



UNIVERSITY of CALIFORNIA

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## Venturing to Venezuela

*In February of this year a group of intrepid travellers ventured to Venezuela, on a Garden sponsored tour, to explore various ecosystems unique to that country. The group was led by David Brunner, Horticulture Manager. Here is his account of the trip.*

Stepping off the plane and into the thick equatorial air, we knew our expectations would not go unfulfilled. We were certain to have excitement, to see incredible sights and most of all to be overwhelmed by plants, by birds, by forests and by mountains—to be awed by the sheer exuberance of life near the thick waist of the world—this was the promise of our trip to Venezuela.

Escaping Caracas early, in flight from the noisy capital in full crescendo for the inauguration of a new President (we shared our hotel with many of Latin America's Heads of State!), we landed in secluded Camp Canaima on the black waters of the Rio Carrao. Here only the timpani rumble of the river vaulting over Hacha Falls and the staccato melody of myriad birds high in the *Cecropia* trees broke the silence. For meals we were joined by scarlet macaws who came fearlessly out of the forest to help themselves to kitchen scraps in our open air dining room.

Later, we ventured out onto the dark leaf-stained waters of the river to see the gallery forests up close. There, *Tabebuia* towered high over the canopy, a lavender billow above the green, echoed in lilac *Jacaranda* at the shore. And homing beacons in a verdant dark, *Cochlospermum* in

vibrant yellow and *Bombacopsis* in red and white, led the way further down the river. At a shallow bend on a white sand beach we stopped to swim in warm licorice water where it fell and foamed in pink, auburn and russet over the Mayupa rapids. Then slowly we returned up the dark river now a formal allee of Moriche palms with the striking silhouette of tepuis breaking the horizon.

This idyllic place, Camp Canaima, is located in the heart of Canaima National Park which preserves 11,500 square miles of the Gran Savana, a complex mosaic of tropical grasslands, savannas, forests and the incredible tepuis. Tepuis are sheer palisade-sided mountains with sawed off tops. They look like gigantic mesas from the American Southwest rising out of tropical forest.

Early the following morning, we were in the air again, this time in a small chartered plane, soaring close over

savannas and forests to our rendezvous with the tepui named Kukenan. Landing in a tiny town near the base of the highest tepuis, the Roraima group, we were picked up by helicopter pilot Raul Serrano, "the Eagle of the Tepuis," and ferried three by three on a ride none of us will forget. Lofting into the air from a small rise we seemed to graze the tips of tree branches in the braided galley forests and pushed the stubby grasses into turbulent waves. The fascinating scenery below occupied every glance with its intricate interweaving of grassland, riverine forests, cloud forests and palm savanna. Then, looking ahead, there it was, Kukenan! The sheer wall of solid rock filled the field of vision—left, right, up, down. Half a mile of vertical stone collapsing below in a rough pile of vegetation covered debris.

*Cloud-embraced Roraima seen from the summit of Kukenan.  
(Photos by David Brunner)*



As we crept along the wall to gain altitude, staying just close enough to avoid the turbulent winds, we could pick out the plants in unique, mostly unstudied, communities where spatial reference is only vertical. *Tillandsia*, *Catopsis*, *Navia*, and *Brocchinia*; orchids of infinite variety; mosses, lichens and liverworts, all thriving in this strange two dimensional world on Kukenan's wall. Rising further, we encountered the vaporous plume of a waterfall staining the rock dark, its tail churned to a misty froth by our rotors. Falls like these form daily after rains on the summit, most are torn to bits in mid-descent by the fierce winds before ever reaching the rocks below. Rising still further, the wall suddenly vanished into a venetian landscape. The summit! Broad, flat and broken, the sandstone crown of Kukenan is a labyrinth of weirdly sculpted columns, entire hillsides of monumental art. At 9,000 feet elevation, the helicopter settled into a small valley between these pillars and spires and we took our first steps onto the summit of a tepui.

The rock, pink sandstone stained black with algae and lichens, is phenomenal. Though weathered by pounding rain and driving wind into fantastic shapes, the accumulated layers are still clearly visible, still perfectly horizontal, as if they were just laid down. But this rock is old. More than a billion years old! Deposited here before life was leaving fossils to mark history, before Africa and South America were torn apart to form the Atlantic, before the bits of land that would be California had collided with North America. This rock is old, and yet...here at a new cleavage are the ripple marks of water laying down the sand. A frozen moment in time, a billion year old moment when gentle waves rocked the sandy floor of a quiet, shallow sea.

And on the rocks, between the rocks, beneath the rocks, are plants. Oddly beautiful plants! Strangely wonderful plants! Crowded forests of elfin stature hunker below the gigantic boulders, these are *Bonnetia* trees with red and bronze leaves. Here are tiny *Ledothamnus* shrubs

with bright fuchsia flowers larger than the branches that bear them, and *Bejaria*, the tepui-top rhododendron, like an overturned bushel of pink. In the wet swales between the rocks are bogs and fens so diverse, so colorful, so strange in growth that we seemed to have encountered a coral reef on this mountain top. *Heliophora* with long chartreuse funnels capped in crimson, *Utricularia* whose only visible parts are big burning orange flowers, dewy tentacled leaves of red on *Drosera*, and ghostly yellow tubes of tightly clasping *Brocchinia* leaves: each beautiful, each strange, each carnivorous. On exposed boulders we found mosses, lichens and ferns—peat bogs on a rock, in deep crevices we found taller forests of *Drimys* and *Magnolia*, and all around were the flat fans of *Stegolepis* leaves and the translucent crystalline yellow of *Orectanthe* flowers. This wonderful vegetal world is unique! The tepui tops support 2,500 species of plants, most found nowhere else on earth.

Then came the weather! Though we visited in the middle of the dry season, every thing was wet. As evening fell so did the clouds. Our camp was warm and dry under the eves of huge mushroom rocks but all around the clouds and mist were swirling. All night we were in the clouds and the rain, through the drops seemed to propel themselves upward. At dawn the clouds broke and all around was a cascaded wonderland of foaming water rushing to the precipice for its long plunge downward. Just in time, for the helicopter was coming, beating the air and our retreat from this beautiful yet inhospitable place. From the strange world of the tepuis, we were certain that nothing more would compare. But the Andes awaited with their own beautiful secrets. *To be continued...*

—David Brunner

Rock formations and vegetation on the summit of Kukenan: *Bonnetia* (shrub on the left), *Stegolepis* (center), and *Orectanthe* (right).

Cerro Venado behind Hacha Falls on the Rio Carrao, one of the "black water" rivers of the Gran Savana. Moriche palms stand in the water.



## DIRECTOR'S COLUMN

I recently attended two meetings on the importance of museums and gardens for scientific study and public education about biodiversity. The first was a workshop at the California Academy of Sciences sponsored by the National Science Foundation (NSF) to develop the concept of a nationwide Biodiversity Observation Network. This exciting new initiative at NSF is modeled on the federal network of astronomical observatories which performs long-term monitoring of the heavens, by which astronomers discover new stars and understand the cosmos. By analogy, a Biodiversity Observatory is a collections-housing institution, such as a museum or botanical garden, from which scientists scan the environment in search of new understandings about biodiversity. Scientists at a Biodiversity Observatory will perform biotic inventories and conduct ongoing biotic monitoring at associated study sites. The Observatory will house specimens from these inventories and will serve as the repository and processing center for the enormous quantities of information that these efforts will amass. The Network will link the various Observatories, perhaps as many as 60 institutions scattered across the U.S. This network will facilitate understanding of how human-induced global change is influencing our biota, monitor the success of various efforts to conserve biodiversity, inform public policy decisions about the natural world, and play a role in biodiversity education.

The Garden, in conjunction with the other members of the University of California Museums of Natural History, is ideally positioned to become a Biodiversity Observatory. Over the next year, the directors of the member museums will be working together to make this dream a reality. Becoming part of a Biodiversity Observatory would increase the Garden's scientific stature and would contribute to understanding the origins and maintenance of California's outstanding floral diversity.

The NSF workshop segued into a symposium on "Museums, Universities, and Biodiversity in the 21st Century" jointly sponsored by Stanford University and The California Academy of Sciences. Unlike UC, over 20 years ago, Stanford closed its museums and moved its extensive biological collections to the California Academy of Sciences. Today, there is little interaction between the two institutions and Stanford students have little opportunity to explore this rich biological heritage. The symposium was organized to explore and celebrate the diverse benefits that both museums and universities obtain from close interactions.

It was exciting to meet museum scientists from throughout the country and hear their accolades about our Garden. We have one of the most diverse plant collections in the nation and we are on the forefront of gardens in the extent to which our accessions data are computerized and accessible to scientists via the world-wide-web.

Museums and gardens are poised to reap the benefits of the information revolution. Massive quantities of data housed at these institutions which had previously seemed too unwieldy are now becoming available in new formats. For example, the geographic information in our accessions database can be examined in a geographic information system (GIS) which can overlay plant location data with other geographic data such as elevation, soil type, local climate, and the geographic ranges of other plants and animals. In such systems, all these data are displayed as maps with various layers—one layer for the range of each plant or animal species, one layer for soil types, another layer for climate, etc. Even prehistoric data can be examined in this format! Scientists can use such systems to reconstruct the physical habitat and biotic communities from which specimens were collected. These insights will help horticulturists better understand the growing requirements of their plants and can help ecologists determine how best to restore degraded habitats. Think of all the different ways these data can be used!

—Dr. Ellen Simms



Director Ellen Simms at the Plant Sale chatting with longtime volunteer propagators Julie Dobson and Cecile Weaver.

## GARDEN NOTES

New Plants Program Coordinator **Martin Grantham** attended “Out of the Wild, into the Garden” at Rancho Santa Ana Botanic Garden in March. ☺ Horticulturist **Elaine Sedlack** attended the American Rhododendron Society’s annual convention held concurrently with the International Rhododendron Species Symposium, in Bellevue, Washington, in April.

Horticulturists **Judith Finn** and **Jerry Parsons** went to Hayward on April 28 for a class on pesticides. It stressed new chemical controls, new exotic weeds that are making headway in the Bay Area, and a new problem for blue gum (*Eucalyptus globulus*). A few years ago a borer was introduced, and within the last few months a psyllid has been discovered. Neither have a control so the picture is now pretty grim for blue gums. Although California native plant fans will be delighted, the projected cost of removing the doomed trees is causing quite a panic.

The Garden cosponsored the 30th annual California Wildflower Show with the Oakland Museum, Jepson Herbarium, East Bay Chapter of the California Native Plant Society, and the East Bay Municipal Utility District on May 8-9th. Curator **Holly Forbes** and Director Emeritus of the Regional Parks Botanic Garden **Wayne Roderick** collected flowers in Mendocino, Sonoma, and Marin counties in preparation for the show. Horticulturist **Jerry Parsons** created several magnificent floral arrangements of California native flowers.



*The Garden has been building its public presence! We were invited to create a vignette for the San Francisco Flower and Garden Show in March. In the photo above, David Brunner and Jerry Parsons are preparing our display which attracted a lot of attention. We have been invited to participate again next year, and have been promised a center stage site.*

In mid-April, Jennifer Donovan from the Howard Hughes Medical Institute, visited the Garden and, in preparation of a major news article, photographed several elements of the Education program to which the Institute has given grant support. While visiting Oxford Elementary School, Jennifer experienced the Garden’s new six-hour curriculum “Botany On Your Plate.”

With graduation upon us, the Education Program has several staff changes. **Terry Chou** and **Amy Rusev** are moving on. We thank them for their hard work and will miss them both. Joining the staff is **Jennifer Short Yorty** who will manage the Crops of the World Garden and oversee the Green Stuff Summer Camp program. Also joining us this summer are **Neil Hitchcock** and **Wendy Park**. Both are entering seniors at Cal and are our summer camp counselors.

### Musical spaces...

In the last few months, many Garden functions and staff have moved to new locations. All of these shifts are part of a space allocation plan which was developed with two goals in mind—to take utmost advantage of some additional space the University made available to the Garden, and to make room for new staff and new programs.

In 1998, Vice Chancellor for Research **Joseph Cerny** negotiated the Garden’s use of several rooms in a building which belongs to the Lawrence Berkeley National Laboratory—the Atmospheric Aerosol Research Building. The Aerosol House, as it is commonly called, houses the Garden’s Education program, the new plants program and the seed cleaning operation. Public entrance to the building is a small turnout off Centennial Drive across from the lower section of the California area. Staff and volunteers may soon access the building through the Garden’s Mather Redwood Grove.

The Annex, the green building just above the entrance to the Garden, has undergone some interior remodeling and now houses the Director, business and administrative staff, as well as the volunteer propagators and docents. The Office, adjacent to the Garden Shop’s Plant Deck, now houses curatorial staff, volunteer services, and development and marketing staff.

Plans are underway to relocate the horticultural staff office/breakroom to the Corporate Yard. The breakroom will soon be located in the building we fondly call the Barn—a name which evokes the agricultural history of the Garden’s site. Another Corporate Yard building is currently being remodeled to house the workshop which is now located in the Barn.

Future plans include the creation of a small breakroom facility near the Office, the addition of a “carport” for an electric-powered utility vehicle, and the remodeling of the wood building near the Fern House to house the Garden’s libraries. Watch for continuous updates in upcoming issues of the *Newsletter*!

## EDUCATION AT THE GARDEN

**G**ardening is a potent force for change and motivation. No where was it more evident than among the participants at the Garden's first School Garden Conference on Saturday May 1, 1999. Sponsored by the Howard Hughes Medical Institute, the conference hosted 50 teachers, parents and school garden resource staff from around the Bay Area. The conference was kept at a manageable size so that everyone could participate in active workshops and training sessions as well as have a voice in small focus groups around common issues.

This Spring conference's theme focused on sharing successes and best practices among local garden programs. David Hawkins, Garden Manager of the Edible Schoolyard at Martin Luther King Middle School in Berkeley, set the tone of the day with inspiration and enthusiasm as he shared his insights of student growth in self-esteem and skills as they work in a garden. The morning's panel of local experts included: Yolanda Huang from Willard Middle School, Phoebe Tanner and Jay Cohen from Martin Luther King Middle School, Rivka Mason from Malcolm X Elementary School and Robin Goldman from Berkeley Youth Alternatives-Garden Patch Program. Their practical experiences of: working with students in garden settings, community resources they enlisted for support in their programs and diverse management tips for successful garden programs, provided a rich background for the questions participants took into their discussions on school garden issues. Participants were especially moved by student evaluations of what working and learning in school gardens means to them.

In small focus groups, participants wrestled with issues on how to recruit more volunteers to assist in gardens, how to maintain school gardens during the summer break, how to tie all aspects of the curriculum into the school garden programs, and where school gardens can find funding. Especially gratifying was the openness of all our participants to share their wealth of information, community resources and funding sources. Participants also eagerly received the two new botanical curricula developed in conjunction with the Garden's partner schools: Martin Luther King Middle School, Willard Middle School and Oxford Elementary School.

More than half the participants plan to redesign their curriculum to include ideas presented at the conference. Participants also indicated that through their garden

*Kathy Barrett, project leader, introduces panelists Phoebe Tanner, Jay Cohen, Yolanda Hua, Rivka Mason and Robin Goldman who shared secrets of the success of their garden programs.*



programs, more than 7,800 children will be impacted by the garden materials shared during the day. I see this conference as a jump start in developing an effective network of garden programs and expanding our efforts to support this important movement aimed at improving our children's education and schools. Participants expressed great enthusiasm for being part of the Garden's network and the opportunity of working with the Garden's staff.

We were equally moved by the enthusiasm, dedication and competence of the individuals gathered to support one another as we make school gardens stronger. Indeed, the Bay Area's children are fortunate in having such avid proponents dedicated to providing and expanding school gardens as important resources for improving science, nutrition, literacy and social studies. It will be wonderful when, indeed, there is a beautiful, dynamic children-friendly garden integrated into the heart and curriculum of every school.

—Jennifer Meux White

The Garden is sponsoring the 2nd

► **SCHOOL GARDEN CONFERENCE** ◀

November 20, 1999

Please share the information with any one you know who might be interested in attending. Contact Jenny White at 510-495-2805 for an application



# “Volunteers don’t necessarily have the time —

## The Garden Honors Volunteers

In spring we honor our volunteers for having given five, ten, fifteen and twenty years of service to the Garden. This year’s honorees are:

Five Years of Service:

**Barbara Brandriff, Julie Dobson, David Duveneck, Sue Ewing, Linda Govan, Lee Hafter, Janean Jaklevic, Eleanor Jardine, Bob Lersch, Mary McCarthy, Betty Medwadowski, Jim Merrill, Helga Mok, Eugenia Ng, Hildegarde Paxson, Ellen Peterson, Emmy Sortor, Eleanor Stark, Laura Teitler, Pennie Warren, Patricia Wolf**

Ten Years of Service:

**Fred Coe, Diane Kothe, Liz Waterman**

Fifteen Years of Service:

**Sarah Wikander, Ed Dankworth, Joan Minton, Pete Shell**

Twenty Years of Service:

**Kate Heckman**

We fervently thank all these dedicated people, who are docents, volunteer propagators, Garden Shop assistants, and horticultural assistants, for their time, their commitment and their enthusiasm. The Garden wouldn’t be the same without them!

## VOLUNTEERS HELPED...

APRIL

- docents led in-school visits to the fabulous Fibers and Dyes exhibit
- we staffed two information tables at three campus sites for the University-wide Cal Day Open House, and offered free docent-led tours to the more than 600 Garden visitors that day
- 60 schoolchildren came to the Garden every week day for tours

MAY

- 700 Biology 1 B students took their second Botanical Garden field trip of the semester (numerous students from other Cal classes and from other colleges came too)

JUNE

- on Mother’s Day more than 100 people enjoyed tea and delicious goodies made and served by a group of our program committee volunteers
- we participated in the Flowers at Filoli festival
- volunteers took our portable display to the Heather Farms Gardens Faire in Walnut Creek and to a cultural fair “Diversity in the Garden” in Hercules

## Volunteer Propagators Triumph over Freeze!

The Spring Plant Sale was a real triumph for all involved. We were really fighting the elements all winter. Our December freeze was not the coldest single freeze on record but the cold went on and on, making this past winter the coldest overall for some 36 years! A lot of plants succumbed and there was real concern from many of the propagators about the plant sale. No matter! The weather changed that week, warmed up noticeably and was even hot on Friday for a record breaking turn out of members for the Member’s Only Preview Sale and Silent Auction. Total sales amounted to \$23,000, second highest ever for a Garden plant sale.

And the plants? They were a stunning array of interesting and unusual specimens, and people came from far and wide to buy. As the gentleman who came from Modesto said to Dr. Raabe, “You’d better tell me all about this plant, I’ve got a feeling I’m not going to find it in the Sunset Guide.” “Maybe not,” Dr. Raabe replied, “it normally only grows in places like Borneo!”

Many thanks to all of the Shop helpers, Garden staff who worked a very long day or two, the cashiering and holding volunteers and University Garden Section Club who provided refreshments. Especially big bouquets to all of the volunteer propagators who grew the plants, collected donated plants, labeled and helped arrange and sell the plants.



*Peter Klement (center) chats to Manuel Morales (l) and Joe Solomone of Monterey Bay Nursery about the rare and beautiful buff-colored Clivia hybrids propagated by Mr. Solomone, which were donated to the silent auction.*

# *they just have the heart!"*

—Author Unknown

## DEAR DOCENT...

We receive many letters of thanks from the school groups visiting the Garden—often each member of a class will write or draw something about their educational experience while on a docent-led tour. We thought you might like to see the kinds of comments they make, the drawings of their visit and the very particular types of things they remember!

“Thank you for telling us about the different plants that the Native Americans used. I was amazed that they used poison oak for wounds. I have learned new and interesting things about plants, food, music, trees and flowers. The trip was really interesting because I like plants. Thank you again for the wonderful learning tool.”

“...My favorite part of the tour was letting us try seeds. It must of taken you a long time to pick so many seeds.”

“We thank the guide men for helping us figure out the plants and their obnoxious names and the field trip was really educational” (!)

“My favorite plant was the cactus. It was pretty spiky but did not hurt if I touched it.”

“I saw horsetail ferns. I did not know they were around in dinosaurs time.”

“P.S. I saw red flowers that had a lot of pollen in them, I saw a cactus that looked spiky, and California poppies with orange pollen. I think I learned a lot. Even though I did not get pollen from some flowers, I got a lot. Thank you”



*“To leave the world a better place  
whether by a healthy child,  
a garden patch or  
an improved social condition -  
that is to have succeeded.  
That only one life breathed easier  
because you lived - that is success.”*

—Ralph Waldo Emerson

**E**ighteen new docents have completed the 18-week training required for the program. Like all new docents, they are feeling not quite ready for that first tour, but docent trainer Nancy Swearengen certifies their absolute competence. The new docents are *Sonja Altena, Barbara Beard, Sarah Carlson, Jane Hutchins, Dawn Keremitsis, Jan King, Kathleen Lawler, Joanne Lerner, Robert Martinez, Anne Packer, Lauren Ritter, Terry Ryder, Erin Smith, Ying-Fang Sun, Marilyn Vaage and Lynn Winter.*

**Next time, our volunteer Garden Shop  
helpers and the Community Enrichment  
Program Committee**

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## NEW BOOKS

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### **Discovered Alive: The Story of the Chinese Redwood.**

William Gittlen; Pierside Publications, Berkeley, CA, 1998. B/W photos, map, appendices; 167pp. Paper \$14.95

Not many visitors to UC Botanical Garden notice the dawn redwoods along the creek, unless they are specifically looking for them. They are not remarkable in winter because they are deciduous. In spring their lovely light green leaves are quite beautiful among the other tall trees surrounding them, but they are often mistaken for the Bald Cypress of the southern U.S., which they resemble. The story of these unusual trees, known by our old-time visitors, is an important chapter in the history of the Botanical Garden.

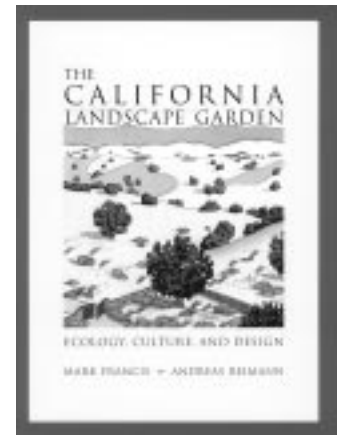
Our dawn redwoods (*Metasequoia glyptostroboides*) are recorded to have been planted in the Garden in 1949. They were brought to us by Dr. Ralph Chaney, professor of paleontology at Berkeley. We have a very nice grove of them along the creek above the Japanese Pool, and there is another fine group below the outlet waterfall near the redwood circle. All of the dawn redwoods in the world outside China date from the years following World War II. Their discovery in China and their subsequent introduction to the rest of the world was filled with controversy and adventure.

The discovery of living specimens of the dawn redwood, previously known only in the fossil records, caused great excitement among botanists worldwide. Immediately after the war, Chinese botanists, under almost impossible travel conditions, had been able to send seeds and specimens to botanists abroad. In 1948 Ralph Chaney and Dr. Milton Silverman, science writer for the *San Francisco Chronicle*, were able to organize a small expedition to the remote area of central China where the dawn redwood was reported to have been found. After many harrowing experiences and great hardship, Dr. Silverman was finally able to send the *Chronicle* an account of their successful adventures. His articles, with additional material and observations, were privately published in his book *Search For The Dawn Redwood*.

Recently, William Gittlen, a Kaiser emergency room doctor and East Bay resident, inadvertently stumbled on dawn redwoods. His interest in them led him to Dr. Silverman's reports, and he visited the UC Botanical Garden to see our trees and to learn more about them. Elaine Sedlack provided him with some information about the 1948 expedition, and about a later one in 1980 led by the Garden's then-curator, Bruce Bartholomew, as well as the names of others who had more recently been to China to see how these ancient trees were faring. Dr. Gittlen soon became determined to follow the Chaney-Silverman route to their type location. *Discovered Alive* is his account of his own adventures. Difficult, yes, but far easier than the Chaney-Silverman expedition. His is not the story of Silverman's immediacy and polish. His pictures could be better and less grainy. It is, however, a personal, passionate account of the recent history of the dawn redwood, and his efforts to see today where they came from.

### **The California Landscape Garden, Ecology, Culture And Design.**

Mark Francis and Andreas Reimann; illus. by Yan Nascimbene; Univ. of Calif. Press, Berkeley, CA, 1999. B/W and color photos, drawings, appendices; 234 pp. Paper \$29.95, Cloth \$50.00



California landscape architects and designers today plan private or public gardens as extensions of the surrounding California landscapes. Their environmental and cultural concerns have placed them in the forefront of modern ecological design, and their work illustrates a new, unique and internationally recognized California style. This work is freshly discussed by the authors, and well illustrated with excellent black and white and color photographs. Yan Nacimbene's unusual and startling color illustrations, on the other hand, force us to consider the philosophy underlying this new California garden design.

—Elly Bade

## THE DOCTOR SAYS

A previously unknown conifer has been found in Australia. It shows affinities to members of *Araucaria* and *Agathis*. The tree was known only from fossil records until a botanist descended into a deep ravine and found the tree. Since then, 40 trees have been found in Wollemi National Park, northwest of Sydney. The plant, called the Wollemi Pine has flattened needles and knobby bark which looks like it has been sprayed with chocolate pops cereal. *Plant Talk* 1: 9. It was described as a new genus and species, *Wollemia nobilis*, in the journal *Telopea* Vol. 6(2-3): 173-176, in 1995.

Recently planted outside the Buckingham Palace were 14,500 American geraniums in the colors of the guardsmen's uniforms. *Grower Talks* 62 (13): 8.

In *Horticulture* 96 (3): 54-57 is an article on ornamental rhubarbs suggesting *Rheum palmatum* 'Atrosanguineum' can have a seven foot flower stem with pink buds which open to crimson flowers. Fruits, if formed, also are red. Although cultivars are known, plants from seed usually are as good. Because the plant is large (leaves can be 3 feet across) smaller species such as *Rheum austrae* or *Rheum acuminatum* also provide interesting and colorful plants. A very small plant is *Rheum kialense* with four-inch leaves which are rose on the undersides. Red flowers are borne on eight-inch stems. *Rheum persicum* has round ten-inch leaves in a prostrate mound and produces a six-inch high cluster of brick red flowers.

Now available is a microwave flower press, composed of two absorbent natural wool pads, two sheets of broad cloth and two kiln-fired terra-cotta slabs. Materials to be dried are put between the broadcloth, then between the pads and then in the slabs. In the microwave, the process takes only a few minutes. As a result of rapid drying, colors are preserved far better than the old slow drying process. *Horticulture* 96 (3): 27.

A short summary of germinating lily seeds is given in the *North American Lily Society Bulletin* 53 (1): 5-11. Briefly, lilies in the Asiatic, Easter lily group and the Trumpets are easy to germinate with no unusual requirements. However, *Lilium henryi*, *Lilium dauricum* and the Aurelians, though easy, need temperatures between 50-60° F. Martagons and Orientals seeds should be put in a plastic bag at 70-75° F for 10-12 weeks and then 10-12 weeks in the cold. The native American lilies from the

eastern part of the country need a 3-4 month warm cycle followed by a 3-4 month cold cycle. Western lilies need a long cool treatment. Hybrids and doubtfuls should be planted in pots indoors. If no growth, they should be refrigerated for 10-12 weeks. For storage, lily seed should be put in airtight chambers in a freezer.

The hamburger has a new twist. Researchers in Michigan found that the addition of cherries to ground beef hamburgers reduced the formation of suspected carcinogens (heterocyclic aromatic amines). Hamburger containing 11.5% cherry tissue produces 69-78% fewer HAAs. Not only are the burgers lower in fat, but they are more resistant to spoilage. *Environment* 41 (2): 24.

Research in New York regarding apples and their antioxidant activity recently was released in the *Cornell University News*, Feb. 1, 1999. The major antioxidants in apples are compounds grouped together and called polyphenols. Although a 150 gram sample can contain several hundred milligrams of polyphenol, cultivars vary in their amount of antioxidant activity. High are Northern Spy, Liberty, Crispin, Delicious and Fuji. Medium in activity are Idared, Jonagold, Gala, Freedom, and McIntosh and low activity is found in Empire, Ginger Gold, NY674, and Golden Delicious. However, grapes, pears and peaches are higher in activity than apples; bananas are similar and oranges and grapefruit are lower. Highest activity was found in garlic, followed by broccoli and tomatoes, all of which are higher than apples. Interestingly, in canned applesauce (adult kind), there is none because the skins are peeled and discarded. However, in baby food applesauce, the skins are ground into the sauce and thus, there is no loss of polyphenols.

—Dr. Robert Raabe

### UCBG UPCOMING PLANT SALES!

(Save the dates! Details soon!)

#### FALL PLANT SALE

Sunday, September 26  
10 a.m. - 2 p.m.

#### WINTER PLANT SALE

Saturday, December 4  
10 a.m. - 2 p.m.

Also, our colleagues at the UC Davis Arboretum asked us to tell our readers about their 25th Annual Plant Faire, Saturday October 2,

8 a.m. - 2 p.m. at the UC Davis Arboretum Headquarters

## Wish List

We are asked from time to time if we have an ongoing list of things we need here at the Garden—well, we do! If you are able to help by providing something on this list, contributing towards the cost, or letting us know where we may be able to get the item, then please call *Janet Williams in the Development Office* 510-643-2937.

- ✓ Golf buggy type electric vehicle to enable persons with limited mobility to enjoy the Garden
- ✓ Small pickup truck (our main pickup is due to retire)
- ✓ Washing machine & clothes dryer for the horticultural staff
- ✓ Refrigerator & microwave oven for the new staff lunchroom
- ✓ Contributions towards new umbrellas and outdoor furniture for the patio

## Remember

**Members of the UC Botanical Garden get a 10% discount at The Garden Shop**

**NEW!**

**UCBG  
Garden Shop  
Gift Certificates**

## New Members

The Garden welcomes the following new members:

Ms. Patricia Anderson  
Paul and Tamara Attard  
Ms. Carol Baker  
James Berger and Marian Feldman  
Ms. Susan Bradley  
Mr. Sean Brixey  
Ms. Katey Carter  
Ms. Lily Chan  
Michele Chase and Philip Chan  
Ms. Connie Chiba  
Ms. Maria D'Agostino  
Mr. Stephen Davis  
Decorative and Edible Landscape  
Charlene Depner and Mitchell Chyette  
Ms. Nancy Ellinger  
Ms. Rena Fischer  
Ms. Debbie Foster  
Ms. Beryl Golden  
Mr. & Mrs. George Grunwald  
Mr. Jerry Hashimoto  
Mr. Jason Hill  
Andy Huber and Galen Gunther  
Diane and Rob Johnson  
Mr. Jeff Jones  
Ms. Marcia Kaminski  
Ms. G. Kassner  
Mr. Ken Kehl  
Ms. Amy Ladner  
Mr. Andrew Lawrence  
Jennifer Madden and Jeff Reed  
Lucy Mahaffey and Anno Langen  
Gail Marell  
Ms. Ellen McDonald  
Monty and Donna McGraw  
Ms. Michelle Mehlhorn  
Mr. Hugh Mozingo  
Mr. Darrin Nordahl  
Ms. Margaret O'Connor  
Kaori Okada  
Mr. Bruce Orr  
Joanne and Michael Paulsen  
Ms. Gretchen Pivonka  
Ms. Katherine Ratcliff  
Mr. Robert Rawson, Industrial Wastewater Solutions  
Michael and Patti Rochette  
Mr. Richard Sandling  
Ms. Phyllis Schaaf  
Ms. Katherine Schenck  
Ms. Mary Sears  
Ms. Nicki Shower  
Mr. Art Siebert  
Ms. Melba Simms  
Jacqui Smalley and John Austin  
Mr. James Smith  
Ms. Deborah Sommer  
Walter Tarczynski and Revenna Schall  
William and Pamela Taylor  
Ms. Phoebe True  
Stephen Vonder Haar and Donna Lesh  
Ms. Sarah Webb  
Ms. Celia Wedding  
Ms. Wendy Weil  
Ms. Mary Welch  
Janet Williams and Mark Wilson  
Azusa Yoshioka

## Grateful Thanks

The Garden wishes to thank these members who have made a substantial gift over and above membership:

Mr. and Mrs. Estol Carte  
Joseph and Susan Cerny  
Stephanie Changaris and Bruce Bonar  
Mr. & Mrs. Thomas Delfino  
Barbara and Fred Dengler  
Susan Feller and Nancy Manyi-Tenwmsom  
Ms. Ruth Johnson  
Ms. Suzanne King  
Ron and Mary Lai  
Mr. Andrew Lawrence  
Mr. Bill McJohn  
Lisa Olsen and Deborah Lohrke  
Mr. Eugene Peck  
John and Julia Serences  
Ms. Susan Smith  
Philip and Jan Spieth  
Mr. Pablo Valenzuela  
Jan and Tom Vargo  
Tom White and Leslie Scalapino  
Orinda Garden Club

## In Appreciation

The Garden offers appreciation and thanks to these donors for their generous contributions:

Dorothy and Richard Annesser  
Ms. Kit Bedford  
Mr. Richard Burnett  
Ms. Lorna Byrne  
Ms. Cathleen Caffrey  
Ms. Margaret Chase  
Ms. Mae Clark, Terra Nova Landscaping  
Ms. M. Esther Colwell  
Mr. & Mrs. Joseph DeMaria  
Ms. Shirley Dietderich  
Dr. Bernard Dietz  
Mr. Ben Faber  
David Gilbert and Kimi Masui  
Ms. Diane Goloff  
Verne and Ruth Hendrix  
Ms. Susan Hossfeld  
Ms. Doreen Jones  
Mrs. Vivien Larson  
Ms. Martha Niccolls  
Mrs. Elizabeth Ratcliff  
Edith and Morris Rubesin  
Dr. & Mrs. John Schieffelin  
Mr. Richard Spitzer  
John and Marjorie Sproul  
Judith Stronach and Ray Lifchez  
Mr. Ted Tawshunsky  
Jaen Treessinger, Victory Gardens  
Mr. Walter Wagner, World Botanical Gardens  
Mark Wieder and Shauna Haines  
Mr. Helmut Winkelhake, Horticare  
Art and Evelyn Woodworth  
Lawrence and Arlene Woolslayer  
Barbara Wright and Norman Wright, Jr.  
Ms. Linda Wroth

## Special Thanks

The Garden would like to honor and thank those supporters making substantial donations:

Jerome and Joy Carlin  
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 Ms. June Cheit  
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 Dr. Anne Goetsch  
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 Justine Hume and Ursula Schulz  
 Bob and Ann Ingham  
 Robert and Esther Oswalt  
 Rudolph & Barbara Peterson, Barbara &  
 Rudolph Peterson Foundation  
 Ms. Susan Rogers

## In Honor

The Garden offers appreciation and thanks for gifts in honor of:

Cecile Weaver from  
 Mr. Kenyon Weaver

Lincoln Constance from  
 Roy and Janet Taylor

## In Memory

The Garden offers appreciation and thanks for gifts in memory of:

Alan J. Bearden from  
 Calimetrics  
 Mr. Colin Bearden  
 Mr. Thomas Burke  
 John and Lynne Cahoon  
 Lawrence and Sharon Handler  
 Richard and Carole Malkin  
 W. and Marilyn Nichols  
 Mr. Michael O'Neill  
 David Warland and Patricia Pesavento  
 Rachael Wong and Bradley Chun  
 Shawn and Terrence Wong

Betty Collamer from  
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 Mr. Brian Thiessen

Neil J. MacGregor from  
 Ms. Marilyn MacGregor

Andrea Moyer from  
 Ms. Karen L. Myers

## Gifts In Kind

The Garden offers appreciation and thanks for gifts in kind:

Booman Floral  
 Cabrillo Community College Nursery Program  
 California Carnivores  
 California Flora Nursery  
 Mr. Fred Dortort  
 The Dry Garden  
 Ms. Kathy Echols  
 Emerisa Gardens  
 Ms. June Faulkner  
 Ms. Iris Gaddis  
 Mr. Wallace Gorrell  
 Harlequin Nurseries  
 Ms. Shirley McPheeters  
 Dr. Robert Ornduff  
 Mr. Richard Persoff  
 Merritt College Propagation Club  
 Monterey Bay Nursery  
 Rosendale Nursery  
 Ms. Candice Schott  
 Sonoma Horticultural Nursery  
 Soquel Nursery  
 Suncrest Nurseries  
 Western Hills Nursery

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## Garden Staff

Dr. Ellen Simms, *Garden Director*

### Administration

Oldriska Balouskova, *Visitor Services Attendant*  
 Gerald Ford, *Lead Building Maintenance*  
 Kandle Fraser, *Administrative Assistant*  
 Elaine Meckenstock, *Business Manager*  
 Lydia Perez, *Visitor Services Attendant*  
 Margaret Richardson, *Tour & Rentals Coordinator*  
 Candice Schott, *Business Operations Supervisor*  
 Marilyn Setterfield, *Visitor Services Attendant*  
 Nancy Swearingen, *Volunteer Services Coordinator*  
 Janet Williams, *Marketing & Development Officer*

### Curation

Holly Forbes, *Curator*  
 Barbara Keller, *Curatorial Assistant*  
 Dr. Robert Ornduff, *Faculty Curator*

### Education

Dr. Jennifer White, *Associate Director for Education*

### Horticulture

David Brunner, *Horticulture Manager*  
 Chris Carmichael, *Horticulturist*  
 Daria Curtis, *Horticulturist*  
 John Domzalski, *Propagator*  
 Judith Finn, *Horticulturist*  
 Martin Grantham, *New Plants Program Coordinator*  
 Peter Klement, *Horticulturist*  
 Lawrence Lee, *Horticulturist*  
 Jerry Parsons, *Horticulturist*  
 Dr. Robert Raabe, *Garden Pathologist*  
 Roger Raiche, *Horticulturist*  
 Eric Schulz, *Horticulturist*  
 Elaine Sedlack, *Horticulturist*

### Newsletter

Janet Williams, *Editor*  
 Academic Arts, *Production*



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Web Site: <http://www.mip.berkeley.edu/garden/>

# CALENDAR OF EVENTS

## Previewing Summer Camps

Again the Garden will be the site of the very popular Green Stuff Day Camp at which kids learn botany and ecology through play in the Garden, art, crafts and games. These sessions are planned:

- One-week sessions for children 5-7 years  
June 28 - July 2  
July 12 - 16  
July 19 - 23  
9 a.m. - 2 p.m., \$135 per session
- One-week sessions for children 8-11 years  
July 26 - 30  
August 2 - 6  
9 a.m. - 3 p.m., \$135 per session
- For children 8-12 years, Intensive Art and Botany,  
One 2-week session  
July 12 - 23  
9:30 a.m. - 2 p.m., \$250

Call for more information and registration form (510) 643-1924

## Twilight Tours

Wednesday evenings during July and August, Garden experts, senior docents and horticulture staff will lead tours of the Garden at this special time of day. Take advantage of the Garden during summer's extended hours when the light is soft and gentle, few people are around, and the Garden's fauna come out of hiding!

July 7, 14, 21, 28 and August 4, 11, 18 and 25  
5:30 pm  
Free with Garden admission

## Sick Plant Clinic

Dr. Raabe and Dr. Mills will see all patients the first Saturday of every month between 9 a.m. and noon.

Saturday, July 3                      Saturday, September 4  
Saturday, August 7                  Saturday, October 2

## COMING EVENTS - Mark your calendar

### Hummingbirds at the Garden

Hummingbirds are amazing creatures, and we have many who make their home in the Botanical Garden. Expert bird watcher Dennis Wolff will fill you in on where they come from, the different ones you are likely to see in the Bay Area, and how to attract them to your garden.

Saturday, July 24, 10 a.m.

Members \$5, non-members \$7

In September and October we will again offer our popular "Foods of the Americas" exhibit and program.

In October and November, a three-part presentation by Constance Grauds, R.Ph., Assistant Clinical Professor of Pharmacy at U.C.S.F. and President of the Association of Natural Medicine Pharmacists, "Medicines from the Earth."

Coming in the Fall! "The Art of the Flower Arrangement, Part One: The Basics" three sessions to be taught by our renowned horticultural artist Jerry Parsons. Have you ever needed help in choosing the right container for the materials? Help in choosing the right materials from your garden flowers and foliage? How do you get an idea which gets the most out of the material and container? Look for details of this exciting program series in our Fall program guide. The Art of the Flower Arrangement series will continue early in 2000 with talks and demonstrations by expert flower arrangers.

### In the works

We are planning a short but intense jaunt to Los Angeles in early November to check the progress on the new garden at the Getty Museum, visit the Mildred Matthias Garden at U.C.L.A., Descanso Gardens, and the Huntington Botanical Garden, among other exciting things. Expert Garden staff members will accompany the group. (More details will be in the next *Newsletter*, but now's the time to start thinking about it.) Call Nancy Swearengen at (510) 643-1924 to put your name on the advance information list!

**For information about any of these events call Nancy Swearengen 510-643-1924**

University of California Botanical Garden  
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