California Oaks — An Ecological Heritage

There are two grand views at the Botanical Garden: to the west, the Golden Gate Bridge across the Bay, and to the east, from the Oak Knoll, a view of most of the Garden. The Oak Knoll is named for its stand of coast live oaks. More than a backdrop for the view, these oaks are a link to the wild areas, a small piece of California native oak habitat, a wildlife corridor for birds and small animals.

Of all the native trees, it is the oaks that give California its characteristic and well-loved landscape — open and spacious, graced by elegant trees. These trees, alive or dead, support innumerable insects, birds, reptiles, and mammals in a wide diversity of plant communities. But like so many aspects of the environment, California oaks have been taken for granted.

Since 1945, more than one million acres of California oak woodland have been lost, primarily through conversion to agriculture and urban development. Thirty per cent of the anticipated development over the next ten years of two million acres in California is projected to take place in oak habitat. Three of California’s 19 oak species are considered to be seriously threatened. And oak habitats continue to decline under pressures of fuelwood cutting, livestock grazing, range forage improvement, flood control, and fire suppression.

Year of the Oak

Considering these facts and the desire to preserve California’s aesthetic and ecological heritage, the state legislature has formally declared 1990 the Year of the Oak. This proclamation will help spur efforts in oak conservation, education, and restoration. Of even greater significance is a supporting resolution that calls for all state agencies having oaks in their jurisdiction to prepare action plans for preservation and protection of these oaks. This includes the Departments of Forestry, Parks and Recreation, and Fish and Game and also Caltrans, prisons, and the University of California. With this specific mandate, the 67 types of oak habitat are targeted for management plans that include more than commercial considerations.

One of the strongest forces affecting oak habitat is fragmentation. As habitats are cleared, they leave oak-associated species stranded in biological islands. Fragmentation of oak habitats reduces their ability to provide the full range of ecological benefits, including maintenance of species diversity, soil and watershed protection, and wildlife, recreational, and aesthetic values.

Since oaks are dominant species in a wide range of habitats, from grassland to riparian to open woodland, oak habitat in California represents a major portion of the state’s biodiversity. Over 5000 insects, 250 birds, 120
Acorn woodpecker

Melanerpes formicivorus

Acorn woodpeckers prefer dead snags for easy drilling, relying on the tree for acorn storage. These birds are social species of the oak woodland, where they share communal tending of the eggs and young.

Urban trees in parks and backyards are part of the oak habitat mosaic, providing a visual as well as biological bridge to the source landscape.

Though oaks have been in California for 20 million years, many oak species are markers of refugia, evolutionary backwaters in the speciation process. Quercus sadleriana has relatives in China and Turkey; Q. engelmannii (Engelmann or Mesa Oak) is limited in distribution to less than two per cent of the state — primarily central San Diego county. Mexico hosts by far a much larger number of species, but it is in California that species ranges taper off with topographic and climatic barriers. Here we find some interesting natural crosses between the evergreen shrub oaks and the deciduous tree oaks, showing adaptive genetic response to tough cultural regimes.

Shifting the Balance

Ironically, it is both common and rare oak species that are most threatened. Engelmann Oak and Santa Cruz Island oak (Q. parvula Greene var. parvula) already have limited ranges. The valley oak (Q. lobata) and the blue oak (Q. douglasii), though widespread in the grassland savannas and foothills, are not regenerating well and suffer from poor timing of cattle grazing. The apparently abundant coast live oak (Q. agrifolia) is disappearing at an alarming rate due to rapid urbanization of its habitat.

In response to the visible loss of local oaks, especially in areas named for their oak landscapes (Thousand Oaks, Oakland, Paso Robles), cities and counties are drawing up oak ordinances to regulate removal. Perceived almost as a weed tree in some areas, this perspective is shifting as the rate of loss accelerates. Next to habitat destruction, the most significant threat to oaks is our lack of stewardship of existing oaks, both rural and urban. We particularly lack understanding about how to maintain oak habitat in a grazing area.

Raising Oak Awareness

The California Oak Foundation and U.C. Cooperative Extension have both prepared useful materials for homeowners and tree-planters. The California Native Plant Society has just published an Oak Action Kit, complete with species accounts, bibliography, and policy statements. These educational materials are invaluable for concerned citizens who want to participate in oak habitat restoration. State agencies must now join these efforts by developing the necessary oak habitat management plans. The University of California plays a major role in research, both through Hastings Natural Reserve in Carmel, prime oak habitat for scientific studies, and the Integrated Hardwood Range Management Program.

Truth be told, oaks are California. These are the trees that shape almost all our images of this state. They provide the visual and ecological structure for our sense of place. As they disappear, we lose our ties to the landscape where we live. Oak conservation is an avenue to restoration and good management of a large piece of the state’s biological heritage. With some foresight, we can encourage and sustain these lovely trees and their habitats for our children to know and love as well.

— Stephanie Kaza,
with assistance from Pam Muick

For further information on oak ecology and restoration, contact the California Oak Foundation, 909 12th Street, Suite 125, Sacramento, CA 95814, (916) 448-9495. To obtain a copy of the Oak Action Kit, send $15 to California Native Plant Society, 909 12th Street, Suite 116, Sacramento, CA 95814. For information on oaks in the home garden, contact U.C. Cooperative Extension at Berkeley, Natural Resources Program, 163 Mulford Hall, Berkeley, CA 94720, (415) 642-2360.
An Orchid by Any Other Name—Would Be Different!

Plants, like people, are related and named through their family associations. When it gets down to specifics, however, we find some curious, even surprising differences. In this case, we'll look at orchids and the problem of hybrid and cultivar names.

When individuals of two different orchid species are crossed successfully, hybrid offspring are produced. Considering the thousands of individual seeds in an orchid seed pod, and the possible large number of progeny produced by even a moderate percentage of germination, the task of naming all these diverse siblings could become rather overwhelming. World-wide agreement by botanists who concern themselves with such matters has given us a set of rules to help us in our predicament. These are published as the International Code of Nomenclature for Cultivated Plants (1980), and the International Orchid Commission's Handbook on Orchid Nomenclature and Registration.

The Need for Accuracy

When two different orchid plants, whether species or hybrids of whatever complexity, are crossed, any resulting progeny are identified by a collective name. This collective name or epithet is called the grex epithet. Grex is defined as a "flock or group, applied collectively to the offspring of a given cross." The word gregarious comes from the same word root, grex. To be technically pure, the expression "collective epithet" is used when referring to natural hybrids, whereas orchidists use the expression "grex epithet" for artificial hybrids.

For example, Cymbidium 'Blue Smoke' x Cymbidium 'Balkis', a very productive mating, was given the grex name 'San Francisco'. In this instance, C. 'Blue Smoke' was the pod or female parent of the union and C. 'Balkis' was the pollen or male parent. If the roles were reversed so that C. 'Balkis' became the pod parent and C. 'Blue Smoke' the pollen parent, the grex name would still remain the same, San Francisco. This convention is quite different from the practice generally followed in naming human offspring in our patronymic society.

This particular cross was extremely successful, producing a large number of siblings with excellent flowering characteristics, form, shape, substance, and flower color ranging from pink through white to green. Because of this diversity, the different plants were considered worthy of their own individual names. The individuals of a grex are called clones if propagated vegetatively, and may be given particular names. In this instance, we follow the human practice of giving each separate offspring a distinct (i.e. cultivar) name to help identify one from another.

A cultivated individual of a species or its wild variants and its vegetatively produced progeny (i.e. a clone) may be identified by adding a cultivar epithet to its name. A cultivar epithet is a fancy name (i.e. not necessarily in Latin form) in Roman print, starting with a capital letter and enclosed within single quotation marks. Double quotation marks must not be used. Although the analogy is not strictly accurate, the grex name could be thought of as a family name.

So for these diverse offspring, we would have Cymbidium 'San Francisco' (the non-technical "family" name) with individual offspring (cultivars, clones) named: 'Angelica' (yellow in color), 'Florence' (white), 'Kathleen' (green) 'Powder Puff' (pink), and so on. The name 'San Francisco' is not enough; to know an individual plant, it must bear the entire name. Just as it is important to label wild-collected species properly to represent relationships accurately, so also is it critical that cultivars be properly labeled. "By any other name, it would be different."

— Jim Jones, Volunteer Propagator
The Garden Moves to Strawberry Canyon

T. Harper Goodspeed surveys the collection of cacti and succulents in the 1930s.

Editors note: This is the second of three articles in a series by Lincoln constance, Professor of Botany Emeritus, on the history of the Botanical Garden over its first one hundred years. Supplemental information was drawn from Herbert Baker’s article, “The University of California Botanical Garden; the First Half-Century” in Pacific Horticulture, Spring 1980.

In the early 1920s, the University of California at Berkeley was expanding at a rapid rate to meet the educational needs of a growing state and regional population. The shortage of building space threatened the Botanical Garden’s very existence. Under the guidance of T. Harper Goodspeed, the Garden was successfully moved to Strawberry Canyon where it could expand. Here, he said, “the eastward moving air draft from the Golden Gate ... with consequent moderating influences on summer temperature and humidity permit an association of plants, birds, and mammals not duplicated elsewhere in middle western California.”

The Goodspeed Years

Although not officially named Curator of the Garden until 1926, it was Goodspeed who planned the Garden with assistance from J.W. Gregg, professor in the Department of Landscape Design, and supervised its construction in the mid-twenties. In departure from traditional botanical gardens, Goodspeed decided to group the collections primarily by geographic regions. Over the course of his long tenure as Director (1934-1957), he developed significant collections for the Asian area, South American area, African Hill, and the California Native area.

One of the first major acquisitions of the new garden was a notable collection of rhododendrons purchased for Rhododendron Dell by a group of dedicated alumni and friends. (See Garden Spotlight, pages 8-9.) The expansion inspired a major expedition in 1932 to the distant forests of western China, organized and led by Dr. Joseph F. Rock. This beginning of a botanical relationship with China was furthered later in the 1940s by another expedition to Szechuan Province. On this trip, Dr. Ralph Chaney, paleobotanist, brought back rare samples of the newly discovered Dawn Redwood (Metasequoia glyptostroboides). Five individuals now grace the upper creek canyon, and countless others have been propagated and distributed from UCBG cuttings.

But in 1930, most of the Strawberry Canyon garden was occupied by row upon row of head-high tobacco plants. This assemblage represented all the known wild and cultivated species first established by William Setchell. Soon after this, Goodspeed launched a series of botanical expeditions to the Andes to further augment the collection of Nicotiana. These expeditions brought back a wide diversity of plant material, much of which was distributed to other gardens around the world.

The first Andean expedition also brought a number of succulents and cacti which were established in an extensive rock garden by James West (Prince Egon Von Ratibor). From the beginning, New World plants were kept separate from African succulents to provide an excellent demonstration of convergent evolution. The largest single collection of southern African succulents were collected by Robert J. Rodin as part of the University of California African expedition in 1947-48. A seventh and final expedition to Chile and Peru in the 1950s, under the leadership of Paul Hutchison, senior garden botanist, brought back nearly 500 living plants for this area. This collection came to be well known to the public.
and photos of the Garden’s succulents appeared regularly in tourist brochures put out by Berkeley City Council and the Chamber of Commerce.

During much of the Goodspeed era, the Garden was supported by very strong horticultural connections. Prominent horticulturists such as James Smith, president of San Francisco’s King Coal Company, made the development of Rhododendron Dell possible. The Herb Garden was cared for by members of the Herb Society of America. There was a large orchid collection and an extensive Rose Garden of both wild-collected species and cultivars. Garden staff introduced a number of potentially important ornamental plants into the nursery trade, including *Lapageria rosea* and *Camellia reticulata* ‘ Captain Rawes’.

Much of the grounds clearing and trail building was accomplished by a large CCC crew (Civilian Conservation Corps) assigned to Strawberry Canyon for six months. Over 200 young men from Nebraska and Missouri built check dams, constructed roads, and thinned the young tree plantations in the adjacent “primitive area” (now designated an Ecological Study Area). This work established the context for the Garden we know today—a forested canyon, protected from further campus development in the immediate vicinity.

**The Baker Years**

Goodspeed announced his official resignation in 1954, having made a major contribution of a lifetime to the garden. At the time there was some possibility that the Garden might become detached from the Department of Botany. Fortunately, Goodspeed agreed to stay on as Acting Director while the University debated whether the Garden was an unaffordable luxury. The departmental bid was accepted and in 1957, Herbert Baker, professor in Ghana at the time, was hired as professor of Botany and the next Director.

During the Goodspeed years, the lack of staff and space had presented serious constraints for growing research and instructional material in the Garden. Baker was asked to actively invite more extensive campus use of the garden, and soon it began to fulfill Greene’s vision as “one of the most generally appreciated ornaments of our institution.” The supply of teaching materials to classes in Botany and Biology increased seven-fold, including samples from a new collection of economic plants.

At this time, plants of horticultural origin, often cultivars, were systematically replaced with wild-collected specimens of higher research value because of their known origin and native genetic stock. The seed exchange with other gardens was expanded and many areas of the garden further improved. An Australasian area replaced the existing Rose Garden, a Mexican area was created, and the California native area expanded. From 1960-1969 the American Iris Society maintained a Regional Test Garden at the south end of the Garden. Three additional greenhouses were established—one new, one from campus, and a third acquired as a mere $1.00 gift from the U.S. Navy.

**Natural Disasters**

The years 1961 and 1962 saw every kind of catastrophe except fire and earthquake. In summer 1961 there were two days of 105°F heat, and Monterey pine cones were opening with “cracks like rifle fire”; a number of other plants burned. Then, severe frosts and strong winds in 1962 killed many South American plants and Aloes on African Hill. Later that fall, 15 inches of rain fell in three days and Strawberry Creek was flooded, sweeping away all the plants along its banks and completely destroying the pool area in Rhododendron Dell. Tree trunks, shrubs, masses of rock and silt were carried down the canyon in the raging torrent.

Despite these natural disasters, the Garden was in good health, well supported financially by the College of Letters and Sciences. Baker obtained agreement on a number of minor capital improvements, including the replacement of the old Tropical House. It was a period of steady progress and stabilization of the collections. After a dozen years, Baker resigned as director to give more time to his own research and a growing cadre of graduate students. The garden was now in a position to become a major educational resource for both the University and the East Bay community.

—Lincoln Constance
Plant Clinic Comes to the Garden

Trouble with aphids? Leaves turning yellow and you don’t know why? Strange fungi emerging from your potted plants? Bring your sick plant to the Plant Problem Clinic, now being held the first Saturday of every month at the Garden Meeting Room. From 9am-12noon, an entomologist, plant pathologist, and/or a Master Gardener will be on hand to answer your questions about plant diseases and insect infestation. U.C. research assistant Rachel Freeman is coordinating the clinic with help from the Master Gardener program.

The Plant Clinic has a history in the College of Natural Resources as a community service. It was held originally every first Friday afternoon of the month at the Gill Tract. Ten years ago, Dr. Robert Raabe, Associate Director of the Garden, started the program and kept it going until the clinic room was lost to office space. The clinic was not only helpful to the public, but it provided an opportunity for students to learn plant disease diagnosis through experience. In today’s scientific world where most emphasis is on basic research, there is relatively little chance to gain information about such applied topics as plant pathology. This clinic provides one avenue for understanding practical problems with raising plants.

A Plethora of Pathogens

In an interview surrounded by test tubes and slide carousels, Dr. Raabe explained the types of plant problems, most of which can be diagnosed by visual inspection, microscopic examination, or laboratory culturing. Setting aside insect-caused damage, fungi account for 60-75% of the diseases we see in plants. molds, mildews, rusts are all in this infinitely variable group, with organisms ranging in size from one cell to the large woody bracket fungi that grow on trees.

Bacteria are the next most important cause of plant disease. As high temperature organisms, bacteria find the tropics more conducive to growth than the temperate zones. Because bacteria have no means of entering a plant on their own, they can only enter through natural openings or wounds. Over 400 species account for diseases worldwide. Familiar diseases include soft rot, the slimy stuff on your old lettuce, and fire blight which attacks pears, loquats, and Pyracantha.

Viruses are responsible for about 15% of plant disease problems, but this is the toughest 15%. There is no way to treat viruses except by heating the plants in which they are found to 100° before propagating from the plant. However, this only works with small cuttings. Sometimes the top few cells can be lifted off the plant in a process called “meristemming” to get a clean source. Miraculously, entire plants can be grown from just these few cells!

Making Peace with Pests

Dr. Raabe’s philosophy about plant pests is refreshing and unusual; it is his research passion and life’s work. He figures that pests and diseases are here, just trying to exist in unique and creative ways. Why not learn to accept them and acknowledge their part in the wide range of biological wonders? Why not simply enjoy them? You might consider this approach the next time your peach tree has curl leaf or you find root rot in your coast live oak. It’s nothing personal, after all; these smaller tykes are just trying to survive like everything else. Why not appreciate them?

— Stephanie Kaza
The first Centennial event, an Opening Ceremony and Reception, was held on Sunday, January 21, heralded by a tree planting by long-time Garden supporters, Elizabeth Hammond and Lincoln Constance. Richard Goldman, of the Goldman Foundation, lauded the Garden for its educational and leadership role in conservation.

Volunteers, staff, and major donors were honored at a lovely reception at Haas Clubhouse following the opening ceremonies. The reception featured chamber music and an outstanding display of botanical treats designed by Cathy Dougherty. Poster-sized photographs of the Garden’s early days on campus and in Strawberry Canyon were provided by Mary Ricksen. The event was hosted by Dean Wilford Gardner of the College of Natural Resources and Director Robert Ornduff.

Vice Chancellor for Development Max Laetsch and Friends’ President Robert Ridell thanked Centennial Program Chair, Dr. Robert Middlekauff and his Committee for their fine planning of the Centennial Year’s program. They promised a superb year of lectures, symposia, and increased visitation to the Garden.

Lincoln Constance, Emeritus Professor of Botany and Elizabeth Hammond, longtime supporter of the Botanical Garden, plant a ceremonial palm tree to kick off the Garden’s centennial year.

A Campus Treasure

David P. Gardner, President of the University of California sent these words of congratulations: “On behalf of the University of California community, I am pleased to send greetings to the friends of the Botanical Garden on the occasion of the Garden’s one hundredth anniversary. For the past century, the Botanical Garden has been regarded as a campus treasure; it is known throughout the Bay Area and the nation as an invaluable natural and cultural resource.

We are proud that over the years the Garden — through teaching, research, and public service — has taken the lead in addressing various important conservation issues, all the while serving as a showcase for countless species and varieties of plants from throughout the world, the rare and the common, the unusual and familiar. As it begins its second century, the Botanical Garden will continue to enrich the University and the community as a source of pleasure, learning, and inspiring natural beauty. Congratulations and warmest good wishes on this important milestone.”

— Gladys Eaton

Elizabeth Hammond, Robert Middlekauff, Lincoln Constance, and Watson Laetsch consider the Garden’s 100 year accomplishments.
The Rhododendron Legacy

In the middle of April, when visitors are drawn to the cascade of flowers at the Botanical Garden, the rhododendrons offer their best in beauty and fragrance. This group of plants surrounding the Japanese Pool and upper Strawberry Creek are some of the best-loved in the Garden. The history of "Rhododendron Dell" goes back to the very first years at the new site in the 1930's. From the start it was obvious that the steep shaded canyon would be an ideal spot for exhibiting these lovely garden aristocrats.

The heart of the Garden's collection comes from Western China, Tibet, and the Himalayas where the genus is widespread and often provides the dominant species. In a few acres of the Garden, you can also see examples from as far as Burma, Bhutan, Nepal, Kashmir, Szechuan, Eastern Europe, the Alps, and eastern North America. Of the over 600 species in the world, the Garden has displayed as many as 250 species.

Mostly lovers of high places, rhododendrons range from about sea level to 16,000 feet in altitude. They inhabit steep rocky slopes and open meadows, shady pine forests and sunny mountain thickets. Many of the dwarf species are cliff dwellers, preferring granite ledges or scree slopes. Others are epiphytic on old forest trees. Though the Garden is only 800 feet in elevation, the natural shade and wind protection create a favorable microclimate for even the high mountain species. Good drainage and a slightly acid soil, with overhead watering as needed, provide excellent conditions for growth. In fact, more species of rhododendron can be grown here in central coastal California than anywhere else in the world.

The First Collection

The earliest UCBG rhododendrons trace their history back indirectly to the English plant explorer, George Forrest. Forrest was one of the great pioneers in plant exploration at the turn of the century. Between 1904 and 1931, he made seven expeditions into the vast river headwater country of western China and Tibet, searching for undiscovered species of potential horticultural significance. Many of his sponsors were especially fond of rhododendrons and one gave Forrest a bonus for each new species he brought back. In total, he discovered or introduced over 300 species of rhododendrons before he died in 1932.

Surplus seed from the expeditions was given to the U.S. Department of Agriculture and to whomever requested it. Nurserymen Karl Andries and M. Jongeneel planted great quantities of this seed, both at San Francisco's Golden Gate Park, where Andries was employed, and at their Aptos nursery near Santa Cruz. In 1930, against the great financial challenges of the Depression, a number of alumni and friends of the Garden gathered together a sum of $27,000 to purchase and maintain Andries' collection of over 5000 plants for UCBG. This astonishing package included 250 species with many varieties and hybrids. Andries was hired as Garden superintendent and rhododendron expert to care for the new collection. In a single strategic transaction, the U.C. Garden came to house one of the finest collections of rhododendrons in the world.

Plant Hunter Joseph Rock

Shortly after the acquisition of this collection, Austrian born plant explorer and ethnographer Joseph Rock passed through San Francisco on his way to China. Director Goodspeed showed him the U.C. inventory of rhododendrons, and Rock became quite interested in this outstanding opportunity to develop a comprehensive collection. He proposed an expedition to the great river trenches of the China-Tibet boundary area, offering to donate his services as leader and the use of his collecting equipment. Contributions of support came from several major U.S. arboreta and key donors in Great Britain as well as Berkeley and San Francisco.

Joseph Rock, a self-taught botanist, had first explored western China in 1921, on the heels of George Forrest and others. Among other places, he explored the Mekong Valley and the Salween River, writing, "Never in the world were there such mountains. We passed through
rhododendrons for days.” After several years he returned to Washington, D.C. to identify some 60,000-80,000 specimens forwarded to the Smithsonian Institution. By the time he made contact with the U.C. Botanical Garden, he was internationally known for his extensive discoveries, shared in writing and photographs through the National Geographic Magazine.

The expedition area proposed by Rock was a botanist’s paradise. Here in this great corrugated terrain of the border area, arose the headwaters of three enormous river systems — the Yangtze, over 3500 miles long and emptying in the Pacific; the Mekong, over 2500 miles long and emptying into the South China Sea; and the Salween, which travels 2000 miles in Tibet and Burma to empty into the Bay of Bengal. The three watercourses have cut parallel trenches through the Himalayas, all within an east-west distance of 50 miles. Not only is the flora immensely diverse in this single remote region, but it is an unusual meeting ground of species from the northern Old World and Southeast Asia. The wealth of species offered great promise that many would be of ornamental value.

The expedition was not a disappointment. Rock returned with 163 species of rhododendrons, over 25,000 sheets of herbarium specimens, hundreds of birdskins, and magnificent black and white photographs. The bounty arrived safely in Berkeley on March 23, 1932, packed in 26 waterproof cases that had traveled 20 days overland by mule and then by freighter to the United States. Many of the over 300 rhododendrons were rare and little known as were a number of the other 160 genera also represented in these collections. The expedition clearly established an important role for botanic gardens in providing new material for scientific research.

Recent Changes

Rhododendron Dell thrived in the shady moist microclimate of Strawberry Canyon while other areas of the Garden were developed and improved. By the 1960s the collection numbered over 250 species, with some lost, some added since the first Andries purchase. Thirty-five of the 44 series describing the large genus were represented by one to several species each, with hybrids and cultivars included in the display.

By the 1980s, the U.C. Botanical Garden had become nationally known for its well-documented and large collections of diverse plant material. Director Robert Ornduff and Curator Bruce Bartholomew established a policy of retaining plants with clear data on origin, collector, place and date of collection and habitat. Plants with poor or no data were relatively useless from a research point of view, and so were removed. As only about 40% of the rhododendrons were wild-collected, many of the accessions in Rhododendron Dell were taken out, including most of the hybrids.

The species we see in today's Garden represent a refined collection of some of the most unusual species from a wide diversity of regions. *R. decorum*, a tree species from China, is one of the first raised from seed by Andries and accessioned in 1932. *R. protistum* is one from an early Forrest expedition. *R. stenaulum* comes from the Joseph Rock expedition. You can see this history for yourself, by reading the accession numbers on the plant labels, and imagining the long journeys of the seeds of these oldest plants, seeds that tell a story of great effort and great vision for the future.

—Stephanie Kaza
Spring Plant Sale
Friday, May 11 Members' Preview Party, 5pm-8pm
Saturday, May 12 Public Sale, 10am-3pm

The Spring Plant Sale sponsored by the Friends of the Botanical Garden, will take place on Mother’s Day weekend, Friday-Saturday, May 11-12th. This sale is the most extensive of the year, offering a wide variety of California natives, roses, rhododendrons, houseplants, perennials, rock garden/alpines, ferns, grasses, orchids, and bromeliads. Please note that many plants will be available at the Visitor Center before the sale, especially those that bloom early, so come by frequently and see what we have!


Grasses and grass-like plants: Carex spp., Bowler Golden Grass, Festuca california, F. cinerea, Hystrix californica, Melica altissima, Miscanthus sinensis, and others.

Bromeliads: Abromeitiella, Aechmea, Ananas, Billbergia, Cryptanthus, Dypenia, Guzmania, Hechtia, Neoregelia, Nidularium, Orthotrichum, Pilcarnia, Puya, Quesnelia, Tillandsia, Vriesea.


California Natives: In addition to those listed in the box, we will also have many understory plants from the Mather Redwood Grove, including Vancouveria hexandra (Inside-out Flower), Asarum caudatum (Wild Ginger), and Maianthemum dilatatum (False Lily of the Valley). We will again feature drought-tolerant plants for low-water landscapes, especially many species of Arctostaphylos, Ceanothus, Salvia, Artemisia, Romneya coulteri (Matillija Poppy), and Diplacus (Monkeyflower) hybrids.


Ferns and allies: Adiantum spp. (Maidenhair Fern), Anemia sp., Asplenium bulboferum (Mother Fern), Asplenium nidus, Athyrium spp., Blechnum occidentale (Hammock Fern), Dactylis glomerata (Squirrel’s Foot Fern), Diplazium lanceum var. creatum, Doodia media, Humata tyermannii (Bear’s Foot Fern), Leptochilos decurrens, Leucostegia hynemophyloides, Lunathyrium confilli, Pellaea falcata (Australian Cliff Fern), P. viridis (Green Cliff Fern), Phlebodium aureum (Rabbit’s Foot Fern), P. aureum ‘Mandaianum’, P. rotundifolia, Platycerium bifurcatum, Platycerium hybrids, Plectitis excavata, Polypondium (several species), Polystichum setiferum cv., P. tsu-simense (Tsusima Holly Fern), Pteris cretica cv. (Cretan Brake Fern), Quercifilix zeylanica, Scyphularia pentaphylla, Selaginella pallescens.
Vines: From Mexican area (of the Garden) — Berchemia scandens, Cissus martiniana, Hydrangea seemannii, Lophospermum erubescens, Maunderia scandens; from African Hill — Clematis brachiata, C. cirrhosa, Jasminum tortuosum; from Asian area — Kadsura japonia, Schizophragma hydrangeoides; from Australian area — Billardiera scindens, Geitonoplesium cymosum, Pandorea doratoxylon, P. pandorana; from the South American area — Bomarea sp., Campsidiunum valdivianum, Lapageria rosea, Salvia dombyei; and others including Actinidia eriantha, Dolichandra cynanchoides, Jasminum sp. (many), Lonicera japonia ‘Aureo-reticulata’, L. periclymenum ‘Serotina Flordia’, Mitraria coccinea, Philadelphus mexicanus, Stauntonia hexaphylla.

Rock Garden/Alpines: Over 115 species and cultivars including Anemone x lesseri, Aquilegia, Arabis, Arenaria dianthoides, Campanula (18 species), Coreopsis, Dianthus, Geranium, Helianthemum, Iris, Mimulus, Phlox, Stachys sylvatica, Symphyandra, Vellozia elegans, Veronica, Viola.

Orchids: Cattleya, Cymbidium, Laelia, Paphiopedilum, Phalaenopsis.


CALIFORNIA NATIVE SPECIALTIES

These species will be at the Visitor Center as they come into bloom this spring or otherwise at the May Plant Sale. The Brodiaeas are all grown from the U.C. collection.

B. filifolia .......... rare San Diego endemic with glistening blue flowers late in season
B. pallida (Chinese Camp Brodiaea) ............ rare species with pale creamy-blue flowers in late May
B. peduncularis (Seep Brodiaea) ................ large spidery flower heads, white inside, purple on back
B. pulchella (Blue Dicks) .. a giant Santa Cruz Island form
Bloomeria crocea (Golden Stars) ............... delicate spheres of golden flowers
Delphinium cardinale (Scarlet Larkspur) .. bright red, 3-5' tall; spectacular form from Southern California, late flowers, summer dormant
D. purpurea ................. deep rose flower, endemic to Kern River area
Dodecatheon clevelandii ssp. insulare (Shooting Star) .... large flowered variety, easiest selection for gardens
D. hendersonii (Shooting Star)...from Contra Costa County
Erythronium tuolumnense (Tuolumne Fawn Lily) ... from UCBG collection, pure yellow form
Iris bracteata ..................................... creamy yellow flowers with maroon venation
Iris ‘Canyon Snow’; ...................................... large white flowers considered one of the best
I. douglasiana ............... rich purple and lavender varieties
I. innominata ..................... a lovely yellow
I. innominata x douglasiana .... exquisite hybrid with soft lilac and white flowers with intricate purple venation
Iris spp. .......... various Pacific Coast hybrids, including 'El Centro', 'Bonnie Doon', and 'Fairy Chimes'
Lewisia rediviva.................................. white flower for the rock garden
Odontostomum hartwegii...from the Table Mountain area
Spiraea densiflora ............ deep rose flowers on low shrub
S. douglasii .................. pink cones of flowers
A Busy Winter

Projects: The 1990 Seed List has been sent off to 536 institutions worldwide and the requests are coming in for this year's collection of 171 offerings of unusual California natives. Volunteers Barbara Donald, Evelyn Givant, Francine Henderson, and Liz Hunt assisted gardeners Roger Raiche and Kurt Zadnik in cleaning the seeds. Seed List specialist and volunteer Margriet Hecht is now mailing out large bundles of seeds from the hundreds of envelopes arranged in neat rows in her home.

Bids for the Strawberry Creek restoration project are coming in and the boardwalk and decks should soon be under construction. Interpretive panels are being planned for the entrance to the trail and at the lower deck with the view of the Strawberry Canyon watershed. Education Coordinator Stephanie Kaza has joined the Chancellor's Strawberry Creek Advisory Committee and will be working on an interpretive pamphlet for the creek as well as a self-guided campus tour.

Public Relations: Development Coordinator Cindy Rasicot hosted two press conferences at the Garden this winter, drawing attention to the Centennial. You can see the Garden highlighted in the March issue of the Cal alumni magazine California Monthly, with photos by Richard Anderson. The Garden was also featured in the February issue of American Horticulturist focusing on the California Native area and the Garden's conservation activities.

On February 21st, Curatorial Assistant Holly Forbes was interviewed by representatives from a Japanese newspaper consortium regarding the Garden's work with the Center for Plant Conservation. Siji Hashimoto and Minoru Komachiya of Yomiuri Shimbun were here to do research for reporting on conservation issues in Japan.

Staff Activities: Development Assistant Bobbie Oh's joins Cindy Rasicot as the newest staff member. Bobbie comes to the Garden with a background in communication and geology and work experience in Washington D.C. and Tennessee. She will be working with public relations and the capital development campaign.

Sean Hogan, African Hill and Australasian area gardener, returned after five weeks in Patagonia, Argentina collecting succulents and seeds for the Garden. Roger Raiche has won two more educational awards from California Horticultural Society for his work with Rudbeckia and Lobelia in the Eastern North American area.

Education Program: Rainforest Rap was a big success, thoroughly enjoyed by the 1,147 students in 41 elementary and junior high classes that participated. Undergraduate instructors Chris Pires and Sabrina Sonntag did an outstanding job coordinating docents, exhibits, and students. Due to popular demand from schools as well as docents, the Garden expects to offer the program again next winter, when the rainforests will likely still be under threat of extinction.

A new self-guided taped tour will soon be available at the Visitor Center. The tape is a friendly, and thought-provoking introduction to the Botanical Garden for first-time as well as returning visitors. It was produced by Sound Alive tours with writers Jessie Bogs and Sol Feldman, using commentary by Dr. Ornduff and other staff.

— Stephanie Kaza
Children’s Books for Spring

This spring there are some very good new books about plants for children. A few are mentioned here, as well as some old favorites which should not be forgotten.


  This sturdily bound small book will stand up to all the wear and tear it will get from children who delight in humor. You can expect lots of chuckles (and groans, too) from young readers and their friends and parents. This is a good family resource for plant-lovers and joke-collectors.

  Q: Why did the tree pack her trunk?
  A: Because she was leafing town.


  Packed with plant lore, this slender, beautifully illustrated book is an introductory field guide to common wildflowers in eight California plant communities. Simple drawings illustrate elementary botanical concepts, and a 44-word glossary is included. More illustrations would be helpful for explaining the terms and showing various flower forms. This book gives one a gentle feeling of the need to care for the world around us.


  The Santa Barbara Botanic Garden published this coloring book to bring California wildflowers to the attention of children and their parents. Designed for students living in the Santa Barbara coast area, it is appropriate for the Bay Area as well. This is a good book to put in your rainy day box and bring out before a family nature outing or a spring wildflower trek.


  Desert Giant and Tree of Life are the first two volumes in the Sierra Club Books’ Tree Tale Series. Each book describes a stalwart, long-lived tree which can withstand the harsh conditions in which it lives and provides food and shelter for birds, animals, and people. Both books are carefully crafted, with fine illustrations and informative texts.

— Elly Bade
CONTRIBUTIONS

New Members

The Friends of the Botanical Garden welcome the following new members:

Debby Armstrong
Carol Arnold
Karen J. Baer
Cheryl Blomquist
Victor Buck
Susan Bushnell
Lynn Cochran Caruso

Thomas H. Colby
Clayton S. Dart
Chandler & Paula Dawson
James Denning
Hazel Dieum
Margery Edgern
Gay Englezos

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Friends' Board of Directors:
Robert Riddell, President
Gladys Eaton, Vice President
Ramona Davis, Treasurer
Thomas Shaw, Secretary

Eleanor Bade
Fred Coe
Bernard Dietz
Harland Hand
James H. Jones

Staff:
Dr. Robert Ornduff, Director
Dr. Robert Raabe, Associate Director
Dr. James Affolter, Curator
Daniel Campbell, Manager
Judith Finn, Assistant Manager
Dr. Stephanie Kaza, Education
Cindy Rasicot, Development
Toni Kafton, Administrative Assistant
Holly Forbes, Curatorial Assistant
Bobbie Ohns, Development Assistant
Nancy Swarengens, Education Assistant
Deborah Darrell, Friends' Assistant
Scott Chance, Security

Gardeners and Maintenance:
Louis Caizza
John Domzalski
Gerald Ford
Martin Grantham
Sean Hogan

Peter Klement
Jerry Parsons
Roger Ratche
Elaine Sedlack
Kurt Zadnik

Redwood-Sorrel
Oxalis oregana

Cynthia Frame
Colleen Freiberg
Paul T. Friedman
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Roberta Ormaas
Mary Parker
Ruthann Pearsons
Ellen Elizabeth Pillsbury
Helaine Kaplan Prentice

Grateful Thanks

The Friends wish to thank these donors who have made a substantial gift over and above membership:

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Stephan Sussman
Mrs. Joseph Z. Todd
Mr. & Mrs. Dale Van Lente
Harry Wellman
Myrtle Wolf

University of California Botanical Garden at Berkeley

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In Memoriam

The Friends offer appreciation and thanks for gifts from these donors in memory of Haruko Obata, for the Japanese Stroll Garden:

Mr. & Mrs. Edward Bartz, Jr.  
Jim & Ann Carroll  
Elisabeth & Robert Fisher  
Charlotte & Roger Gustafson  
Alice Hausner  
Mr. Koichi Hosonome  
Mrs. Nobue Kuriyama  
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Elisabeth & Robert Fisher  
Roland Petersen  
Shigeko & Mariko Shinoda  
Alice Hausner  
Mr. Koichi Hosonome  
Mrs. Nobue Kuriyama  

Our thanks also for these donations given in memory of:

Martha S. Atwater, from Jeanne & Malcolm Miller  
Al Stout, from Paul T. Friedman  
Mrs. James Lamping, from Ron & Joanne Richards  
Paul Bazak, Ada Zerbe Graham, Marlene Ward Grey, and Barbara O'Rourke Monaghan, from George D. Bhalzhak & Barbara Zerbe Macnab  
Philip N. McCombs, from Tom & Inga Shaw  

And for donations given in honor of:

Roger Raiche, from Richard G. Turner  
Miriam Wilkins for the Old Rose Garden, from Eleanor & William Bade  

The following Friends gave to the Endowment for a bench in memory of Al Horton:

Eleanor & William Bade  
Daniel Campbell  
Stan Farwig  
Barbara Feyerabend  
Vic Girard  
Bill & Peggy Grier  
Joan Mirov  
Wayne Roderick  
Myrtle Wolf  
Kurt & Karla Zadnik  

New Member Drive

The first prize winner of the Friends' contest was a board member who wishes to remain anonymous. Leonora Strohmair was the second place winner and received a plant propagated especially for her. Four members tied for third place, Dr. Robert Ornduff, Errol Mauchlan, Cindy Rasicot and Peggy Newell. They received a choice of seeds from the 1990 seed catalog. The door prize was won by Owen Pearce. The offer of a free poster of the Garden's Alstroemeria will be extended to any member who sponsors a member during the Centennial Year (offer good while supplies last.) Only one poster per Friend sponsor. A special thanks to the following Friends who also sponsored new members in the first two months of our Centennial Year:

Eleanor Bade  
Peggy Klenz  
Eleanor Crary  
Dr. David Lennette  
Glady's Eaton  
Rosemary Levenson  
Martin Grantham  
Kate Mawdsley  
Harland Hand  
Linda Merrill  
Lois Hanna  
Betty Nostrand  
Francine Henderson  
Mary Ricksen  
M. Anne Jennings  
Caroline Rone  
James H. Jones  
Carolyn Singer  
Susan Kahn  
June Smith  
Baki Kaspligil  
Jim & Winifred Van Sicklen  
Peter Klement  
Sarah Wikander  

Board Changes

Thomas Shaw was elected Secretary to replace Eric Sutcliffe who retired from the Friends' Board of Directors in January, 1990. June Smith joined the Board and will serve as co-chair of the Program Committee with Fred Coe.

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.

Annual Membership benefits include:
• Newsletter
• Workshops, lectures, and tours
• Discount on Visitor Center purchases
• Discount on educational classes
• Early admission to Spring Plant Sale
• Volunteer opportunities

Friends of the Botanical Garden Membership Application

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

☐ Student .................. $7.50*  
☐ Sponsor .................. $250  
☐ Individual .................. $20  
☐ Patron .................. $500  
☐ Family .................. $30  
☐ Benefactor .................. $1000  
☐ Contributing .................. $50  
☐ Friends' Circle .................. $5000  
☐ Supporting .................. $100  
☐ New  ☐ Renewal

Name

Address  

City/State/Zip

Telephone

Was your membership sponsored by a current member?  ☐ yes  ☐ no

Sponsoring member's name:

Contributions are tax deductible. Please make checks payable to Friends of the U.C. Botanical Garden and mail to:

Friends of the Botanical Garden, U.C. Botanical Garden, Berkeley, CA 94720

* Full time students only
Calendar of Events

EARTH WEEK Mon-Fri, APRIL 16-20
In honor of upcoming Earth Day, the Garden will remain open until 7:00pm every evening this week, allowing visitors to enjoy the extra hours of daylight at the peak of the flowering period.

BIRTHDAY PARTY FOR THE GARDEN Sun, APR 22
This is a special occasion to celebrate the Garden's Centennial with music, food, art exhibits, tours, special activities for children, and a birthday cake, of course! Garden Lawn, Meeting Room and all 33 acres, 10am-4pm.

SPRING PLANT SALE PREVIEW Fri, MAY 11
A gala event to celebrate our first 100 years, for members only. First choice of rare and beautiful species of roses, herbs, California natives, rhododendrons, and many others. A 10% surcharge added to purchases. Memberships available at the gate. 5pm-8pm.

PUBLIC PLANT SALE Sat, May 12
Plants for your spring garden, all shapes and varieties. Early bloomers on sale at the Visitor Center before the sale. Come early for best selection. 10am-3pm.

PLANT CONSERVATION FOR THE 1990S Thur, MAY 17
Roxanne Bittman, Department of Fish and Game, will speak on research needs for plant conservation in the coming decade. Co-sponsored with the California Botanical Society and the California Native Plant Society. Meeting Room, 8pm. Free.

POSTER CONTEST AWARDS Sat, MAY 19
Presentation of awards for children's art from the spring contest: The Green Connection. Reception and prizes on the Garden Lawn, 2pm.

CONSERVING DIVERSITY IN AUSTRALIA Tues, MAY 22
Dr. Stephen Hopper, senior research scientist from the Western Australia Department of Conservation and Land Management, will speak on that region's exceptional plant diversity and challenges to its conservation. Meeting Room, 8pm. Free.

CREATING A GARDEN Sat-Sun, JUNE 2-3
Christopher Lloyd, garden expert and author, and Isabelle Greene, David Bigham, Philip Johnson, and Michael Smith, will be featured speakers at this two-day symposium on California gardens. Morrison Auditorium, California Academy of Sciences. 8:30am-4pm Sat, 12-4pm Sun. Member $65, non-members $75.

PHOTOGRAPHING TREES Sat, JUNE 9
A slide lecture on trees as seen through the eyes of master photographers, and afternoon workshop exploring compositional and expressive possibilities of trees in the Garden. Instructor Richard Anderson, Garden photographer, will share conventional and experimental techniques from his work with the ancient bristlecone pines. Limit 20. 10am-6pm, Meeting Room. Members $30, non-members, $40.

CENTENNIAL TOURS Saturdays, JULY, AUGUST
Docent-led tours of the Garden's historical plantings with stories of the past 100 years as a University and community resource. 1:30pm, Visitor Center.

GREEN STUFF DAY CAMP JULY 16-AUG 17
Week-long programs for children with instructor Chris Pires on the wide world of plants, how people use plants, plant stories, art, and games. Sessions I & II for 8-11 years, 9am-3pm Mon-Fri; Sessions II & IV for 5-7 years, 9am-2pm. $90 per session. Call 642-3352 for session dates and to register.

PLANT PROPAGATION Sat, JULY 28

PRUNING TREES AND SHRUBS Sat, AUG 11
Ted Kipping, Tree Shaper, will show slides and discuss correct and incorrect pruning techniques. The group will spend time in the Garden to learn more about this fine art. Meeting Room, 1-4pm. Members $15, non-members $25.

STRAWBERRY CREEK SYMPOSIUM Sat, SEPT 8
A day of talks, tours, and celebration of the natural history and restoration of Strawberry Creek, landmark of city and campus. Time and place to be announced.

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

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
Berkeley, California 94720
Address Correction Requested