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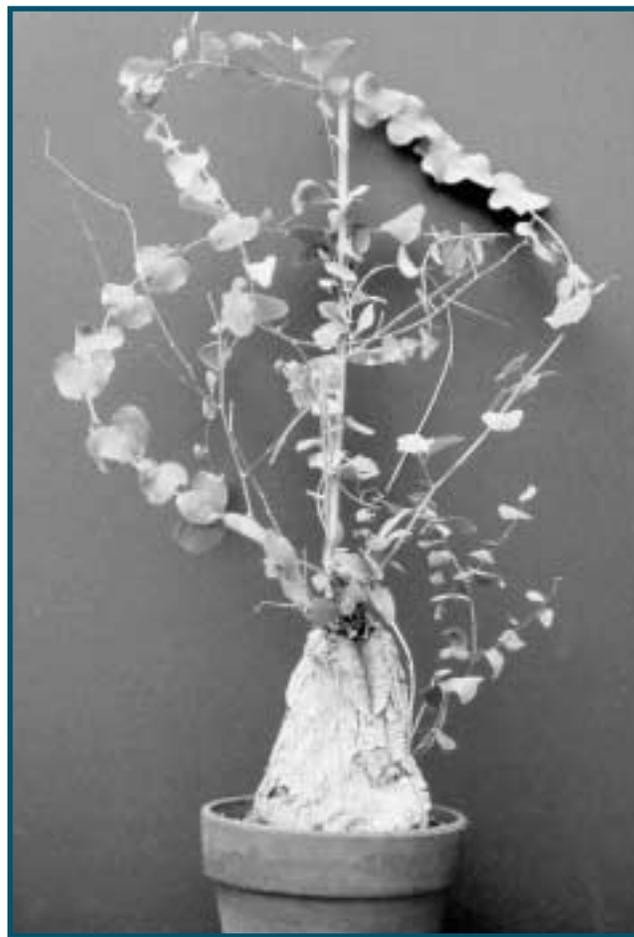
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Winter 2003

I Yam What I Yam—*Dioscorea*

If presented with a word association test that linked the terms “succulent” and “yam,” most people probably would summon up thoughts of food, perhaps Thanksgiving dinner, tender, delicious, golden-orange yams dripping with melted butter and similar impressions of a culinary nature. Those relatively few souls who are fans of those plants that have evolved peculiar strategies for dealing with arid climates would have a different reaction, however. Although most of the several hundreds species of *Dioscorea*—the name-sake genus of the yam family, Dioscoreaceae—are tropical and semi-tropical vining plants with underground tubers, several of them have adapted to drier climates by modifying their tubers; a few of these rank as curiosities of the plant kingdom, eagerly sought after and admired by collectors of succulent plants.

The succulent dioscoreas come from widely separated parts of the world, eastern Mexico and South Africa. This geographical disparity originally led to the creation of two genera, *Dioscorea* for the Mexican plants and other yams and *Testudinaria* specifically for the South African plants, but in reality the only significant distinction between



Dioscorea hemicypta in the Arid House.

these presumptive genera was location. The odd distribution of the plants was considered evidence for continental drift long before plate tectonics was understood.

Despite the thousands of miles and an ocean that separated their nearly identical species, *Testudinaria* was merged into *Dioscorea* years ago. Some dioscoreas from East Africa and Madagascar have leafy annual stems armed with spines, and those species with persistent (rather than annual) tubers can make interesting container plants. In the case of those few species of *Dioscorea* with normally partly or totally above-ground caudices, however, the thick, woody outer layer of the caudex that aids in moisture

retention and protection against predation also gives the plant great visual appeal. These plants may have tapered bases, bases that lie flat on the ground, or bases nearly cubical in shape. Several species have caudices divided into regular

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Photo by F. Doriot

DIOSCOREA *(continued from page 1)*

polygonal plates that become protuberant with age, divided by deep furrows. The vines grow annually from the caudices.

Dioscorea mexicana from Mexico, puts out a rather startlingly vigorous vine in late spring that may grow to more than thirty feet before it dies back in winter. The broadly dome-shaped, plated and fissured caudex may reach a yard in diameter and perhaps a foot in height. Other Mexican dioscoreas—small vegetative chemical factories that were the original sources for compounds used in birth control pills—however fascinating in their own right, aren't really succulent plants at all.

Some of the South African species also exhibit only borderline succulence. If an individual

Dioscorea sylvatica is lucky enough to begin its life in rich soil, its caudex will remain underground. In rocky and hilly situations, though, it will poke its irregularly shaped caudex—with a knobby, somewhat fissured, surface that somewhat resembles a multilobed pancake—above ground.

Dioscorea hemicrypta, from the western, winter-rainfall, part of South Africa, puts out its vine in fall and may produce its small, dioecious, sweet-smelling flowers in early winter. Its irregularly shaped, always above-ground caudex is taller than wide, up to six feet high if sheltered by bushes or trees.

The most interesting, and certainly the most famous, species is *Dioscorea elephantipes*, the elephant foot plant. In this west South African species the depth of the furrows and knobyness and geometrical regularity of the plates attain their greatest development, with old plants having caudices over a yard in diameter with a height to match. Unlike the Mexican species, *D. elephantipes* sends out its better behaved vine in autumn, grows through winter and spring, and goes dormant in early summer.

Although none of these odd plants is very hard to grow,

some species have certain quirks. The massive caudex of *Dioscorea mexicana* roots only from its sides, not its bottom. Consequently, someone who raises the caudex in a container to display it better runs the risk of having a plant that will

never make roots and will eventually dry up and die.

Dioscorea elephantipes has a more typical root system, and though it generally goes dormant in summer, sometimes both it and its Mexican cousin ignore their proper growing seasons and either keep their vines growing long into their rest period or send up new vines much earlier than expected. In that case, paying attention to the plant and not the calendar is a good idea.

Large specimens, invariably wild-collected

plants, of *Dioscorea mexicana* show up for sale from time to time, usually at high prices. These old collected plants thrive in cultivation but their caudices hardly get bigger at all. Although habitat loss is certainly a greater threat to their survival than collection, their origins bring up complex issues. Mexico has extremely strict laws against collecting plants. Large, legally imported specimens of *Dioscorea elephantipes* show up from time to time at extremely high prices, but seed-grown plants a few years old with one or two inch caudices are much easier to find. Though it might take a century or two to grow a large *D. elephantipes* in a container, plants even five to ten years old are extremely striking and considerably more manageable.

We have several species of *Dioscorea* on display in the Arid House, including plants that have lived in the collection for more than fifty years. Even if these yams don't resemble what you'd find in a grocery store, they certainly deserve your attention.

—Fred Dortort



Dioscorea elephantipes in the Arid House

Photo by F. Dortort

DIRECTOR'S COLUMN

As the great wheel of the seasons cycled into deep winter, Garden visitors dressed in shorts and shirtsleeves were rewarded by wonderfully clear views of the Farallon Islands from the Garden of Old Roses. Was our unusually warm winter due to global climate change? It is difficult to say that any particular event is a result of global climate change. However, better understanding of global cycles is allowing scientists to more accurately detect some ominous signals.

In January, our volunteers and others in the Garden community learned about the potential impacts on California of global climate change in a thought-provoking presentation by Dr. Chris Field, Director of the Carnegie Institution of Washington's new Department of Global Ecology, housed at Stanford University. Field informed his audience that the concentration of CO₂ in the atmosphere has increased by more than 30% over the last hundred years. I have even seen the change in my lifetime!

When I was a graduate student in the early 1980's my friends studying the effects on plant growth of atmospheric CO₂ concentration used 350 ppm as the "current" concentration in their experiments. Today, the atmospheric CO₂ concentration is 365 ppm.

Carbon dioxide is a greenhouse gas, which means that it helps trap heat near the earth's surface. The best evidence for the relationship between atmospheric CO₂ concentration and global temperatures comes from deep layers of ice that were created tens of thousands of years ago in continental ice caps. We can drill into the ice to bring up cores with gas pockets, which act like samples of ancient atmospheres. We can compare those samples with geological and paleontological evidence of past climates and correlate paleoclimates with the ice core atmospheres. In particular, fossil pollen grains obtained from cores drilled out of lake bottoms or bogs provide quantitative data on the plant species that grew around the lake or bog and can be used to infer ancient climates.

As predicted by the ice cores and pollen cores, concomitant with historically recorded increases of CO₂ and other greenhouse gases, the surface of the earth has warmed by about 1° F. The effects of this change have been subtle but have not gone unnoticed. For example, mountaineers noted widespread retreat of mountain glaciers during the twentieth century. Also, the frost season in the United States has shortened by an average of 1.1 days per decade, leading the Arnold Arboretum of Boston, MA, to report that they can

now grow several species of trees that in the past had been killed by the previously longer frost season.

Is this such a bad thing, you might ask? After all, we could grow more species of tender plants in our Bay Area gardens if our winters were warmer and warmer summers would certainly produce more tasty tomatoes. However, as Chris Field memorably pointed out, the relatively small expected temperature change could easily transform the climate of Los Angeles to something close to that found in Death Valley.

The Ecological Society of America, a professional society of scientists who specialize in ecological research, and the Union of Concerned Scientists, an advocacy group, have produced a report on the effects of global climate change on California. They describe several changes that are expected to occur in California as global temperatures rise. Most notably,

the proportion of precipitation in the state that falls as snow may decrease. Okay, you think, maybe the skiing won't be so

great. But also remember that the Sierran snowpack is the major water storage mechanism for the state. Our reservoirs are continually supplied with snowmelt throughout much of the summer, vastly increasing their annual capacity. If global warming means that we get a smaller volume of water in every reservoir, we may lack the water to produce those tasty tomatoes.

Some of the historically observed increase in carbon dioxide has been produced by clearing forested land, but about three-quarters of CO₂ emissions to the global atmosphere during the past 20 years is due to fossil fuel burning. As Chris Field told his Garden audience, the good news is that we can reduce the impact of climate change by changing our behavior. For example, when you buy your next car, choose one that is highly fuel efficient. Every gallon of gasoline you save means 20 less pounds carbon dioxide added to the atmosphere.

At the end of June, 2003, I will have completed my formal appointment as Garden Director. In response to the recent review of the Garden, which found that directorship of a public museum such as the Garden is too demanding a position for a faculty member with an active research program, Vice Chancellor of Research Beth Burnside has appointed the former Dean of the Division of Biological Sciences, Professor Paul Licht, as the next Director of the

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CHANGES

DIRECTOR'S COLUMN *(continued from page 3)*

Garden. Professor Licht's appointment as Director will begin July 1, 2003. He brings to the Garden a strong research record, a successful track record in fundraising, and intimate knowledge of how to make things happen at Cal. Professor Licht has announced his intention to continue the Garden's mission to develop and maintain a diverse living collection of plants to support teaching and worldwide research in plant biology, further the conservation of plant diversity, and promote understanding and appreciation of plants and the natural environment.

Finally, I have been awarded a Miller Professorship for the 2003-2004 academic year, which begins 1 July 2003. I'm very excited about this opportunity. I expect to spend time at Berkeley in the labs of Steve Lindow and Mary Firestone, as well as work in the greenhouse and with my lab group. I also expect to pursue some local field work this spring and next. In particular, I look forward to spending more time thinking about and doing science.

—Ellen Simms

RESEARCH IN THE GARDEN

The Garden regularly provides plant samples for research projects for a great variety of studies. We recently provided a sizeable rhizome of California pitcher plant (*Darlingtonia californica*) to Drs. Sherwin Carlquist and Edward Schneider



Photo by H. Forbes

California Pitcher Plant (*Darlingtonia californica*)

of the Santa Barbara Botanic Garden. Dr. Carlquist writes: "In very woody plants, the specialized cells that account for most water conduction (vessel elements) dissolve walls between them, so that a series of tubular cells like pipes in a pipeline is achieved. In some primitive woody plants, the dissolution of the walls is incomplete, and remnants of the wall can be seen with a scanning electron microscope. In two genera of Sarraceniaceae, *Heliamphora*, and just recently, *Sarracenia* (new data), the wall remnants are present, so the material of *Darlingtonia* will permit us to see if *Darlingtonia*, the third genus of the family, follows the pattern."

Dr. Alan Smith, research botanist at the UC Herbarium and member of the Garden's Faculty Advisory Committee,

regularly makes use of the Garden's fern collections for his research projects. This winter he brought his colleague, Dr. Layne Huiet, to the Garden to collect some samples of several maidenhair fern species (*Adiantum*) for DNA analysis in support of a phylogenetic study of the genus.

Dr. Michael Freeling, professor of Plant and Microbial Biology at UCB, studies maize developmental genetics. His lab staff visit the Garden throughout the year for research samples, most recently for members of monocot (one seed leaf) families such as sedge (Cyperaceae), cattail (Typhaceae), restio (Restionaceae), and many others.

Not all research projects take materials out of the Garden! Dr. David J. Read (University of Sheffield, U.K.) was a visiting Miller research professor in Prof. Thomas Bruns' lab on campus this past fall (Department of Plant and Microbial Biology). He has a long-term interest in mycorrhizae, and worked in the Bruns' lab on the role of symbiont fungi in facilitating invasion by alien plants. In a collaborative research program with UCB post-doc Martin Bidartondo, he is investigating the hypothesis that the spread of broad-leaved helleborine (*Epipactis helleborine*) is facilitated by the ability of its seedlings to use the ectomycorrhizal fungal associates of live oak (and possibly pine). The Garden is their research site. They buried very small, sealed nylon packets of seeds of this orchid under oak, pine, and, as a control, another type of tree which does not form ectomycorrhiza. The packets are being harvested sequentially over the next few months so that germination and fungal colonization of the seedlings can be followed.

HELP US PLANT THE FUTURE—BECOME A MEMBER TODAY!

GARDEN NOTES



Photos by J. Williams

Babiana ringens in the Southern African Area, Bed 130.



SOUTHERN AFRICA RENOVATION... Two years ago portions of the Southern African section underwent major renovation. Supported by a generous donation from **Rob Ferber**, an elaborate new planting area was created by master

rock-worker **Phil Johnson**. Recreating the rocky outcroppings of the Karoo region of South Africa, Horticulturist **Lawrence Lee** planted numerous bulbs, succulents and annuals in these beds. This season many of the plantings have matured nicely and we expect a

great floral display. Please take the time to check out our Karoo planting this spring!

STAFF... Horticulturist **Judith Finn** attended the "Integrated Pest Management" conference of the Marin County Cooperative Extension. She received an update on new and on-going diseases of trees in the Bay Area, on Dec. 5.

THE DOCTOR SAYS

■ Two new raisin grapes have been developed by researchers in California. The cultivar Selma Pete produces large quantities of seedless grapes, which can dry on the vines after the fruit-bearing canes are cut. This makes for the possibility of mechanical harvesting and lower costs. It fruits early and thus reduces the chance of damage by unseasonable early rains. Also early is cv. Diamond Muscat, which has a fruity flavor and can be used for dessert wines and confections such as chocolate covered raisins. It is seedless and thus has the distinct advantage over cv. Muscat of Alexandria, presently used for such products because its fruits are damaged severely in seed removal. *Agricultural Research* (USDA-ARS) 50(12): 17.

■ *Erica nana* is classified as rare and is found in the higher altitudes of mountain ranges in South Africa. It was collected

and put in a botanical garden in 1971. *Erica patersonia* is also a yellow-flowered species but is not as rare as *Erica nana*. Among seedlings grown from garden-collected seed was a plant that was like neither of the two species but had the best attributes of both. It turned out to be a hybrid and because of the golden color of the flowers has been registered as *Erica* 'Gengold'. It is propagated easily vegetatively, but because it is registered, can be done so only by nurseries licensed to do so. *Veld and Flora* 88(3): 89.

■ Now available is a new *Coleus* from Europe which has an odor that keeps cats and dogs away. Humans are not affected. The plant is marketed under the names of "Scardy Cat" and "Dog's Gone". *Greenhouse Grower* 20(1): 37-38.

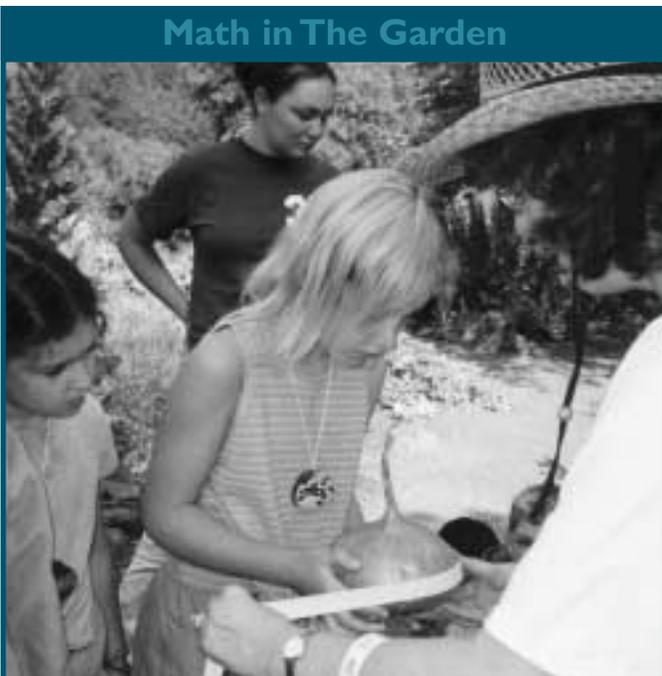
—Robert Raabe

EDUCATION

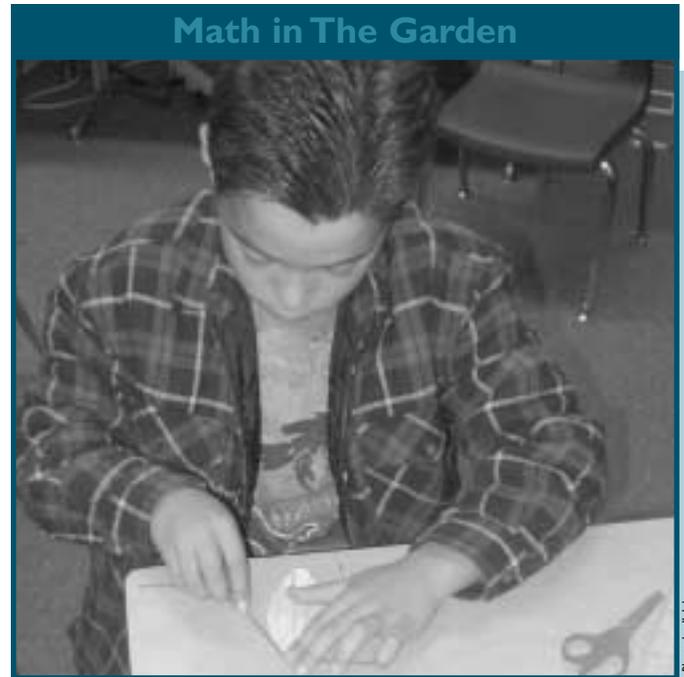
“Math in the Garden” Activities for Parents and Youth Leaders

With string and laughter, two children divide their planting bed into rectangular-shaped quarters and decide where to plant their pumpkins, snapdragons, tomatoes and lettuce. In the neighboring bed, children divide their plot into triangular-shaped quarters. Another child squeaks with surprise when she discovers a three-inch long tomato worm just in front of her nose. Nearby a child and her parent place sticks in the ground as they mark the advance of a sunflower’s shadow every five minutes. During the past three years, the *Math in the Garden* project at the Garden, funded by the National Science Foundation, has worked closely with parents, after-school program youth leaders, educators from community garden programs, Girl Scouts, Boy Scout, 4-H, botanical gardens across the country and classroom teachers to develop math activities to conduct in myriad garden settings. The resulting engaging and fun activities spark a joy of figuring out mathematical relationships with flowers, leaves, insects, shadows and water.

The activities are attractive, easy to use and in demand by educators in community-based programs as well as in schools across the country. Although taking place out of doors, these activities are not just typical environmental education activities with a few extra charts and measurements included. Each activity is focused on a specific mathematical concept



Children use standard measuring units to compare garden harvests.



A third grader determines the perimeter of a leaf and compares it with the leaf’s area.

and carefully crafted to give children opportunities to develop and/or use mathematical skills as the core purpose of the activity.

It is obvious that children and adults are enjoying themselves, but you might ask what are the children learning and what mathematical skills are they developing? The state and national educational standards for mathematics now include more strands than most of us focused on during our own early education. Although we are most familiar with arithmetic, today children in primary grades and up are learning mathematical concepts involving geometry, statistics and data analysis, algebraic functions and measurement. The sixty *Math in the Garden* activities have been gathered into three companion books, each containing approximately 20 activities clustered around the following mathematical strands — measurement, geometry, and statistics. This series covers all required mathematical strands for elementary and middle school children. Each book includes activities for 5-year-olds to 13-year-olds. Some of the activities are appropriate for a broad range of ages, reflecting the age ranges one finds among siblings and in after-school youth programs. The following examples highlight some of the ways math concepts are presented and what children learn.

We are surrounded by data every day and from all kinds of media. Myriad charts and graphs in the newspaper show trends in the stock market, weather changes, economic growth, voter preferences and rates of gas use in vehicles. Our activities promote critical thinking skills in mathematics and give children opportunities to promote, develop and practice those skills. Analyzing the same data set from several perspectives and understanding the criteria used in developing charts and graphs are important mathematical and life skills. In *Flowers: Graph & Graph Again* from the volume *Math in the Garden: Gather and Analyze*, children look closely at a group of flowers as a data set. Children identify various attributes of the flowers, such as petal color, petal number, color of pollen, flower size, and whether or not the stigma is longer than the stamens. Children pick one characteristic to use to develop a graph of the flower group. Then using a second attribute from the same flower set, they produce a second graph and make true statements about each graph. Jaine Kopp, Mathematics Educator at the Lawrence Hall of Science and project staff member, states “In this exercise children see that the same data can be organized in more than one way to provide different information. Additionally, once organized, children discover that they can make TRUE statements as well as inferences and learn to recognize the difference between these two. This is such an important skill.”

When students create their own charts and graphs, and perform calculations based on the hands-on activity of determining their samples, they understand what the charts represent and can move from the concrete object to more abstract representations of data. Students use their experience in the sampling activity to decide on the representation of their data; they are also exposed to other students’ ideas since the

data groups are performing hands-on math work side-by-side. Ms. Maguire continues, “Rather than looking for a pre-determined answer to a math problem, the students experience an open-ended question, a real-life math problem to grapple with, and then are able to see how mathematics applies to the world outside of the math class.”

A common characteristic of *Math in the Garden* activities

Math in The Garden



Photo by J. White

Children create triangles as they subdivide their planting beds into equal parts.

Math in The Garden



Photo by K. Johnson

Using graph paper, this Oxford student determines the area of a leaf.

is that activities promote extended learning and application as the students see this mathematical sampling could be performed in their home gardens, other areas of the school, community gardens and even with other sets besides plants. Katie Johnson, third grade teacher at Oxford Elementary School in Berkeley and also a project staff member recently presented *Exploring Area and Perimeter of Leaves* from the third volume *Math in the Garden: Shapes and Geometry* to her students. “After exploring area of leaves using centimeter paper, students were doing a Tangram activity determining the area of various polygons. At one point, one student piped up ‘Oh, this is like finding the area of our leaves.’ Students could make connections in other applications with the same concepts. The *Math in the Garden* activity offered a good hands-on, concrete experience to finding area of a leaf, which then transfers to more abstract experiences in math,” declared Ms. Johnson.

Gardens provide rich opportunities to develop mathematics skills as children and adults plant, prune, weed, harvest, enjoy and savor the beauty and diversity in plant and garden activities.

— Jenny White

THE GARDEN IN THE NEWS

The Garden has been in the news media often over the last twelve months, and we have responded to several queries a week from the press. This is in addition to the press releases we send to Bay Area media using free calendar listing opportunities for Garden events—over 1,020 releases were sent out in 2002!

Additionally, many newspaper articles reference the Garden's collection and expert specialist knowledge. Web media is now paying more attention to the Garden with numerous requests for images and information, such as Judith Finn's recent



George Reading and Garden horticulturist Jerry Parsons discuss orchid care during an episode of "California Heartland."

Photo by J. Williams

interview about carnivorous plants with *Univision.com*—the Web site of Univision, the largest Spanish-language TV network in the United States.

Getting the word out about the Garden on our very limited marketing budget is a challenge, and when we hear of publicity opportunities from our supporters we are thrilled to take up such leads. If you have publicity contacts or suggestions please contact Janet Williams, Marketing and Development Officer at (510) 643-2937.

UCBG Media Highlights of 2002

Some of the highlights of UCBG media interaction during 2002 included:

- Ten television crews filmed and conducted interviews here for both local and national news about the presence of Sudden Oak Death in the Garden;

- *San Francisco Magazine* filmed a sumptuous spring fashion photography shoot here in the Tropical House, Fern House and among the orchid collection for their April issue;

- Macy's Spring Flower Show featured the delights of the Garden's

collection which resulted in widespread outreach for the Garden—as well as the impressive floral presentation of the show itself;

- *Garden Gate Magazine*, based in Des Moines, Iowa, reveled in their extended filming session here in the spring;

- The year ended with KVIE Sacramento filming an episode of "California Heartland" which has screened, and re-screened, on PBS stations all around the state since December. This show included an interview with Garden orchid specialist, Jerry Parsons;

- The KRON4 television show, "Henry's Garden" interviewed Manager of Horticulture and Collections, Chris Carmichael, and also filmed the Garden extensively. KRON4 also picked up on our award from the *East Bay Express* as "Best Place to Hold a Wedding in the East Bay;"

- Press tour groups representing newspapers all over the country visited on two occasions, resulting, so far, in articles mentioning the Garden in newspapers and magazines in fifteen states.

New and Improved Spring Plant Sale

Silent Auction, Raffle, Children's Plants

Saturday, April 26th
10 am to 2 pm

Special Members' Sale
and Silent Auction
Friday, April 25th
5 pm to 7:30 pm

After a hiatus of one year, the annual Spring Plant Sale is returning with some exciting new features and, of course, a lot of new and interesting plants.

The public sale will be held on Saturday, April 26th from 10:00 am to 2:00 pm, with a special Members' Sale on Friday, April 25, from 5:00-7:30 pm. Memberships will be available at the Sale.

The Friday night Members' Sale and Silent Auction will feature some rare and unusual plants. Among the choice items for the auction are giant red hot poker (*Kniphofia northiae*), Poor Knights lily (*Xeronema callistemon*), the rare rock daisy (*Pachystegia insignis*) of New Zealand, and perhaps a white Lapageria or two.

And for those who rely on chance more than money, there will be a raffle of garden plants beginning on Friday night and drawn on Saturday afternoon. Unlike the Silent Auction, the winner need not be present to win.

For the first time, the public sale will offer a selection of special starter plants for children at prices affordable on even the smallest allowance (Adults will be allowed to buy these plants only when accompanied by a responsible child!). Throughout the day there will be special talks and hands-on potting workshops for children given by volunteers and docents.

In addition to our large selection of plants propagated from the collections, we have some unusual offerings, including *Pelargonium* species from the collection of Dr. Robert Raabe, an expanded selection of cool growing orchids and culinary herbs, *Scilla natalensis*—an awesome spring blooming South African bulb which forms large above ground bulbs, and limited quantities of some rare *Beschorneria* species. See our more extensive list of plants on the Garden's website closer to the sale date.



Photos by J. Williams

Ginger Guthrie potting up plants.



Joanne Muench and Mika Matsui.

**VOLUNTEER
PROPAGATORS
HELP GET
PLANTS
READY FOR
SPRING SALE**



Kathryn Maack with carnivorous plants.

CALENDAR OF EVENTS

SICK PLANT CLINIC

First Saturday of every month, 9 am to noon.

UC plant pathologist Dr. Robert Raabe, UC entomologist Dr. Mills, and their team of experts will diagnose what ails your plants.

Free. No reservations required.

FIBERS AND DYES

April 10, 2003 through April 27, 2003 during Garden hours

In this free-standing interpretive exhibit see plants sampled largely from the Garden's collection, used by various cultures for weaving and dyeing. This is an annually repeating Garden exhibit; available for scheduled tours by groups and schools. Call 510-642-3352 to schedule a tour.

Free with Garden admission. No registration required.

PLANT AND MICROBIAL INTERACTION: The Wood Wide Web and other stories of life in the underground; co-sponsored with the East Bay Chapter of the California Native Plant Society

April 23, 2003, 7:30 pm – 9:00 pm

Dr. Ellen Simms, Director of the Garden, will speak about the underground lives of plants and their microbial partners, revealing how plants are actually a partnership of multiple organisms. These partnerships are vitally important for plant survival in both natural and managed habitats and they strongly influence plant community structure. And as with all partnerships, members may experience conflict over use of resources and that lax resource transfer can provide opportunities for cheaters to take advantage.

Free. No reservations required.

MEMBERS' SPRING PLANT SALE

Friday, April 25, 5:00 – 7:30 pm

Our Garden members get the best selection! Enjoy refreshments and check out our silent auction of unusual plants and garden-related tools and art. Become a member at the door!

Free, Members only.

SPRING PLANT SALE

Saturday, April 26, 10:00 am – 2:00 pm

The entire Bay Area plant loving community is invited to this featured sale of the year! Choice and special plants for a wide range of horticultural uses: check our website close to the sale date to see a list of featured plants.

Free.

GARDEN PARTY 2003

Saturday, June 1, 3:00 pm – 6:00 pm

Save the Date! Wine, food and music! Walks led by Garden experts. Silent Auction and raffle! Door prizes.

Celebrate the Garden – delight in the peak of the bloom!

Call for information and tickets.

UNSELT BIRDING BREAKFAST AND QUARTERLY BIRD WALK

Saturday, May 3, 8:00 – 11:00 am

Join Chris Carmichael, Manager of Collections and Horticulture, and expert birder Dennis Wolff on a morning walk to discover the Garden's bird life and to partake in breakfast treats.

Free. Space limited. Registration required.

VISIT THE CEDARS

Saturday, May 3

Garden horticulturist Roger Raiche hosts a visit to his wild land property, The Cedars. Home to serpentine ecosystems and with the western azalea (*Rhododendron occidentale*) in bloom—along with other early bulbs and annuals, the Cedars is a botanist's delight! Places extremely limited.

Call for information and reservations.

\$50, Members \$30. Reservations required.

MOTHERS' DAY TEA

Sunday, May 11, seatings 1:00 – 3:00 pm

Here's a novel way to celebrate Mom's special day! Luscious treats, music, and a peaceful stroll in the Garden!

\$30. Members \$20. Children under 10, \$10. Registration required.

CALIFORNIA SPRING WILDFLOWER WALK

Saturday, May 17, 10:00 am – Noon

Join Roger Raiche, Garden horticulturist and California natives expert, for an informative stroll through the Garden's magnificent collection of native wildflowers. You'll learn to recognize many of the wildflowers found around the state in spring and discover which of these are suitable for planting in your home garden.

\$10, includes admission; Members free. Space limited.

Registration required.

ADAPTIVE RADIATION AND CO-SPECIATION IN THE PACIFIC: Evolution of Hawaiian silverswords and planthoppers; cosponsored with the Bay Chapter of the California Native Plant Society

Wednesday, May 28, 7:30 – 9:00 pm

Silverswords, members of the sunflower family, are widely known to tourists of the Hawaiian Islands for their beautiful rosettes of silvery foliage and spectacular flower displays.

Except where noted, to register for any Garden program or event call 510-643-2755

Studies underway for decades have yielded surprising findings that enhance appreciation of the evolutionary change that has characterized diversification of this endangered assemblage of plants. UC Berkeley botanist Bruce Baldwin and entomologist George Roderick will share their latest findings. See the plants and hear rare recordings of the mating calls of Hawaiian planthoppers! Free. No reservations required.

SUCCESSFUL MEDITERRANEAN GARDENING: PLANTS, PLACES & PRACTICES SEMINAR

Fridays, June 13 & 20, 10 am – 4 pm

2 consecutive Fridays; one session at the UC Botanical Garden and the other at Strybing Arboretum

Join Anthony Garza, Garden Supervisor of Horticulture & Grounds, for this 2-session class with a focus on exciting plants and best practices for individuals interested in climate-adapted horticulture. Presentation, slides, and garden tours feature mediterranean climate plants and other plants from arid regions around the world with an emphasis on micro-climates and related practices that work in our region. An introduction to climate and mediterranean plant communities will be given by Peter Dallman, author of *Plant Life in the World's Mediterranean Climates*.

Each full-day session will make maximum use of the mediterranean sections at each host garden. Strybing Arboretum & Botanical Gardens has collections representing Chile, Australia, South Africa, and California; UC Botanical Garden at Berkeley has collections from the Mediterranean Basin and Canary Islands, California, Chile, South Africa, and Australia.

Cosponsored by Strybing Arboretum Society and the UC Botanical Garden.

Members \$140, nonmembers \$150 (bring lunch). Registration required.

SUDDEN OAK DEATH IN CALIFORNIA

Saturday and Sunday, Jun. 28 & 29

Since 1995, large numbers of tanoaks, coast live oaks, and black oaks have been dying in California's coastal counties, due to a pathogen, *Phytophthora ramorum*. This course, offered by The Jepson Herbarium, is designed to provide an in-depth look at Sudden Oak Death. UC researcher Matteo Garbelotto and Garden Director Ellen Simms, provide an up-to-date account of research and the state of the epidemic. Day One is in the Garden's classroom, while Day Two travels to a local field site to see the disease first hand.

\$200; Call the Jepson Herbarium at 510-643-7008 for required registration.

Program fees include Garden admission. Please register early. Programs may be cancelled due to low enrollment or extenuating circumstances. Full refund if the program is cancelled by the Garden. Refunds for cancellations, less a \$10 service fee, will be made only if notice is received at least two weeks prior to the program date. Program fees of \$10 or less are non-refundable.

Garden Facility Rentals

Garden members are encouraged to use the Garden as the venue for their next event; it is a great setting for that special birthday or anniversary party! On average, about thirty weddings a year are conducted here in the Garden, and so, last year we were very pleased to be awarded the East Bay Express accolade for the "Best Place to Hold a Wedding in the East Bay." If you would like information about facility rentals, please call our coordinator Margaret Richardson at (510) 642-3352.

GARDEN STAFF

Dr. Ellen Simms, *Director*

Richard Henderson, *Associate Director*

ADMINISTRATION

Crissy Bilyk, *Visitor Services Specialist*

Kim Kaso, *Volunteer Services & Program Coordinator*

Afroz Navid, *Administrative Assistant*

Margaret Richardson, *Tour & Rentals Coordinator*

Michael Rimar, *Administrative Assistant*

Candice Schott, *Business Operations Supervisor*

Janet Williams, *Marketing & Development Officer*

COLLECTIONS & HORTICULTURE

Dr. Christopher Carmichael,

Manager of Collections and Horticulture

Holly Forbes, *Curator*

Barbara Keller, *Curatorial Assistant*

Anthony Garza,

Supervisor of Horticulture and Grounds

John Domzalski, *Propagator*

Judith Finn, *Horticulturist*

Peter Klement, *Horticulturist*

Bridget Lamp, *Horticulturist*

Lawrence Lee, *Horticulturist*

Jerry Parsons, *Horticulturist*

Dr. Robert Raabe, *Garden Pathologist*

Roger Raiche, *Horticulturist*

Eric Schulz, *Horticulturist*

Elaine Sedlack, *Horticulturist*

Nathan Smith, *Horticulturist*

Gerald Ford, *Building and Grounds Maintenance*

EDUCATION

Dr. Jennifer White, *Associate Director for Education*

Christine Manoux, *Program Assistant*

FACULTY ADVISORY COMMITTEE

Dr. Todd Dawson, *Integrative Biology*

Dr. Lewis Feldman, *Plant Biology*

Dr. Joe McBride, *Environmental Science, Policy, & Management*

Dr. Brent Mishler, *Integrative Biology*

Dr. Vincent Resh, *Environmental Science, Policy, & Management*

Dr. Alan Smith, *Herbarium*

NEWSLETTER

Holly Forbes, *Editor*

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Development	643-2937
Director's Office	643-8999
Education	495-2805
Entrance Kiosk	643-2755
The Garden Shop	642-3343
Plant Collections	643-8040
Tours/Rentals	642-3352
Volunteers	643-1924
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Spring Plant Sale

Spring Members' Plant Sale

Our Garden Members' Sale offers the best selection! Enjoy refreshments and check out our Silent Auction of unusual plants and garden-related tools and art.

Become a Member at the door!

Friday, April 25, 5:00 – 7:30 pm

Free, members only.

Spring Plant Sale

The entire Bay Area plant loving community is invited to this featured sale of the year! Choice and special plants for a wide range of horticultural uses: check our website close to the sale date to see a list of featured plants.

Saturday, April 26, 10:00 am - 2:00 pm

Free.



Garden Party 2003

SUNDAY JUNE 1ST, 3:00 - 6:00 pm

- ✿ Wine, food and music!
- ✿ Walks led by Garden experts
- ✿ Silent Auction and raffle!
- ✿ Door prizes
- ✿ Celebrate the Garden—
delight in the peak of the bloom!

Save the Date!

S U P P O R T T H E G A R D E N !

GARDEN HOURS:

The Garden is open from 9 am to 5 pm year round.

Extended summer hours are from 9 am to 8 pm Wednesday through Sunday from Memorial Day to Labor Day.

The Garden Shop is open 10:30 am to 4:30 pm.

Summer Garden Shop hours are extended to 7:30 pm Wednesday through Sunday.

Closed first Tuesday of each month.

University of California Botanical Garden
200 Centennial Drive, #5045
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Public Tours are offered at 1:30 pm each Thursday, Saturday and Sunday. Call (510) 643-2755