot. It took about 40 minutes to get there, though it is not more than 200 m from the car. We also enjoyed the cool spray. One new plant that was not on Alan's list appeared along the way, *Gilia filiformis*, a yellow-flowered species that I managed to lose before I got it into the press the next day.

We drove back to the cabin and said farewell to Sylvia, who was still waiting there, and set off for the Desert Research Center Cal State, Fullerton has leased in the Avawatz Mountains. It was after 11:00 PM when we arrived, so we had a speedy dinner and crashed, thoroughly tired.

The next day, May 18, was press-plants-of-the-17th day, a process requiring two hours of great strain, since we had unaccountably run out of beer. It was under such conditions that I lost *Gilia filiformis*, a very small plant. After the plants were all duly squashed, we drove to Baker with deliberate speed, got some beer and a little gas, and headed for Los Angeles.

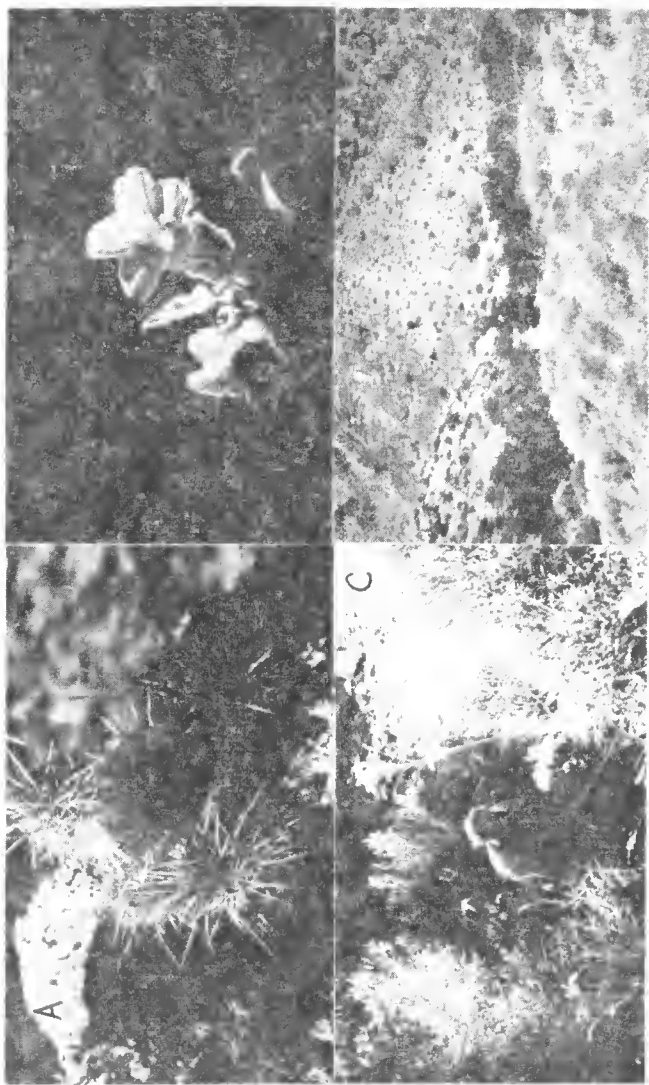


Fig. 3. A) Echinocereus engelmannii, the hedgehog cactus. B) Mirabilis foebelii, just sticking out of a shady place into the sun. C) Alan Homsperg preparing to photograph Epipactis gigantea in Johnson Canyon. D) Lower Spring, Johnson Canyon, seen from above.

SOUTHERN CALIFORNIA BOTANISTS

Rancho Santa Ana Botanic Garden
1500 North College Avenue
Claremont, CA 91711



CROSSOSOMA

CROSSOSOMA Vol. 5, No. 6.5 November, 1979
Editor: C. Davidson Associate Editor: M. Chesebro

FLORA OF THE AMAZON

Dr Mildred Mathias, Professor of Botany Emeritus at UCLA, will lecture on November 12, 1979 at 7:30 PM, at the Santa Monica Public Library. The library is located at 1343 6th St. on the corner of Santa Monica Blvd. in Santa Monica. The topic for the evening will be the "Flora of the Amazon," subject to Dr. Mathias' right of substitution.

Dr. Mathias, past-president and long-time member of Southern California Botanists, has wide experience in the New World and Old World tropics and leads regular field tours to the Amazon region each year. She lectures frequently and has always been a very popular guest speaker. If you can't go to the Amazon River right away, this is the next best thing.

Rancho Santa Ana Botanic Garden in Claremont, a Garden devoted to Native California Plants, will sponsor a plant sale on Saturday, November 3rd, from 8 a.m. until 3 p.m.

Autumn in California, when growth-stimulating rain finally penetrates the parched earth after the long Summer drought, is the best time to plant native plant materials. This Fall sale, therefore, provides an unusual opportunity to choose from a wide variety of California trees, shrubs and groundcovers which can then be planted at the optimal time.

Plant fanciers as well as the layman interested in drought-tolerant or ecologically oriented landscaping will both be interested in the selection of plants for the sale which includes ten different species of California Lilac (Ceanothus) and eighteen different varieties of Manzanita (Arctostaphylos) as well as Fremontias (Fremontadendron), Irises (Iris), and Monkey flowers (Mimulus). Along with California succulents, a selection of unusual Iceplants from South Africa will also be available.

Staff and faculty from Rancho Santa Ana Botanic Garden will be on hand throughout the day to give information and advice on these plants which have all been grown at the Garden and are known to do well in the soil and climatic conditions of Southern California.

Rancho Santa Ana Botanic Garden is located north of Foothill Blvd and east of Indian Hill Blvd. in Claremont. Visitors should take the Indian Hill exit from the San Bernadino Freeway and proceed north to Foothill Blvd., or the last exit from the Foothill Freeway and proceed east.

For more information about the sale, call (714) 626-1917 or (714) 626-3922.

Submitted by: Bonnie Busenberg, Director of Educational Services



Rancho Santa Ana Botanic Garden
1500 N. College Ave
Claremont, California 91711
(714) 626-1917

DESERT WILDLIFE TO KEY
SYMPOSIUM OCTOBER 27-28

The future of wildlife and natural areas in the California desert is theme of the two-day symposium -- sponsored by the Western Regional Office and Southern California chapters of the Audubon Society, in conjunction with the Southern California Academy of Sciences -- planned for October 27-28 in Landis Auditorium at Riverside City College

Topics will cover four areas: (1) status of rare, threatened, and endangered species; (2) studies of spatial requirements of large predators; (3) studies on impacts of various land uses; (4) newly discovered critical areas, potential new Natural Areas, and prime birding sites. All material to be presented is new and serves as update on Audubon's 1977 Desert Symposium at Lancaster.

In the first area, speakers and topics now scheduled include DR. FRED TURNED of UCLA discussing the flat-tailed horned lizard; SID ENGLAND of BLM discussing the Coachella Valley fringe-toed sand lizard; DR. MARK DIMMITT of the Arizona-Sonoran Museum with new information on the magic gecko; DR. JOE JEHL of Hubbs-Sea World with the results of a two-year study on the Inyo Towhee; DR. DAVID SOLTZ of CSU-IA on the desert pupfish. MARY DeDECKER, expert on the flora of the northern Mojave Desert, will describe management problems associated with protection of federally listed species on the Eureka Dunes and elsewhere in that region. DR. ROBERT OHMART of Arizona State University will review the history and present situation of the

Colorado River, focusing on its future outlook for bird habitats.

In the area of spatial requirements, AL HARMATA of the University of Montana will present results of his 1978 research on the foraging areas of Prairie Falcons in the western Mojave; DR. TOM O'FARRELL, formerly of the Desert Research Center at the University of Nevada, will report findings on the home range and movements of desert kit foxes; DAVID ZEZULAK of UC-Davis will report on the home range and movements of bobcats at an undisturbed site in Joshua Tree National Monument, comparing his findings with those in San Diego County and Lava Beds National Monument.

In the area of land use impacts, DR. HOWARD WILSHIRE of the U.S. Geological Survey will discuss the results of continuing studies on the effects of off-road vehicles. DR. LARRY LAPRE AND STEVE CARDIFF of UC-Riverside will summarize their study on the effects of yucca harvest on birds and vegetation in the eastern Mojave. ROBERT WEBB of Stanford will present 1978-79 findings on the effects of sheep grazing on vegetation. DR. BAYARD BRATTSTROM and MICHAEL BONDELLO of CSUF will report on effects of vehicle noise on desert vertebrates. MICHAEL WEINSTEIN of Solvang will report on his year-long study of the effects of recreation use on the avifauna in Afton Canyon.

Papers on potential new birding and Natural Areas will cover such sites as the Chuckwalla Bench, Milpitas Wash, Chuckwalla Valley Dune Thicket, Darwin Falls, and others.

In all, some 24 papers are planned -- and the committee assures us that those attending the conference will be able to critically evaluate the wildlife and natural area portions of the California Desert Plan which is scheduled to be available for comment in January, 1980.

On both October 27 and 28, times are 8:30 a.m.-5:00 p.m. The \$10.00 registration fee covers both days. Audubon is handling the registration, so make your check payable to NATIONAL AUDUBON SOCIETY and mail it with the form below:

To: Desert Seminar
1322 Oak St.
Santa Monica, CA 90405

Please register me for the October 27-28 Symposium at
Riverside City College. I enclose \$_____ registration
fee.

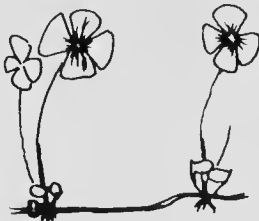
Name _____

Address _____

City _____ State _____ ZIP _____

(If registering for other as well as yourself,
list their names and addresses below:)

Make check or money order payable to NATIONAL AUDUBON
SOCIETY. Fee is \$10.00 for each registrant.



FIELD TRIP TO McGRATH BEACH STATE PARK

Robin Lee Smith of Envicom will lead a trip to
McGrath Beach State Park on Saturday, November 10th.
Orientation will be at 10:00 AM in the parking lot.
McGrath Beach exemplifies the convergence of four
plant communities: salt marsh, fresh water marsh,
coastal dunes, and riparian.

SOUTHERN CALIFORNIA BOTANISTS

Rancho Santa Ana Botanic Garden
1500 North College Avenue
Claremont, CA 91711



CROSSOSOMA

SOUTHERN CALIFORNIA BOTANISTS
Rancho Santa Ana Botanic Garden, Claremont, CA 91711

Crossosoma Vol. 5 ^{20.}~~19.~~6 December 1979
Editor in Absentia: C. Davidson Associate: M. Chesebro

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THE R. F. THORNE PHYLOGENETIC CAPITULUM NEWLY REVISED

The explanation supplied with our first phyletic chart fold-out (Crossosoma November 1978) was written by our president, now somewhere in the wilds of Ecuador or Bolivia. I shall take advantage of his absence to write up my own explanation of this newly revised phyletic fold-out, thus avoiding certain scurrilous remarks about legibility (a hand-lens does help) and "Big Bang" and similar facetious theories of angiosperm evolution. Some biologists take this "bubble phylogeny" less seriously than do others. I insist that the enclosures are balloons, not bubbles, and that they are intended to represent a cross-section at this point in time of the various suborders, orders, and superorders of flowering plants. The balloons generally indicate by their size the number of extant species recognized for each group and by their position their relative degree of phyletic specialization. Those closest to the empty center, representing the vast number of largely unknown extinct protoangiosperms, are the least specialized. Those closest to the periphery are the most specialized, i.e., probably least like the extinct early angiosperms. The shape of the bubbles, oops balloons, is largely due to space considerations but the longer balloons are intended to indicate greater evolutionary depth.

In so far as a two-dimensional exposition permits I have attempted to place nearest each other those superorders that I regard as coming from relatively recent common ancestors. Surely no superorder now extant has arisen from another extant superorder. That statement probably holds true for orders, suborders, and even families as well. It is more realistic to state that two related families, etc., have arisen from immediate common ancestors. The heavies lines surround the superorders, whose names end in -iflorae, and the thin lines within the balloons surround the orders, with names ending in -ales. The suborders, where present, are indicated by constrictions and have names ending in -inae. Only the Asterales are supplied with subfamily and tribal names, ending respectively in -oideae and -eae, a concession to our teeming syanantherologists. The monocots, the smaller of the two angiosperm subclasses, are to the right; the much more numerous dicots are to the left of the heavy dividing line. Since the chart was revised November 28, is it now only mildly obsolescent. Any resemblance to previous phyletic charts is purely coincidental and most deplorable.

In preparing the latest synopsis of my classification, to be published ultimately with this phyletic "hedge," I have obtained for each higher category the latest estimate of the number of their accepted species, here summarized for the statistically inclined. According to my highly suspect figures, the Monocots total 51,260 species in 7 superorders, 12 orders (with 13 suborders), and 49 families (120 subfamilies and undivided families); the Dicots total 167,170 species in 19 superorders, 42 orders (with 52 suborders), and 287 families (546 subfamilies and undivided families). Since your pocket computer may be unreliable, the angiosperm totals are 26 superorders, 54 orders, 336 families or 666 subfamilies and undivided families (notorious splitters

tend to recognize my subfamilies as families and suborders as orders), and 218,430 species. The last figure may be slightly off by some thousands plus or minus, but still that is a lot of flowering plants. It should make your memorization of our limited California indigenous flora, some 5,000 species, seem like a minor chore.

Robert F. Thorne,
Sometime Phylogenist

BOTANISTS IN THE FIELD

Chris Davidson, our president, is on his annual excursion to study the botany in the part of the Amazonian Basin lying within Bolivia. Shortly before his planned departure there was the 181st revolution in Bolivia (certainly not in anticipation of the arrival of Chris), so his alternate areas were the parts of that basin in Peru and/or Ecuador. When his plant presses arrive in Los Angeles next spring, he will then be off on his one month study at Missouri Botanic Garden for final identification and cataloging his collections.

Walt Wright has been on a three month automobile excursion through Texas, into Mexico as far as the Yucatan Peninsula, and return through Texas and Arizona. We understand his primary interest is the collection of seed.

We hope these members will have an appropriate account of their studies for Crossosoma.

Bob Thorne has found one additional occasion to botanize, not being content with research, publications, phylogenetic capitula, teaching, preparation of floras, etc., etc. With the gas shortage he as a good citizen undertook to walk from his home in Claremont to Rancho Santa Ana Garden. The first morning he realized he was seeing a substantial number of families, so he equipped himself with a hand counter and counted families on his morning and evening walks. Not being a creature of habit, other than being a compulsive botanist, he chose different routes and found in excess of 180 families on one route and no less than 150 families on any route. If and when the gas shortage ceases and Bob returns to driving his car, we hope he leaves his hand counter at home.

SOUTHERN CALIFORNIA BOTANISTS

1979 Review

January	Crossosoma No. 1
Feb. 12	UCLA Botanical Garden, Dave Verity
Feb. 17	UCLA Botanical Garden, Dave Verity
Feb. 24	Seventh Annual Fungus Foray, Martin Stoner
March	Crossosoma No. 2
March 10	Deep Canyon, Jon Zabriskie
March 31	Annual Plant Sale
April 7, 10 and 12	Kearney Mesa Vernal Pools, Mitchel Beauchamp, et al.
April 13-15	Baja California (San Quentin, Bahia de Los Angeles, etc.) Walt Wright
April 20-23	Catalina Island (Empire Landing), Walt Wright
May 15	Crossosoma No. 3
June 2-3	Coso Mts. (China Lake), Walt Wright
June 16-17	Greenhorn Mts., Walt Wright
June 23	Mt. Pinos
July 21-23	Southern Sierras, Dave Mitchener
August	Crossosoma No. 4
Aug. 10-12	Telescope Peak, Alan Romsperg
August 20	Lecture at Pomona College "Origin of Monocotyledons" Professor Rolf Dahlgren, Univ. of Copenhagen.
Sept. 29-30	China Lake
November	Crossosoma
December	Crossosoma

Southern California Botanists
Rancho Santa Ana Botanic Garden
1500 North College Avenue
Claremont, CA 91711

S. C. B.

BALLOT JANUARY 1980 ELECTIONS

PRESIDENT

Marvin M. Chesebro

Other _____

VICE PRESIDENT

Alan Rumsport

Other _____

SECRETARY

Barry Prigge

Other _____

TREASURER

Frits Zeylemaker

Other _____

DIRECTORS:

Jeanine Derby

Kay Wright

C. Eugene Jones

Barbara Joe Hoshizake

Others _____

Please fold ballot in half, staple, stamp and drop in the mail before January 11, 1980.

THANK YOU FOR VOTING!





SOUTHERN CALIFORNIA BOTANISTS

Rancho Santa Ana Botanic Garden
1500 North College Avenue
Claremont, CA 91711

The purpose of the SOUTHERN CALIFORNIA BOTANISTS is the study, preservation and conservation of the native plants of California; and the education of the public to the value of the native flora and its habitats.

Membership benefits include:

Various field trips throughout the state led by competent field botanists and ologists.

A yearly plant sale featuring native California species.

An annual symposium on various aspects of the California vegetation.

The SCB newsletter, CROSSOSOMA.

Discounts on botanical and natural history books.

Dues are for a calendar year. New members joining from May through September, please deduct \$1.00 from your dues. Those joining in October through December are credited with the following year's dues.

Membership categories are:

- | | | |
|--------------------------|-----------------------|---------|
| <input type="checkbox"/> | Student or retired* | \$4.00 |
| <input type="checkbox"/> | Individual* | \$5.00 |
| <input type="checkbox"/> | Group or organization | \$10.00 |

* This includes membership for the rest of the family.

Date _____

Name _____

Address _____

City _____ Zip Code _____

Phone () _____

In addition, I want to give \$ _____ to help support SCB.

Make check payable to: SOUTHERN CALIFORNIA BOTANISTS.
Mail check and form to:

SOUTHERN CALIFORNIA BOTANISTS
1500 North College Avenue
Claremont, CA 91711

TELLICO DAM

Conservationists lost a battle of many years opposing the Tellico Dam and for preservation of the habitat of the snail darter when President Carter signed a major appropriations bill into which Senator Baker and Congressman John Duncan of Tennessee had managed to insert authorization of this dam and, what is especially galling, provisions exempting this project from all federal laws! This loss is particularly disappointing since the Tennessee Valley Authority, the sponsor of the project, ultimately decided that the project was marginal to TVA and would sacrifice not only the snail darter habitat, but also 30,000 acres of the finest remaining farm land in eastern Tennessee. Furthermore, a Cabinet level review committee had determined that the cost of the project exceeded the benefit and it should be abandoned! If ever there was a project which should have been stopped on environmental grounds and not being crucial to power production or some other national priority, Tellico should have been that project. However, conservationists were no match for Congressman Duncan and Senator Baker. Amendments to bills were sneaked in, there was misrepresentation, etc., etc. The whole sorry story is laid out in complete detail in the November 9, 1979 issue of Audubon, at page 4. We have made photocopies of this article and if you wish a copy send a self-addressed envelope to Marvin M. Chesebro, 510 West Sixth Street, Los Angeles, CA 90014.

Senator Baker on the last day of deliberations in the Senate was rushing up the aisles cornering his last five votes. He got one from Senator Gravel (D-Alaska), so we well know how Senator Baker will vote on the Alaska Bill.

Pork barrelling at its worst was rampant and succeeded for Senator Baker. One wonders at his personal philosophy. He blatantly overruled his own creation, the "Cabinet-Level Endangered Species Committee." Certainly he did not have in mind Jefferson's concern that what we do should be considered not just in light of what its effect is on this generation, but also its effect on "the thousandth generation."

SCB Field Trips

On February 23, 1980 Dr. Martin Stoner will again lead our annual fungus foray. He has not yet fixed the exact location. It will be announced in January and you may send a self-addressed and stamped envelope to Marvin Chesebro, 510 W. Sixth Street (523), Los Angeles 90014 and he will send you the details.

Other trips will be announced soon. Tentatively we are planning these:

- March 8 Todos Santos Islands, Ensenada
- March 16 Anza-Borrego State Park (we will join the Park Committee for their annual desert walk*)
- March 22 Oso Falls (Nature Conservancy Reserve on San Jacinto) and Whitewater River Canyon
- April 2 Baja California - cave paintings, etc.
- April 12 Antelope Valley
- April 19 Colorado River canoe trip - Topock Gorge

* Send envelope to Marvin Chesebro for details.

The Santa Monica Chapter of the California Native Plant Society plans a field trip in the Santa Monica Mts. each Saturday from March through June 15, meeting at 9:00 a.m. in front of the Food Bin store at Topanga Canyon Road and Coast Highway. Call Nancy Dale to confirm (213-436-4925). This is in connection with development of plans for the Santa Monica Mts. National Park.

ANNUAL ELECTIONS

You will find enclosed your ballot for this year's annual election of officers and directors. The Nominating Committee has presented the names on the ballot, but you are free to cast your vote for any write-in candidates that you wish. This ballot must be postmarked by January 11, 1980 in order to be counted, so please vote early.

MEMBERSHIP RENEWALS

Also enclosed is a separate membership renewal form for 1980. We will be delighted to receive your renewal form, your check and any and all suggestions that you may have concerning SCB. We welcome your ideas about field trips, lectures, etc., and particularly any offers to assist in publishing the Crossosoma.

A NEW PUBLICATION

Granite Mountains Resource Survey
by Stein and Warrick 1979

This is an excellent publication resulting from an Undergraduate Originated Study sponsored by the National Science Foundation through U.C. Santa Cruz. The geology, flora, vegetation, amphibians, reptiles, birds, mammals, and cultural resources of the Granite Mountains of the eastern Mojave desert are all considered in depth. If you are interested in our desert and its mountains, you will want a copy. We have a supply on order.

List	\$8.00
Tax and postage	<u>2.00</u>
	\$10.00

Please make checks to S.C.B. Booksales.

Order from:

S.C.B. Booksales
Rancho Santa Ana Botanic Garden
1500 North College
Claremont, CA 91711

SYMPOSIA

Professor C. Eugene Jones of Cal University, Fullerton has suggested the subject of "Pollination Ecology" which he has volunteered to chair for the fall of 1980.

We are also discussing with Dave Walkington a symposium in the spring of 1981 on the subject of "Cactaceae and Other Succulents."

If you have any suggestions concerning these symposia, other subjects, and speakers we will be most grateful.

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