The Land Below the Winds: Plant Hunting in Borneo

Editor's Note: In October 1995 Garden staff members Judith Finn and Jerry Parsons traveled to the Malaysian provinces of Sarawak and Sabah on the island Borneo to observe the native vegetation, ascend Mount Kinabalu, and make a few collections for the Garden. The following account describes some highlights of their trip; Borneo is sometimes called "the land below the winds" because of its position south of the usual paths of Pacific typhoons.

In 1887, The English naturalist F. W. Burbidge described his travels in Borneo in his book The Gardens of the Sun. He related that one evening, after a day of collecting specimens on Mount Kinabalu, it was "so cool, indeed, as to make a good camp fire, woolen shirts two or three-fold, and blankets very desirable...our Malay followers suffered muchly from what to them was bitter cold." We were reminded of those words during an evening we spent at the house of one of our Malaysian guides at about 5,000 feet on the slopes of Mount Kinabalu. The interior temperature was (to us) a comfortable 60-65° F, but our host was shivering with his sweater on, longing to be at his sea-level house in Kota Kinabalu. He did not believe us when we told him that we considered the temperature in his house to be similar to those occasional balmy summer evenings in the San Francisco Bay region. We noticed an illustrated Time/Life book on North America on our host's bookshelf and pointed out to him and his teenage nephews photographs of the deciduous forests of the eastern United States in their autumnal splendor. They found the idea of tree leaves changing color and dropping annually to be very novel and amusing. While we were surprised at their sketchy knowledge of temperate climates, we realized we were equally ignorant about the equatorial zone in which we found ourselves. Here, the day length varies only by minutes throughout the year: sunrise is usually at about 6 a.m. and sunset at about 6 p.m. Shortly after our arrival, we were hiking a few miles from our headquarters and realized that it was 5:30 p.m. In order to avoid being stranded overnight on the trail, we literally ran to make it back safely before it became totally dark. We reached our destination as the sun sank quickly on the horizon of the South China Sea. We never became accustomed to these short days. Temperatures were monotonously predictable: daytime highs were 80-90° F and nighttime temperatures were in the 70s. Rainfall does vary from season to season, with the period November to June the wettest. During our October visit, it rained nearly every day. While we welcomed the cooling effect of the rains, they also transformed the forest trails into streams.
A Mind-Boggling Variety of Life

The equatorial rain forests of Borneo support a mind-boggling variety of life, a variety of overwhelming beauty and richness. One of the most abundant forest trees there is *Dipterocarpus grandiflorus*. From a distance the tree is easily distinguished by the gigantic “broccoli” form of its crown, but if one stands next to its trunk it is difficult to distinguish it from the numerous other large buttress-forming species that grow with it. Thorny rattan palms and other woody vines drape themselves on forest trees and the wonderful “shingle” climbing peperomias and various aroids press their leaves against the massive tree trunks. The upper trunks and branches are covered with epiphytic ferns, orchids, gesneriads, liverworts, and mosses.

In protected Malaysian parks where primary forests still exist, the biotic diversity is overwhelming. In them, there are up to 2,000 species of orchids, over 200 species of palms (about 100 of which are the climbing rattans), 500 species of ferns, and 30 species of the carnivorous pitcher plant *Nepenthes* (or about half the known members of this genus). Where the forest meets the shores of the South China Sea it forms a wall of vegetation. This wall is composed of a variety of plants, many of them similar to each other. The soft waxy leaves of the palm *Arenga undulatifolia* are very fern-like, and the erect, entire leaves of the palm, *Jannhesteijmannia altifrons* resemble those of the bird-nest fern (*Asplenium nidus*). The giant mangrove fern (*Acrostichum aureum*) could easily be mistaken for a palm. Nipa palm (*Nypa fruticans*) has its roots in brackish water, and the mangroves with which it grows are in areas where their roots and lower stems are inundated at high tide. The mangroves that we saw at Bako Park include *Rhizophora mucronata*, with its branching stilt-roots, *Sonneratia alba* and *Avicennia* sp. with their cylindrical peg-like roots (pegroots). When the tide recedes, these pegroots form a wonderful radial pattern, spiraling out from the trunks of the trees. The intertidal mud and sand are inhabited by little crabs and mudskippers (small fish with leglike fins) that scurry about from one puddle to another.

Immediately inland from the mangrove forest is the tropical lowland evergreen rain forest, with its layers of tree canopies covered with epiphytes and climbers. The most amazing tree to us was the strangler fig, which starts life as a seedling that germinates somewhere on the trunk of a large forest tree. The young fig tree sends down aerial roots that encircle the host tree and which grow together into a netlike structure. In many instances the fig grows larger than its host, which may eventually die, leaving the fig free-standing.

The large epiphytes also impressed us; it was difficult to estimate the size of some of these because they were perched so high in the forest canopy. The common bird’s nest fern (*Asplenium nidus*) was conspicuous with its whorls of enormous leaves. Some specimens of stag’s horn fern (*Platycerium coronarium*) had fertile fronds that were over 15 feet long. We also saw the odd oak leaf fern (*Drynaria quercifolia*) with its whorl of sterile leaves shaped like oak leaves and its long, delicate fertile fronds as well as the fern *Aglaomorpha* with its broad leaves extending to 10 feet long. Because of their large size and distinctive shape, these ferns are sometimes known as “trash basket” plants, since their rosettes trap falling debris and a variety of animal and bird droppings that fertilize the plants.

Extremes of plant size and form are common in the rain forest. At one locality we saw, within a short distance, a Boston fern (*Nephrolepis* sp.) with pendant fronds reaching 30 feet growing next to a tiny forest of miniature filmy ferns (*Trichomanes* sp.) covering a rock wall. The giant orchid *Grammatophyllum speciosum* often perched in the treetops with a diminutive *Bulbophyllum* scampering up the trunk below it. Gingers, aroids, bamboos, and palms likewise exhibited a range of growth forms and sizes.
The Padang Batu

Another area that fascinated us is called the “padang batu,” where the soils are derived from leached, siliceous sands overlying an hardpan composed of iron oxide. This area, with its dwarfed trees, reminded us of northern California’s own pygmy forests. The dominant trees on these soils are all greatly reduced in size. There we found many species of Nepenthes, including N. gracilis, N. rafflesiana, N. ampullaria, and N. albo-marginata. Their presence probably reflects the poor nutrient status of these acid soils. Many of the epiphytes growing on the dwarfed trees were “ant plants,” species of Myrmecodia and Hydnophytum with their gall-like structures that house ant colonies. In return for their housing, the ants provide their host plants protection from herbivores and fertilizer from their droppings.

The inland montane rain forest, with its diverse soils and elevations, possesses the richest flora we saw on our trip. This was exemplified by the forests on the slopes of Mount Kinabalu, a 13,455 foot high peak that is one of the highest mountains in southeastern Asia. An account of our adventures on that mountain must wait until another time.

We thank the Friends of the Botanical Garden and the Garden for sponsoring this memorable and informative trip. It was a great thrill to see in the wild plants that we have grown for years in Garden greenhouses. Our observations will help us improve cultural conditions for our tropical holdings, and we gained new insights into the needs of Nepenthes, a genus well represented in our collections. Hopefully, we will now be able to develop more realistic and successful tropical exhibits at the Garden.

—Judith Finn and Jerry Parsons

FROM THE DIRECTOR

At the risk of preaching to the choir, I commend your attention to the various colored inserts that accompany these newsletters. You will see announcements for forthcoming events at the Garden. These events play a significant role in the life of the Garden. If you have not participated in them you should give them serious consideration.

I call these events “Town and Gown” programs because they provide the wider community—the “Town”—with an invitation to join with the University—the “Gown”—in cheerful events that bring people to the Garden and provide a mix of botanical and horticultural education and socializing. The programs are varied in form and purpose. Some are botanical lectures; some are horticulture workshops; some are local garden tours; some have a more social nature. Examples include workshops on rose pruning, garden irrigation, and wreath making, a lecture series on trees, a summer series of story telling in the Mather Grove, a bus tour of renowned private gardens (generally not open to the public) in the Napa valley, and the popular “Chocolate Program” involving a lecture on the biology of chocolate by a Berkeley professor and a tasting session conducted by an industry representative.

These programs are conceived and staged by the Program Committee of the Friends of the Botanical Garden. A few, such as story telling in the Grove, are free of charge. Most, however, have a nominal charge to cover the costs of providing the programs. They are not intended to be fund raisers. Rather they are interest raisers, serving the purpose of increasing the public’s interest and enjoyment of the Botanical Garden. The choir will testify that the Program Committee has succeeded admirably in producing an ongoing succession of stimulating and enjoyable events. If you are not a member of the choir, pick a forthcoming event that catches your attention and join in.

The Program Committee is always open to new suggestions. Old hands and new are encouraged to let the committee know about your interests and ideas for programs in the Garden.

—Philip T. Spieth

Correction: The winter issue of the Newsletter should have been Volume 21, Number 1.
Presently there is some interest in the use of coconut fiber as an organic amendment to soils. According to one report, it can be brought in far cheaper than Canadian peat moss. Little information is available but when more is learned, the information will be included in future articles.

A gardener in the southeast has developed an interesting way of applying the weed killer Roundup on selected plants. This is done by putting on a plastic glove and then putting on a cotton glove over it. The cotton glove is dipped in the weed killer and only the undesirable plants rubbed with the weed killer. When using this weed killer it is important to know that it most effective when air temperatures are 70°F or higher.

Common Plant Clinic Questions

What are the common problems brought to the plant clinic (held in the Garden the first Saturday of the month from 9 AM to noon)? The most common is that of greenhouse thrips. The name is misleading in this area for they rarely are found in greenhouses but are very common on many outdoor plants. This problem will be discussed in the next issue by Dr. Nick Mills, the entomologist who helps with the plant clinic.

However, there are many interesting problems brought in each month. In regard to houseplants, a large percentage of the problems are due to poor cultural conditions. Many times, soil mixes are so dry they can be poured out of the plant container. Most plants with the exception of succulents and cacti do not do well if allowed to go dry. The planting mix should be kept moist but not too moist for that will weaken the roots of many plants and make them susceptible to root rotting organisms. Unfortunately, what is the first thing many do when a plant appears not to be doing well? Of course, give it more water.

Many of the plants brought in have broken pots or gravel in the bottoms of the planting containers. This does not improve drainage but impedes it. Nothing should be put in the bottoms of the planting containers except the planting mix. If slugs or sowbugs are a problem, a piece of screen will prevent them from entering but use only coarse screen. People say that if you don't put something there, the soil will run out. In planting, moisten the planting mix and firm it in the bottom of the container. If it runs out, too much water is being added even for the plant to grow.

Many feel that plants need to be transplanted to larger pots to prevent plants from being pot bound. All plants in pots are pot bound but as long as the roots get the moisture, air, nutrients and support they need, the size of the container is of little consequence. Many bring in a tiny plant in a huge container and wonder why the plant is not doing well. This results from the mix around the root ball becoming very wet and as there are no roots to pump out the water, it remains wetter than the mix around the root ball. Eventually, this leads to trouble.

Other problems have to do with growing plants in glazed containers, particularly with little air space at the soil line and some bring plants in containers that have no drainage hole in the bottom. Terrible! Many grow plants in a good container but then immerse them in glazed containers and forget to look at what is happening in the bottoms of those containers. The best containers are clay pots but economically, plastic may be the winner.

One last comment has to do with watering plants in containers. Occasionally, enough water should be put in the pot so that water runs through the planting mix. This is to leach the salts. If not leached, plants will show marginal burn on the older leaves or, in monocots, on the leaf tips. Salts may accumulate around the bottoms of pots, on the top of the planting mix or if clay pots are used, on their outsides. Frequency of leaching depends on the plant—most plants should be leached once every two or three weeks. Some plants such as prayer plant, spider plant, most ferns and particularly bird nest fern should be leached every time they are watered. It is most important not to let the plants stand in the water that drains through the container. It contains the salts and if allowed to stand, some will evaporate. This will increase the salt content and if the planting mix goes dry, this water will be carried up into the pot and aggravate the salt problem.

You may think that people don’t treat plants like this but these are problems frequently brought to the clinic.

—Bob Raabe
BOOK REVIEWS


By the time this book review appears in the Newsletter most readers are likely to have seen the six-part public television series based on these letters. Don’t let the televised programs keep you from reading the book. The visual story of the two gardens, one in the heart of London and one in the wilds of rural Maine, is a colorful reinforcement of the amusing and delightful mental image the book evokes. Readers and viewers in England have already read the book and seen the series. Now, with the beginning of the New Year, it is our turn on this side of the Atlantic to enjoy this record of a cross-ocean friendship. Leslie Land and Roger Phillips first met on a mushroom hunting foray in New Hampshire and from that time on their friendship has been based on their shared interest in gardening, food and what they describe as ‘the good life.’ Their letters mirror which side of the Atlantic they come from and how they earn their livings. Leslie is the author of several cookbooks and is the home and food editor for YANKEE magazine. She lives and gardens in all but the very coldest months of the year in Cushing, Maine where she is challenged by drought, temperature extremes, porcupines, woodchucks and deer. Her garden is filled with trees, shrubs, ornamentals and countless vegetables intended for her creative kitchen. Her letters speak of the best tomatoes (‘Brandywine’), heirloom vegetables, foods originating in the Americas (with their scientific names), and her compost privy (familiar to all the East Bay residents who visited the Integral Urban House in Berkeley).

Roger is a garden writer and photographer whose beautifully illustrated books on perennials, roses, bulbs, shrubs and trees are known worldwide. His garden in London’s Eccleston Square, where he is head of the neighborhood garden committee, is a perfect foil for Leslie’s frontier-like (albeit eastern) garden conditions in Maine. He writes to her of his delight in winning second prize in a camellia exhibit, a real achievement when he has been competing with camellias grown under glass in wintertime England. He throws himself into conservation efforts for his Square and all the other historic London squares threatened by the changes which would come with underground parking built beneath them. He gives Leslie advice on how to take a perfect flower picture. Back and forth across the ocean these two writers send one another advice and encouragement.

Over 15 years ago there was another notable trans-Atlantic correspondence, 84 Charing Cross Road, which these letters bring to mind. 84 Charing Cross Road was about books and literature, and The 3,000 Mile Garden is about gardens, but they share with us the warmly unfolding friendships between the writers, a friendship in which we can second-handedly take part. This correspondence is a contemporary example of earlier letters exchanged by explorers, settlers, plant collectors, botanists, scientists, authors and friends through the centuries. Let us hope that in the age of electronic mail in which we live that this long tradition will continue.

Books Recently Reviewed


6. Growing Good Roses, by Rayford Reddell, running time 56 mins. $19.95. Bay Area author and rosarian Ray Reddell has written and narrated this video to help those of us coping with the same problems he faces in his garden. His is a friendly, down-to-earth discussion.

—Elly Bade
The California Native Area occupies approximately one-third of the Garden; plants there are grouped by plant communities, with the sole exception of the bulb collection. The California native bulb (and corm) collection has been developing for many decades, but was not brought together into a single planting until the 1960s by then-staff member Wayne Roderick. The current “bulb bed” display consists of two curved raised beds on the oak knoll in the southwest part of the Garden. This display, maintained and expanded by horticulturists Roger Raiche and Kurt Zadnik, includes 234 accessions of 14 genera and 118 taxa (including some natural hybrids). These are taxonomically arranged for comparative purposes, showing the variety of amaryllids and lilies of California. Researchers and visitors can compare several accessions of the same taxon and others from different parts of the state, noting the remarkable diversity in flower color, shape, and size. The genera include Allium, Bloomeria, Brodiaea, Calochortus, Chlorogalum, Dichelostemma, Erythronium, Fritillaria, Lilium, Muilla, Odontostomum, Schoenolirion, Triteleia, and Zigadenus. There is even a Calochortus named for Roger Raiche, Calochortus raichei (Cedars Fairy Lantern). In addition to this nearly complete collection, we have many accessions of native California bulbs planted in other beds or in propagation in the nursery.

Many of these species are rare and/or endangered in California, such as Brodiaea pallida, the Chinese Camp Brodiaea from the Sierra Nevada foothills, where it grows on private property and on adjacent land leased by the California Native Plant Society (CNPS). Additional endangered taxa (as designated by CNPS) include Allium hoffmannii (Beegum onion), Bloomeria humilis (dwarf goldenstar), Brodiaea coronaria ssp. rosea (Indian Valley brodiaea), B. filifolia (thread-leaved brodiaea), B. insignis (Kaweah brodiaea), B. kinkiensis (San Clemente Island brodiaea), B. orcuttii (Orcutt’s brodiaea), Calochortus obispoensis (San Luis Mariposa Lily), Chlorogalum grandiflorum (red hills soaproot), C. purpureum var. purpureum (purple amole), C. purpureum var. reductum (Camatta Canyon amole), Fritillaria agrestis (stinkbells), F. liliacea (fragrant fritillary), F. pluriflora (adobe-lily), Lilium pardalinum ssp. pitkinense (Pitkin Marsh lily), and Triteleia ixioides ssp. cookii (Cook’s triteleia). Two of these taxa are being studied with support from the Center for Plant Conservation, Brodiaea pallida at UCBG and Lilium pardalinum ssp. pitkinense at Berry Botanic Garden in Portland, Oregon.

This collection was greatly utilized in 1995 by two graduate students at the University of Wisconsin, Madison. One is studying the Brodiaea group to elucidate their evolutionary history and another is studying the genus Calochortus. We were able to provide leaf material for chloroplast DNA analysis for many species in their research programs.

One of the more recent additions to the collection is the pale yellow-flowered Cook’s triteleia, Triteleia ixioides ssp. cookii, from the Santa Lucia Mountains in San Luis Obispo County. It grows on serpentine near cypress trees below 500 meters elevation. This was collected by Roger Raiche and has been successfully maintained in the bulb beds. The experience gained in growing this species in horticulture may assist future conservation efforts. Cook’s triteleia is a California endemic (naturally occurring only in California) and is on the California Native Plant Society’s watch list.
Some History

In the 1960s Roderick developed a system of underground cages to protect the bulbs from gopher appetites. Eventually the collection became overgrown and invaded by the noxious exotic bulb, *Nothoscordum inodorum*. Garden annual reports of the '60s include large numbers of wooden boxes constructed each year for the purpose of growing bulb plants, especially lilies. These older boxes have rotted and within the last five years have been replaced (with funds provided by the Center for Plant Conservation) with 72 new redwood boxes in which we grow endangered species and other taxa too difficult to maintain in the open ground. Bulbs in the nursery are now grown in large clay pots. In the 1980s, Raiche and Zadnik re-built the safety net around the bulb display by using basement screens several feet deep, filling in the area with gravel, and sinking pots to their rims in the gravel. The gravel provides insulation against temperature and moisture extremes; the pots keep the different accessions segregated. Rainfall is supplemented by hand-watering for those taxa needing additional moisture.

Each year the accession in each pot is evaluated for vigor. We have been very successful growing *Brodiaea*, *Chlorogalum*, *Zigadenus*, and *Schoenolirion* in this display, while *Lilium*, *Fritillaria*, and *Calochortus* are problematic and tend to be short-lived. During an intensive two-week process, half of the collection is dug and re-potted each fall. A special soil mix is created for nearly every taxon, depending on its precise needs. Nursery material grown to sufficient size may replace display material in decline or be used simply to enlarge the display. It is during this process that limited excess vegetative bulbs and corms are distributed to other gardens upon request. The Garden distributed a large number of bulbs in 1995 to the University of California Arboreta at Davis and Santa Cruz, the Regional Parks Botanic Garden in Berkeley, Strybing Arboretum in San Francisco, and the Santa Barbara Botanic Garden.

Future plans include filling in any gaps in the collection and learning from experience how best to maintain these myriad taxa in cultivation. Visitors to the Garden are encouraged to visit this display, with peak flowering in March, April and May.

(Note: This is a revision of an article that appeared in the AABGA publication, Public Garden, January 1994).

—Holly Forbes
The December 4th, 1995 Holiday Plant Sale was a rousing success in the Garden Conference Center. Plant sales were brisk, featuring orchids, bromeliads, tropicaals, and bulbs. Many thanks to all the volunteers who participated!

Volunteers Willy Adam and Jim Jones setting up for the Holiday Plant Sale.

Garden Manager Daniel Campbell gave a talk on the trees of the Garden for a Merritt College Landscape Horticulture class on arboriculture on December 4th.

Curator Bob Ornduff gave talks in early January 1996 to the Friends of the UC Davis Arboretum on “Plants of Chile for Northern California Gardens” and to the Cactus and Succulent Society of America, Oakland chapter, on “Succulents of the Cape Floral Region.”

Assistant Manager Judith Finn and Horticulturists Jerry Parsons and Martin Grantham attended a one-day UC Cooperative Extension program on “Optimal Woody Plant Care Practices to Save Energy for Combatting Pests and Diseases” on December 14, 1995. Judith Finn also attended the UC Davis 3rd Annual Pesticide Conference featuring new research in the field.

Horticulturist Roger Raiche gave a lecture for the California Horticultural Society on January 15th, titled “The Planet Horticulture: Fantasies and Variations on Themes of Man on Nature,” to a large audience at the California Academy of Sciences’ Morrison Auditorium.

Roger was also the recipient of three prestigious awards from this Society. He was recognized with their 1995 Annual Award “for outstanding and meritorious contribution to horticulture in California.” He was given an Education Award for the collection of tall eastern North American Asteraceae he displayed at the July 1995 membership meeting. A Special Garden Award was made to Roger and partner Tom Chakas “for creating, maintaining, and sharing a garden of Outstanding Horticultural Merit.” (This garden is at 1 Maybeck Twin Drive, Berkeley and was featured in the September/October issue of Garden Design.)

Horticulturist Peter Klement gave a Garden workshop on rose pruning on January 20th to a sell-out crowd. This has become a very popular annual event, usually held in early January. For those who missed it, plan to sign up early next time!

Horticulturist/Building Maintenance staffer Gerald Ford co-lead a workshop on “Essentials of Good Gardening” with volunteer Sarah Wikander, which included information on irrigation and tool selection and maintenance for an appreciative audience on January 20th.

Horticulturist Martin Grantham taught a well-attended UC Santa Cruz Extension course on seed germination at the UC Santa Cruz Arboretum on February 3rd.

We note, with much sadness, the passing of three Garden supporters in recent weeks. Bernard Witkin, featured in this column in the last Newsletter and a Life Member of the Friends, died shortly before Christmas. Bernie and his wife Alba have been very important supporters of the Garden for many years. In January Betty Rollins and in February her husband, Fitz Rollins, died. Betty was an expert gardener and was instrumental in establishing the Garden’s herb garden in the 1940s. She and Fitz were strong supporters of the Friends’ group in its formative years and were both Honorary Trustees.

Visitors to the Garden should know that weekday parking at the Garden is exclusively in the terraced parking lot across from the Garden entrance. Discounted parking coupons are available at the Visitor Center.
In his spare time, Roger enjoys hiking and exploring remote areas throughout California. Even at leisure, his attention focuses on plants, and he is always looking for new things, especially unusual variants of known species, using his love of the wild to supplement people's options, both for the Botanical Garden and the nursery trade. Some of his favorite discoveries are *Arctostaphylos pajaroensis* 'Warren Roberts', a great landscape shrub with brilliant scarlet new growth, and the *Ceanothus* hybrid 'Joan Mirov', a very floriferous, mid-height, spreading landscape shrub.

Roger thinks that a lot of people get very uptight about "rules" and "boundaries" they perceive about gardening. Many of the books and periodicals available to the public seem to impose standards that are not realistic or even desirable for western gardeners. Just getting things to grow is a great measure of success, he says. You can bring a lot more than color into your garden, and you should feel free to make horticulture anything you want it to be.

—Nancy Swearengen

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**NEW STAFF**

We are sad to say goodbye to Deborah Darnell, Friends' Assistant since 1987. Deborah's husband was transferred to Gaithersburg, Maryland, in February, and unfortunately for us she has chosen to accompany him. It was Deborah who computerized the Friends' records, followed up on memberships, kept the various committees in line, made sure Newsletter publication and events flyers were on time, made many of the behind-the-scenes arrangements for Friends' programs and events, and was responsible for the gradual but vast improvement you have seen over the years in membership services. Her departure leaves a big hole, but we wish her all the best in her new adventure on the East Coast!

Welcome to Allison Elliot, who has assumed the position of Friends' Assistant. Allison brings a wide range of skills and interests to the Garden. She has worked most recently as a landscaper, but also has a wealth of experience in administration, research and planning. She works one night a week at the Exploratorium, and looks forward to summer, when she spends her vacation working as a cook on various Sierra Club wilderness trips. With her knowledge and energy, the Friends are in good hands!

—Nancy Swearengen
New Members
The Friends of the Botanical Garden welcome the following new members.

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Judith Baker
Vernon Balnes
Rachel Blau
Wayne Blanchard
Elizabeth Bloomer
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Joyce R. Helsel

Kathryn Welch for her work in the Docent Program from
LaVerne Leach

Gifts in Kind
The Friends offer appreciation and thanks for gifts in kind.

Peggy Blatchford
Tom Chakas
Thomas W. Livingston
Jim Jones
Dr. Robert Ornduff
Mary Schroter

Special Projects
The Friends offer appreciation and thanks for gifts from these donors to support the special projects noted.

California Area Endowment
Elly & Bill Bade
Florence Henderson

21st Century Endowment Fund
Elly & Bill Bade
James & Irma Uren (their gift will be matched)
Myrtle Wolf

Entrance Project
Robert & Evelyn Ratcliff

Friends Directors' Endowment
Tamra C. Hege
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Rose Garden Improvements
Joan Rock Ballard
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California ALIVE!
Marion E. Greene

Children's Art Poster Contest
Anonymous donor

Join Friends of the Botanical Garden or Give a Gift Membership

MEMBERSHIP
The Friends of the Botanical Garden offers public education programs and provides independent funding to support the many needs of the Garden. You can enjoy and support the Botanical Garden year-round by becoming a member of the Friends of the Botanical Garden.

Membership benefits include:
* Newsletter
* Workshops, lectures, and tours
* Discount on Visitor Center purchases
* Discount on educational classes
* Early admission to Spring Plant Sale
* Discount on subscription to Pacific Horticulture
* Reciprocal admission to more than 120 gardens nationwide

Yes, I would like to support the U.C. Botanical Garden at Berkeley as a member:

- [ ] Student* .................... $10
- [ ] Sponsor ...................... $250
- [ ] Basic ......................... $35
- [ ] Patron ....................... $500
- [ ] Family/Dual ............... $50
- [ ] Benefactor ................ $1000
- [ ] Supporting ................ $100
- [ ] New
- [ ] Renewal

Name

Address

City/State/Zip

Telephone

- [ ] This is a gift from
- [ ] My employer has a matching gifts program. I have enclosed the appropriate forms.

Contributions are tax deductible. Please make checks payable to Friends of the Botanical Garden and mail to:
Friends of the Botanical Garden, 200 Centennial Drive, Berkeley, CA 94720-5250

*Full-time only.
CARE & CULTURE OF ORCHIDS Sat, APRIL 6
Jerry Parsons, Garden horticulturist, past President of the San Francisco Orchid Society and a judge for the American Orchid Society, will give a demonstration class to include: culture and care of warm and cool growing orchids, some suitable for growing outside in the Bay Area; potting and mounting of different types of orchids; and, how to increase your collection. Divisions of plants from the Botanical Garden will be available for purchase. Members $10, non-members $15, Conference Center, 1-4 pm.

CALIFORNIA GARDENS, 1769 TO 1915 Wed, MAY 1
The Friends of the University of California Botanical Garden and of the Bancroft Library invite you to the first collaborative program hosted by UC Berkeley's oldest organized support groups. Enjoy a program that includes a viewing of books and art on topics related to California gardens and a slide lecture by the well-known landscape architect Thomas Brown, who has taught at UC Berkeley, Merritt College and other regional campuses. Coffee and dessert will be served following the lecture. Members $5, non-members $10, Bancroft Library, UC Berkeley Campus, 6:30-9 pm.

TODAY ON THE TERRACE Sun, MAY 26
The Docents of the UC Botanical Garden invite you to join them for the first in a series of programs highlighting the many and varied uses of plants throughout the world. The first program will be Plants that give us Fibers & Dyes. There will be demonstrations of spinning and dying, an introduction to silk production from the silkworm to exquisite cloth. There will also be displays of fiber and dye from around the world and a self-guided tour to see many of the plants used in our demonstrations. These programs are designed for people of all ages. Admission free. 12-4 pm.

ATTENTION CREATIVE MINDS
The Program Committee is expanding and needs your help!
The Program Committee works with all affiliate committees of the Friends, Garden staff, university and community groups, and individuals to plan and present entertaining, informative, and educational programs for children and adults.
The current Committee members are doing a fantastic job, but we would like to expand, and we need volunteers who have ideas and an interest in educational program: Tours, Lectures, Symposia, Workshops. If you would like to attend a meeting, please call Krishen Laetsch at 510-548-8150. The Program Committee meetings are held at the Garden the first Thursday of each month from 11:30-12:30.

GARDEN TOURS
GARDENS OF NAPA VALLEY Thurs, APRIL 25
This year’s Spring tour to the Napa Valley will feature two gardens created by Roger Warner, a well known garden designer, and the gardens at Shramberg Winery. Our first stop will be at the Eden Rock garden. Second we will venture into a true plant collector’s garden, featuring old roses and an unusual perennial border. The final garden of the day is the Shramberg Winery in Calistoga, where you will enjoy a woodsy setting for this Victorian Gem. Roger Warner, garden designer and Victor Yool, Manager of Berkeley Horticultural Nursery will be accompanying us on this tour. Members $65, non-members $85, 510-643-7265 for more information.

WILDFLOWERS OF THE SOUTHERN SIERRA AUG 10 - 13
We will find wildflowers from the high alpine desert to the rock scree of the alpine situations and everywhere in between. Meadows provide especially lush settings for a great diversity of flowers. Glen Keator, Ph.D., is a freelance botanist, teacher, and writer. He teaches widely in the Bay area, specializing in native trees and wildflowers; his latest book is a field guide to plants of the East Bay Parks. For more information call 642-3343.

NEW ZEALAND SPRING GARDEN TOUR OCT. 28 - NOV. 13
Daniel Campbell will be leading this tour designed by New Zealand Garden Tour Specialist, Jan Coyle. Included in the tour will be native plant gardens, private gardens and museum gardens. Call KiwiPac Tours at 415-595-2090.

THE NATURAL HISTORY OF COSTA RICA MARCH 7 - 21, 1997
Join us for a tour that will feature numerous sites of great botanical interest such as Corcovado National Park, Isla Del Cano, Wilson Botanical Garden and Lomas de Barbudal Biological Reserve. Call Geostar Travel, 800-624-6633, for more information.

For further information on classes and events, call the Visitor Center, 510-642-3343. To register for classes, send checks to UC Botanical Garden. Two weeks advance notice is necessary to accommodate individuals with special needs. No refunds the week before the class date unless class is cancelled. Pre-registration is suggested, as classes fill early. The Garden is open every day of the year except Christmas from 9:00am to 4:45pm. Free public tours led by docents are given on Saturdays and Sundays at 1:30pm. Admission to the Garden is free.

Friends of the Botanical Garden
University of California
200 Centennial Drive, #S250
Berkeley, California 94720-5250

Address Correction Requested