A Sister Garden in the Tropics

The air is cool, damp, and still, and the early morning light too dim for photographs. I walk quietly down the freshly mown path, past an arbor covered with orchids, through a jungle of low-growing palms. Passing the research plots, I scan the trees overhead for the baby kinkajou spotted yesterday. Just ahead, a short bamboo fence marks the Hummingbird Garden, the hollow stems of the bamboo serving as flower pots for bright crimson and yellow bromeliads. I take a seat and watch quietly, alert for sudden flashes of color and the characteristic buzzing... So begins a day for a visitor at our new sister garden, the Robert and Catherine Wilson Botanical Garden in southern Costa Rica.

With the world's tropical rainforests disappearing at rates that stagger our comprehension, the need for public education and applied programs in tropical conservation has never been greater. Botanical gardens, whose primary purpose is to promote study and appreciation of the plant kingdom, are natural platforms for communicating conservation issues to the public. One way to advance this aim is to develop greater cooperation between temperate botanical gardens, with their well-developed programs of education and interpretation, and tropical gardens, whose floras and audiences place them in the middle of the crisis.

We are therefore pleased to announce that the University of California Botanical Garden at Berkeley and the Wilson Botanical Garden in Costa Rica have formally agreed to become Sister Gardens. The Wilson Garden has one of the most prominent collections of ornamental and economic plants in Central America and is an important field station for the Organization for Tropical Studies (OTS). OTS is a non-profit consortium of over 40 American and Costa Rican universities dedicated to education, research, and the wise use of natural resources in the tropics. U.C. Berkeley is one of the founding members of OTS.

Rich Tropical Connection

Although OTS now owns and administers the Wilson Garden, it was founded privately in 1962 by Robert and Catherine Wilson. Before moving to Costa Rica, the Wilsons owned a commercial nursery in Florida where they introduced many tropical species into the horticultural trade. Drawing on their extensive contacts, and taking advantage of the rich native flora, the Wilsons developed an outstanding plant collection of tropical species. In 1973, the Wilsons transferred the property to OTS, keeping a home on the grounds, and in 1986 OTS took over the horticultural operations under the direction of Luis Diego Gomez.

The tropical setting, the local fauna and flora, and the richness of the plant collections make a visit to the Wilson Garden an unforgettable experience. Aroids, gingers, bromeliads, and orchids are abundant and Garden special collections are featured on...
The Wilson Garden is located in the highlands 4 miles south of San Vito de Java, the main population and commercial center in Coto Brus County.

Hill" and "Maranta Trail". An astounding 80% of the tropical and subtropical palm genera are in cultivation here along with a well-documented research collection of Heliconias. In all, more than 1,000 genera in some 200 families are represented. The Garden also includes a 300 acre reserve of undisturbed premontane forest, rich in orchids and other epiphytes.

A Natural Relationship

Our two gardens have a strong basis for partnership in our similar focus on research and education. We both fill significant roles within our communities as public museums and education centers, providing beautiful settings for the appreciation and study of plants. We are both active in promoting conservation and preservation of the world’s dwindling biological diversity.

The decision to formalize our relationship grew naturally out of the success of our cooperative efforts during the past year and a half. A grant from the Stanley Smith Horticultural Trust supported consulting visits to the Wilson Garden, purchase of a computer, and installation of computer programs to modernize the plant record keeping. Last July, Dr. Stephanie Kaza from the Garden, Dr. Kerry Walter from the Center for Plant Conservation, and I spent two weeks in Costa Rica, primarily at the Wilson Garden, but also at La Selva Biological Station, a key OTS field site. Kerry worked with Garden Director Luis Diego Gomez and several staff from the OTS San Jose office to install BG-BASE. This program will greatly enhance the ability of the Wilson Garden to exchange information with institutions around the world and to manage future development of the plant collection.

Stephanie and I concentrated on analyzing educational and informational needs of Garden visitors, proposing interpretive tools, discussing exhibit development, and studying the curatorial status of the collections. Stephanie coordinated the design of a new map brochure that will be printed in English and Spanish this fall. During our visit, Luis Diego was an endless source of information, inspiration, and entertainment. Formerly head of the Costa Rican National Museum, Luis has now dedicated himself to the rejuvenation of the Garden. OTS has provided support for developing the Garden as a model site for the study of sustainable land use and conservation within the tropics. The Garden has recently received a grant of $127,000 from the National Science Foundation to upgrade physical facilities — further recognition of its importance as a research institution.

Cooperative Pledge

Our two gardens have agreed to work together in the future by:
- exchanging staff, information, and expertise;
- providing research support for students in biology, science education, and conservation;
- exchanging plant material; and
- developing training programs for students and interns.

Specific projects for the coming months include developing a strategy for inventorying and mapping the Wilson Garden, completing the new map brochure, and engraving plant labels for some of the collection.

On August 29, 1988, as representatives of both gardens met beneath a grove of coast live oaks in the U.C. Garden, we formally agreed to establish our relationship as sister gardens. A proclamation describing the promise of cooperation is under review right now. We look forward to a partnership designed to benefit both our audiences and a world of tropical plants and animals whose time is running out.

—Jim Affolter
Garden Colony on Campus

Despite losses in our native flora due to problems of rarity and extinction, the total number of species in California has actually increased in the past two centuries. This is because approximately 10 percent of the vascular plant species growing 'wild' in the state are of exotic origin. Some of these are garden escapees such as sweet alyssum (Lobularia maritima), Red valerian (Centranthus ruber), fennel (Foeniculum vulgare), pampas grass (Cortaderia selloana), gorse (Ulex europaeus), and the brooms (Cytisus spp.). Although many of these lend color to waste places, some such as the brooms and pampas grass are noxious pests. Other invaders of diverse origins are agricultural pests such as Bermuda buttercup (Oxalis pes-caprae) and the star thistles (Centaurea spp.). Given the mobile nature of our society, it is likely that California will continue to provide a home for uncounted new introductions arriving by ship, air, rail, in packing material, and by other means.

Occasionally I am asked if the Botanical Garden has served as the unintentional source of new introductions into California's exotic flora. A politically correct answer would be “no” and the factual answer until recently was also “no” — at least as far as we knew. We are judicious in what we acquire and plant out in the Garden, making an attempt to avoid potential troublemakers. The weeds that occur in and around the Botanical Garden are commonplace species that are widespread elsewhere. However, the question of new introductions must now be answered “yes”.

A Venturesome Touch-Me-Not

In late summer of 1988 I noticed a small colony of Jewelweed or Touch-Me-Not (Impatiens capensis) growing along the banks of Strawberry Creek behind the Life Sciences Building and a few individuals along the same creek in back of Alumni House. This species is widespread in eastern North America and ranges naturally as far north as Alaska. Its nearest known uncultivated populations are in northwestern Oregon along the Willamette and Columbia Rivers. It isn't clear whether these plants are native to that region, or were introduced there, since the first Oregon collections were made by me in 1958. In Oregon, Touch-Me-Not forms hybrid swarms with the closely related native Jewelweed, I. ecalcarata.

In the late 1960s I collected seeds from a hybrid swarm of Jewelweed in Oregon and established a small colony in the Garden along the streamlet by the North American area behind the Tropical House. This channel ultimately empties into one of the forks of Strawberry Creek. The colony establishes itself yearly via seeds scattered from explosive capsules — hence the name Touch-Me-Not. For several years, the Garden flowers showed the same features as the original population. By the 1980s there were only two variants — one identical to I. capensis and the other the same except without spots on the petals. Spotlessness is a genetic trait from I. ecalcarata, a native Jewelweed that hybridizes with I. capensis in northwestern Oregon. This one trait seems to have become stabilized in the garden population, which is still thriving and vigorous.

As far as I know, I. capensis is otherwise unreported in California and is not grown as a garden plant. So my guess is that the campus colony originated from seeds that were carried down Strawberry Creek from the Botanical Garden. The plant will probably not become widespread elsewhere in the state. In the British Isles it is widely introduced along riverbanks, but it is not considered a pest nor has it displaced native species there, so I would not expect this charming invader to become a pest in California either.

Ironically, another “weed” has also achieved distribution beyond the Garden by another means. The prostrate purple-flowered Heal-All (Prunella vulgaris) that benignly infests the lawn area is a genetic dwarf, quite unlike the tall race of this species that grows in wooded areas. Our Heal-All is now known to university students throughout the United States because of a photograph used to illustrate the process of evolution in Raven, Evert, and Eichhorn's popular introductory botany text, Biology of Plants. So, it is not always the big plants that make the headlines; the little stories are important too.

— Robert Ornduff
Editor's Note — This paper was delivered at a conference on "Conserving Biological Diversity" in Davis, California on August 16, 1988. Luis Diego Gomez, Director of the Wilson Garden of Costa Rica, offered a Third World perspective on the role of botanical gardens in tropical conservation. With his permission, we have reprinted an edited version of his paper which will appear in full in Beeline Vol. 2(2), 1988 published by Friends of Lomas Barbudal.

Only in the recent years have botanical gardens as a group entered the sphere of environmental concern. They have been prompted to move from the general desire to expand the comprehensiveness of their collections to take action directed at conservation. They have moved from policies of specializing in certain geographical areas or plant groups to a more active role in conserving these areas or plants. Botanical gardens are being asked to go beyond their routine activities to a new role. The question is how?

In the tropical and subtropical countries, botanical institutions often languish and slide into oblivion from lack of resources. It is time for temperate area gardens to foster "sister institutions" in the tropics and share their expertise, help them locate and channel the necessary resources to revitalize and keep tropical collections not merely alive, but on some path to growth and relevance in their communities. The cooperative relationship between the Wilson Botanical Garden and the U.C. Berkeley Botanical Garden is a good example of this kind of exchange of expertise and resources.

Luis Diego Gomez,
Director, Wilson Garden—
"We are quite pleased to become Sister Gardens with UC Berkeley and we welcome you to visit our Garden in San Vito."

Shared Conservation Efforts

The conservation of germplasm ex situ (out of the natural habitat) is one thing botanical gardens do well. In temperate countries it is quite expensive to keep tropical plants under glass. Temperate botanical gardens may find it an interesting option to conserve special study collections of tropical plants in tropical botanical gardens. This caretaking could be a useful role for sister institutions. Overhead funds for maintenance and other garden expenses would be a welcome financial resource to most gardens and arboreta in the Third World. The cost of keeping such collections in tropical gardens can be met by producing propagation materials for collectors and commercial growers.

Tropical botanical gardens should be encouraged to keep and manage some areas of native, local vegetation where it is still possible. They will be small islands, but for quite some time, all natural habitats have been islands on the decrease. At the Wilson Garden, second growth forest is certainly an island in a sea of coffee farms and eroding pasturelands.

We have proposed a plan to the Costa Rican government to create a series of representative reserves. These would be selected to represent the biotic zones in the country with maximum possible diversity. They would be managed without the restraints of present legislation for National Parks and related conservation areas. Protected areas must become useful within the next 10 years as sources of germplasm to stock denuded areas, or they will be defeating their own purpose.
**Education at All Levels**

Governments and conservation agencies must give botanical gardens the means to carry out extensive environmental education programs at all levels. The Wilson Garden devotes a large portion of its budget to environmental education for students and ecoturistas, nature travel groups. We also want to work directly with the landless and unemployed — the people who are potential squatters in the area.

There is a tremendous need for educational books and materials in Spanish about the local plants and plant habitats. We now use primarily books from Spain and poor translations of temperate botany books. It is no wonder we do not care about our own forests!

Botanical gardens need to take an active advisory role in working with international agencies. They must get together and redesign international policies concerning the introduction of plant materials. Many plants have survived better in European conservatories than in their own habitats which are or soon will be destroyed or severely altered. Government agencies charged with reforestation take their cue from international organizations who only know about pines and eucalyptus. A botanical garden must be able to present the proper evidence against massive introductions of certain species, even at the risk of alienating potential donors.

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**Time to Act**

Every so often there is a meeting of some sort and magnitude on conservation issues. We spend so much time discussing the importance of these issues that, by the time a course of action is chosen, the task will be simplified greatly — not because of the decades spent in analysis and planning, but because there will be very little left to conserve.

We must realize that it is equally if not more important to spend as much time and money keeping living collections alive as in preparing herbarium specimens. Studies of chloroplast DNA will be a byzantine nicety when the source plants are becoming subfossils under the asphalt of transamazonian highways, when the last living example of some plant is cozily potted in New York or Tokyo.

When we view the magnitude of these problems in broad perspective, we see the immensity of the task at hand. It is not just critical, it is essential that we all become active conservationists and not just distant scientists. It is time for botanical gardens to take up their new role with energy and dedication.

—Luis Diego Gomez, Director, Wilson Garden

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**President’s Reception and Ground-Breaking**

On Sunday, September 11th, a lovely late-summer evening, Friends’ President Robert Riddell welcomed special guests to a symbolic ground-breaking celebration for the new Tour Orientation Center. Honored guests included former members of the Board of Directors, Honorary Trustees, and major donors to the Garden.

Riddell outlined the Friends’ many contributions to the well-being of the Garden and Director Robert Ornduff spoke of hopes for improved parking facilities and eventual aesthetic and functional changes for the main entrance area. Education Coordinator Stephanie Kaza suggested that the Garden’s programs aim to reach beyond the limits of the Garden walls and encourage a sense of interconnection with plants and people around the world.

The Tour Orientation Center will be a meeting place for tour groups and offer a place for visitors to relax and enjoy the view over much of the Garden. The facility has been made possible through the generosity of Mr. and Mrs. Nelson Weller in honor of longtime Garden benefactor Mrs. S. Floyd Hammond, and of Mr. and Mrs. Bernard Witkin, Mr. and Mrs. Robert Riddell, and the Friends’ membership. The project is scheduled for completion before the end of the year.

The reception was graced by guitar duo music provided by the Young People’s Musicians, and delicious hors d’oeuvres prepared by Trader Vic, thanks to the support of Freddie Fung.
**GARDEN SPOTLIGHT**

**An Exotic Journey**

House plants have long been favorites among temperate gardeners, suggesting a world of exotic colors, designs, flavors, and scents. At the glimpse of a flowering orchid, the imagination runs wild, conjuring up walls of green jungle and thickets of lush vegetation. While Berkeley is too cool and dry to grow most tropical plants out-of-doors, we have captured many wonders under glass to lure visitors into the equatorial realms. During the damp cold of winter, we invite you to take a journey to the tropics world which, in fact, is not, so far away.

**Diversity in the Rainforest**

The Rainforest section of the Desert and Rainforest House features tropical epiphytes, or plants that grow on other plants. These are not to be confused with parasites, plants that actually draw their nourishment from other plants. Epiphytes are abundant in the tropics where water, sunlight, and nutrients are often more available high in the canopy than down on the forest floor. Tropical orchids, ferns, and bromeliads are common epiphytes, but we also have epiphytic pitcher plants (*Nepenthes*) and even epiphytic cacti!

The orchids are the showiest feature of the Rainforest greenhouse. The U.C. Berkeley collection has been collected primarily by botanists rather than horticulturists and consists of species rather than hybrids. This means the flowers are not necessarily chosen for size or color or spectacle, but are more widely representative of the vastly diverse orchid family. Almost all species are wild-collected and many date back to the 1950's or before. The collection is also unusual in that all species are "clean" — that is, uninfected by either *Cymbidium* virus or tobacco mosaic virus. In 1985, Dena Hutchin, a UCB graduate student in plant pathology, performed an Elisa test on all our plants to check for virus, and the infected plants were transferred out of the Rainforest House.

**Pollination Detective Stories**

Orchids are well-known for their extensive variations in shape and color designed to attract specific pollinators. Like other tropical plants they can't afford to depend on random insect movement to accomplish pollination. To insure efficient transport, the pollen is packaged in masses or pollinia and is carried in one packet to another flower by the pollinator.

In *Catasetum* spp. the flowers produce a strong fragrance which attracts male euglossine bees that collect this scent to produce pheromones. As they enter the flower, they inevitably touch one of the appendages or "horns" of the stem holding the pollinia. This stimulates the bent stem to snap like a metal spring, catapulting the pollinia onto the bee's back. The impact can sometimes knock the bee out of the flower!

Some orchids have pollination systems that involve false copulations. *Ophrys speculum* attracts a male wasp by looking exactly like the female — complete with eye spots and a hairy abdomen. In the hammer orchids, the deception even includes using a scent which is a copy of the pheromone released by the female wasp. The flower produces this scent several weeks before the female wasps appear, so they can successfully monopolize the attention of the male wasps.

Flowers of *Paphiopedilum*, in the slipper-orchid group, have an inflated pouch which acts as a fly trap. The flies are attracted by the unpleasant scent of the flowers and by the conspicuous pattern of spots and stripes. If they attempt to land on or walk across the column, they slide off its oily, flat surface and are caught in the large opening of the pouch. As they struggle to escape through one of the side exits, they brush against the pollinia which become affixed to their bodies on the way out.
Though we do not keep pollinators on hand for our orchids (think of the greenhouse as an orchid monastery), our over 450 species are thriving and well. Unfortunately as rainforests are cleared at an alarming rate, orchids and other epiphytes are threatened with loss of habitat — their trees! This remarkable speciation took place in a stable environment which is changing rapidly today. Reproductive mechanisms such as pollinator specificity that have isolated populations into separate species, may no longer be effective under disturbed conditions.

**Tropical Economic Plants**

The tropics are the source of many important agricultural plants, a theme that is illustrated in the Tropical House next to the Meeting Room. Many of the plants in this greenhouse are of economic value: their products are probably regular features in your household. As you face the small pond, the house is geographically divided into Old World species on the left and New World species on the right. The specimens have recently been given new labels, so take this article in hand and see what you can discover!

The Epiphyte wall of orchids by the pond in the Tropical House. (photo by Stephanie Kaza)

In the Old World section, look up for the wildly successful *Aristolochia elegans*, sending spotted pouch-shaped flowers across the ceiling wires. This plant is responsible for the faintly fetid smell in the greenhouse, typical of fly-pollinated species. The Banana by the entrance has been pruned to reveal the complex flowers and maturing fruit. Nearby is another breakfast item — Coffee, originally grown in Africa before coming to the New World. Perhaps the strangest flower on this side is the dark brown-purple Bat Flower, *Tacca integrifolia*, pollinated by flies (not bats). The whisker-like structures are thought to be derived from sterile flower stalks.

On the New World side, look for tree frogs and tadpoles. The tank bromeliads on the bromeliad tree are often home to tadpoles in the tropics; here we have brought in local tree frogs as part of the biological pest control program. Instead of pesticides and poisons, we use tree frogs, lacewings, ladybugs, and parasitic wasp to keep insect damage under control.

One of the most fiercely armed specimens is the Ant Acacia Tree (*Acacia cornigera*) — a classic case of symbiosis and coevolution in the tropics. Ants patrol the tree protecting it from grazers and other insect pests, and in turn, the tree produces small oil rich food bodies at the tips of the leaflets as ant food. The ants live in the tree's large hollow thorns. The Cacao plant, source of our chocolate has a large fruiting pod; the inconspicuous flowers are borne directly from the trunk. With some looking you can also find the Chiclet tree — source of chewing gum ingredient, a Rubber plant, and a giant *Equisetum* which is taller than its North American horsetail relatives.

Many more species are of economic value to the local people of Central America, Asia, and Africa, but for the most part, we know very little about the potential uses of most tropical plants. Many species may be promising sources of basic carbohydrates and protein; others may be of great medicinal value. The source of these possible cultigens are the wild areas and local and indigenous peoples that can teach us what they know. Our collections at the Garden barely represent the enormous number of species in the tropics, but they offer a taste of the possibilities which may soon be lost because of global demands on the tropics.

—Stephanie Kaza
Symposium a Success

The Friends' two-day Fall Symposium on Mixed Perennial Borders, organized by Elly Bade, was a tremendous success and well-attended. Jane Brown of England and Eleanor McPeck of Radcliffe College offered historic perspective in design. Roger Raiche from the UCB Garden provided information on California plants for color, and other guests spoke on Australian plants, ferns, and other elements in the border. The large group of over 200 toured nine gardens in the East Bay after brunch in the Garden on Sunday, while others participated in a supplementary workshop.

Conferences: Kurt Zadnik attended the Fifth Annual Huntington Botanical Garden Symposium in mid-September on Succulent Plants, making new contacts in the cactus world for possible future plant exchange for the Garden. Elaine Sedlack traveled to China to attend an International Symposium on Botanical Gardens held in Nanjing. She returned to many of the gardens she visited in 1986 and had a chance to see Professor Xu who helped design the Chinese Medicinal Herb Garden. Both trips were partially supported by the Friends' Horticultural Staff Development Fund.

Mesoamerican Area: The California Conservation Corps continues to be extremely helpful hacking and hewing steep trails and steps into the side of the slope below the propagation houses. Designs for the area are now in the planning stages. Working with Jim Affolter and Stephanie Kaza, UCB student and Chiapas enthusiast John Cloud has prepared a preliminary report on major interpretive themes and proposed a number design ideas. He is currently compiling a data base of all the plants slated for this area with information on habitat, ethnobotanical use, and possible horticultural value. The Garden is working with Frank Almeda of the California Academy of Sciences and Professor Brent Berlin of the UCB Anthropology Department to develop an appropriate planting scheme for this new area.

Old and New Plants: The trunk of the Phoenix canariensis palm at the top of African Hill broke quite suddenly in mid-September — something palms rarely do. There is no obvious explanation for this odd death — the drought? a broken heart? Fortunately there is another stately individual of this species by the bridge in the Palm and Cycad Garden.

The Center for Plant Conservation national collection continues to grow. Jim Affolter and Holly Forbes brought back seeds of Eryngium constancei from the last known population of a vernal pool in Loch Lomond, Lake County and shipped off the seeds for long-term storage.

Publication: Curatorial Assistant Holly Forbes contributed a paper to a new publication, Plant Biology of Eastern California: Natural History of the White-Inyo Range, Symposium, Volume 2. Written with Wayne Ferren, Jr. and J.R. Haller of U.C. Santa Barbara, the paper focuses on Fish Slough, an Area of Critical Environmental Concern (as designated by the Bureau of Land Management). The area is home to several rare and endangered species, including the endemic Owens Valley pupfish and Fish Slough Milk Vetch (Astragalus lentiginosus var. piscinensis).

Milestones: Kurt Zadnik celebrated his tenth anniversary of employment with the Garden surrounded by friends and colleagues who toasted the occasion with humorous and revealing stories of the past. He hopes to spend several more decades here at the Garden caring for his beloved cacti and succulents.

Miracles: Assistant Manager Judith Finn has a new wonderful baby, Daniel Brandywine Finn, a healthy young boy who arrived on August 11th. Judith is quite the pleased new mother. She will return on December 1st to resume her responsibilities at the Garden.
Holiday Plant Sale
Saturday/Sunday, December 10-11, 10am-3pm

The Friends of the Botanical Garden will hold their annual Holiday Plant Sale on December 10-11 from 10am to 3pm at the Botanical Garden. The sale will feature a wide array of lovely plants for holiday gifts, including many hard-to-find species. Proceeds from the plant sale go to support the Garden’s programs, activities, and general operations.

Holiday special items include ferns, cacti, succulents, houseplants, epiphytic orchids, and Cymbidiums. All of the plants are grown from horticultural sources or seed collected from the wild. They have been propagated from the garden collection, from collectors’ gardens, and from seed houses in the United States.

For the first time, bulbs will be for sale in December rather than waiting for the Spring Sale when most of the collection will have already flowered. So, in the spirit of experimentation, we offer Friends and the general public a chance to obtain these bulbs during the phase of new growth, in anticipation of their blooms next spring — in your garden!

**BULB SELECTIONS**

*Plants for sale will be drawn from this list, depending on the condition of the plants at sale time.*

<table>
<thead>
<tr>
<th>Plant Species</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antholyza ringens (Iridaceae)</td>
<td>South African bulb with scarlet and yellow flowers on a stem with a velvet appendage evolved as a perch for pollinating sunbirds.</td>
</tr>
<tr>
<td>Babiana spp. (Iridaceae)</td>
<td>Our usual mixed hybrids from the Garden.</td>
</tr>
<tr>
<td>Bellevista spp. (Liliaceae)</td>
<td>Several species of this genus formerly included in Hyacinthus.</td>
</tr>
<tr>
<td>Bismarckia nobilis (Araliaceae)</td>
<td>A low-growing plant with black-purple spathe, wild-collected in Greece.</td>
</tr>
<tr>
<td>Brunsvigia slateriana (Amaryllidaceae)</td>
<td>A rare South African from the garden that forms a ball of pink flowers over a foot in diameter. Not likely to flower for several years.</td>
</tr>
<tr>
<td>Brinera amethystina (Liliaceae)</td>
<td>Small plants with light blue flowers like a tiny hyacinth.</td>
</tr>
<tr>
<td>Dracunculus vulgaris (Arales)</td>
<td>A large (to 36&quot;) plant with tall velvety spathes and deeply divided leaves, from Southern Europe and Turkey.</td>
</tr>
<tr>
<td>Ferraria crispa (Iridaceae)</td>
<td>Yellow-brown frilled flowers intricately blotched and spotted with darker brown-purple from South Africa.</td>
</tr>
<tr>
<td>Gynandriris sisyrinchium (Iridaceae)</td>
<td>Formerly included in the genus Iris, a low-growing light blue Mediterranean bulb grown from wild-collected seed.</td>
</tr>
<tr>
<td>Iris spp. (Iridaceae)</td>
<td>A selection from the sub-genus Scorpiris (commonly called Juno Iris) including I. bicornis, I. graeberiana, I. magnifica, and I. variegata from central Asia and I. planifolia from wild-collected seed of Portugal.</td>
</tr>
<tr>
<td>Lachenalia spp. (Iridaceae)</td>
<td>L. reflexa (yellow) and L. unicolor (purple) from the Garden. Colorful South Africans good for pots or the rock garden.</td>
</tr>
<tr>
<td>Leucojinautumnale spp. (Amaryllidaceae)</td>
<td>Delicate fall blooming plant with white flowers flushed pink.</td>
</tr>
<tr>
<td>Muscari spp (Liliaceae)</td>
<td>Several species including M. aetheri, M. caulescens, M. challicum, and M. commutatum.</td>
</tr>
<tr>
<td>Narcissus spp. (Amaryllidaceae)</td>
<td>Several species including N. cantabricus, N. jacquinianus, and N. rupicola.</td>
</tr>
<tr>
<td>Nerine spp. (Amaryllidaceae)</td>
<td>N. filifolia from the Garden and N. masonorum, a dwarf species, both with typical pink trumpet-shaped flowers.</td>
</tr>
<tr>
<td>Osmophilum spp. (Liliaceae)</td>
<td>O. narbonense and O. refractum, both from seed wild-collected in France.</td>
</tr>
<tr>
<td>Sternbergia sicula (Amaryllidaceae)</td>
<td>Originally wild-collected in Greece, bright yellow flowers in fall.</td>
</tr>
<tr>
<td>Veltheimia bracteata (Liliaceae)</td>
<td>A cluster of pink tubular flowers on an 18&quot; stem and an attractive roseate of wavy bright green leaves from South Africa.</td>
</tr>
</tbody>
</table>
Calendar of Events

CULINARY HERBS
Sat, NOV 5
Using garden herbs in the kitchen with Staff from the Herb Society. $8 members, $10 non-members. Meeting Room, 10-12noon.

HOLIDAY DECORATING
Sun, NOV 20, Sat, NOV 26
Make wreaths and arrangements from dried natural materials with expert Wayne Roderick. Limit 18 per session. $20 members, $25 non-members each session. Meeting Room, 9:30-12:30pm Saturday, or 1-4pm Sunday.

PATRICK BOWE
Thurs, DEC 1
Special guest lecture on Spanish and Mediterranean gardens by author of The Gardens of Ireland. 7:30pm, Haas House Clubroom, Strawberry Canyon. $5 members, $7 non-members.

HOLIDAY PLANT SALE
Sat-Sun, DEC 10, 11
Orchids, bromeliads, ferns, cacti, succulents, houseplants, garden and nature books for holiday gifts. 10-3pm both days.

GARDENING BETWEEN THE COVERS
Sat, JAN 14
Barbara Worl of Sweet Briar Press discusses the best in garden books. 10-12noon, Meeting Room. $5 members, $7 non-members.

GARDEN BOOK SALE
Sat, JAN 14
Special buys on used gardening and horticulture books, 12-1pm, Meeting Room.

A NEW LOOK AT TREES
Sun-Mon, FEB 19-20
Guest speakers and workshop on tree care and new introductions. California Academy of Sciences.

CHILDREN’S CLASSES

COOKING WITH PLANTS
Sun, NOV 6
Create and taste delicious herb teas, grass cookies, and special tropical treats from the Garden with Celia Cuomo. 1-2:30pm for ages 5-7, 3-4:30pm for ages 8-11. $6 per child.

WREATH-MAKING
Sun, DEC 4
Make a holiday wreath of native dried materials with Stephanie Kaza. 1-3pm, ages 8-12. $6 per child.

For information on classes and events, call 642-3343.

The Garden is open every day of the year except Christmas from 9:00am to 4:45pm. Public tours led by docents are given on Saturdays (except on football home game days) and Sundays at 1:30pm. Admission to the Garden is free.

Friends of the Botanical Garden
University of California
Berkeley, California 94720

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