



UNIVERSITY of CALIFORNIA
**BOTANICAL
GARDEN**

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Spring 2000

UC Botanical Garden Wins “Best of Show”

The University of California Botanical Garden won the Golden Gate Cup "Best of Show" award- and nine other gold medals at the San Francisco Flower and Garden Show, which ran at the Cow Palace March 16 –19. The Flower Show is an annual event that attracts more than 60,000 attendees from all over California, the United States and abroad.

It was a singular honor for the Garden to have been invited to participate in the main garden display event in the first place. Normally, central arena garden displays are reserved for commercial garden designers and landscaping firms, and public gardens create "garden vignettes," which are small, relatively low key exhibits. Last year's Botanical Garden vignette attracted the attention of show organizers, which prompted this year's invitation to participate on a grander scale, the first nonprofit ever so invited.

The Botanical Garden's garden design, "The Avant Garden: A Water Efficient Garden for the New Millennium," was designed by Horticulture Manager, David Brunner and Horticulturist, Jerry Parsons. It featured a fantastic array of interesting and unusual drought tolerant plants – all grown in the Botanical Garden with little water other than natural rainfall—a waterfall with re-circulating water and a shade structure roofed with succulent plants.

The East Bay Municipal Utility District was a major sponsor of the display garden, which illustrated how to create a diverse, interesting and comfortable garden with low water use requirements. EBMUD Water Conservation specialist, Scott



The visually striking repetition of the rosette form was an intriguing design motif of the display.

The colorful and eye-catching, yet energy efficient, succulent covering of the roof structure attracted much interest.

Photo by Patricia Hatch



Sommerfeld, and his team of EBMUD volunteers spent many hours working alongside UCBG staff and volunteers in preparing the display. Prior to the Show, Scott and Nora Harlow, EBMUD Director of Publications, worked closely with UCBG staff David Brunner and Janet Williams, Marketing and Development Officer, to produce an eye-catching brochure to hand out at the Garden Show about both the display and water efficient gardening techniques.

Many outstanding contributions helped us to create our display; we owe a great deal of thanks to the following supporters. Artist Brad Corbin provided intriguing and eye catching artwork for the brochure—co-produced with EBMUD. A New Leaf Gallery which loaned us stunning sculptures by artists Gale Wagner and Mark Oldland: these contributed very much to the beauty of the display. The

(Continued on next page)



Photo by Janet Williams

*Serious horticultural engineering takes place as the *Dasylyrion wheeleri* is removed from its garden bed and lowered gently onto the truck under David Brunner's direction.*

American Soil Products Company has long been a friend to the Garden and supplied materials essential to our exhibit. Color Spot Nurseries of Walnut Creek also acted as sponsors. Ben Bailey and Barney Trautman of the UC Art Museum provided invaluable design and construction advice about the structure.

Just about everyone at the Botanical Garden worked on this project somehow! The tasks varied, whether it was Nancy Swearingen organizing volunteer crews to help construct the roof of succulents, staff the display and then take it down, or Judith Finn driving truckloads of plants back and forth to the Cow Palace, or the teams of horticultural staff and helpers who dug up plants in pouring rain from all around the Garden under David and Jerry's direction for weeks before hand—everyone had a lot to do! Then there were the volunteers who signed on for a shift helping put it all together at

WATER WISE GARDENING FOR THE FUTURE

Most people have no idea how much water their garden needs. The typical Bay Area residential landscape is irrigated enough each year to flood it six feet deep. This is at least twice as much as plants need for healthy growth. Using water-efficient plants and creative design, you can create a garden that thrives on little more than natural rainfall.

Properly designed, a water-efficient garden is easier to maintain than one that's over-watered. It requires less weeding, pruning, mowing, fertilizing, and pest control. It is better adapted to fluctuations in rainfall and seasonal changes. It provides a better "fit" with many Bay Area architectural styles and with the natural landscape surrounding our neighborhoods.

There is no one way to create a water-efficient garden. Start by determining what you want your garden to do for you. How can it best serve your family's lifestyle? Do you entertain outdoors? Do you need shelter from the blazing sun or chilly winds? Do you need play-spaces for children or romp-areas for pets?

You'll be able to create a garden that is beautiful, an exciting expression of yourself and one that uses very little water if you consider the following:

Planning and design: Use "hard-scape" (brick, flagstone, decking) wherever you need flat, durable spaces for relaxing and entertaining. Beautiful and functional, this hard-scape reduces the area irrigated. Use mulches of bark, rocks, gravel or even broken pottery to cover the ground in an attractive way—while reducing evaporation. Group plants into zones by water needs, and place water-loving plants up-front for high impact. Grow thirsty plants in containers where no water is lost to runoff.

Use appropriate plants. For hot south- or west-facing locations select plants with low water needs while keeping moisture loving plants in shade. Investigate alternatives to your thirsty favorites – for instance a close relative that needs less water.

Improve the soil. Add compost or other organic matter to the soil at planting time to help retain soil moisture.

Irrigate efficiently. Monitor how much water your garden needs each month and how much water your irrigation system is applying to each planting zone. Program your controller monthly to optimize run times and irrigation frequency. Consider drip irrigation—even lawns can be irrigated with subsurface drip.

Create practical turf areas. Restrict the size of lawn to that needed for play and recreation. Avoid long, thin strips or odd-shaped lawns as they are difficult to water efficiently. Regularly remove thatch, aerate the soil, and limit the use of fertilizers to decrease irrigation needs. And most of all—question whether you need a lawn at all!

Maintain your landscape. Avoid the lush, thirsty plant growth that results from too much high-nitrogen fertilizer. Remove weeds that compete with garden plants for water, light, and nutrients. Through water-efficient gardening, every Bay Area resident can help to conserve our most precious natural resource.

— David Brunner, Nora Harlow,
Scott Sommerfeld and Janet Williams

the Cow Palace and came back exhausted exclaiming that they had worked "like ten men!" or, ended up staying nearly all night long working until the job was done. Thank you all so much—we really couldn't have done it without you! And as for David Brunner and Jerry Parsons, creators and managers of the display who not only designed it and created it—they staffed the display too, talking nonstop to the throngs of interested visitors.

What does it all mean for the Garden? That is hard to simply sum up but we certainly appreciate the interest shown in the display. We hope that the folks who took our handouts home, come to visit, come to our Plant Sale and attend our Garden Party. But it surely proves one thing: when the experts here at UCBG get behind a project, the results are really something!

— Janet Williams and Nancy Swearengen



Photo by Pat Smith

Palm, being loaded with expert care by Valley West Tree Moving Services, an epic job!

Resources for Water Wise Gardening

Organizations

- ASLA American Society of Landscape Architects
415 974-5430 www.asla.org
- ASIC American Society of Irrigation Consultants
925 516-1124 www.asic.org
- CLCA California Landscape Contractors Association
800 448-2522 www.clca.org
- CNPS California Native Plants Society www.cnps.org

Stores

- Tom Bressen's *The Urban Farmer Store*
www.urbanfarmerstore.com
- Richard Ward's, *The Dry Garden Nursery*
6556 Shattuck Avenue, Oakland

Books and Publications

- *Sunset Magazine's "Water-wise Gardening for California"* available from EBMUD.
- *Sunset's Western Garden Book*
- Bob Perry's *Landscape Plants for Western Regions* (Land Design Publishing, 1996).
- Catherine Yronwode's *The California Gardener's Book of Lists*, (Taylor Publishing, 1998).
- Carol Shuler's *Low-Water-Use Plants for California and the Southwest*, (Fisher Books, 1993).
- American Horticultural Society's *Water-Wise Gardening*, (Dorling Kindersley, 1999).

These and other excellent references are available from the Garden Shop; drought tolerant plants are available at UCBG plant sales.

DIRECTOR'S COLUMN

Earth-Friendly Gardening

Practicing earth-friendly gardening means using techniques and materials that impose as little adverse impact on the environment as possible. However, in many cases, the impacts of various gardening choices are complex and it is not always easy to know which is best. Take water-conserving gardening, for example.

At the close of the second-wettest February on record, it's easy to forget that California ever experiences droughts. It is also easy to look out the window at yet another soggy weekend and forget that several factors suggest that the next extended drought will be far more difficult than previous ones. Important court decisions protecting endangered salmon and trout now require that more water be retained in our rivers. Our recent rainy winters have made these provisions relatively easy to implement, but a couple of dry years could render them more onerous. There has also been an enormous amount of development in the greater East Bay since the last drought. Expansion of existing water supplies has not kept pace with the increasing numbers of thirsty households and gardens. Thus, let us not be lulled by our temporary plenty; we must remind ourselves of the dry years to come and plan our gardens accordingly.

The Garden's recent display at the San Francisco Flower and Garden Show, which was sponsored by the East Bay Municipal Utility District, presented some innovative strategies for creating water-conserving gardens. The best way to have an earth-friendly Garden is to use plants that are well adapted to the local climate. Of course, the best source of well-adapted plants is our native flora, and California is blessed with an especially diverse array of species. This diversity provides an outstanding palette for our creative energies; many beautiful gardens have been created in the Bay Area from California natives. Excellent examples of the design possibilities of this palette can be seen in the California Section of the UCBG.

While we at the Garden believe that even more could be done with native species in the home garden, we also recognize in ourselves and our friends the very human desire to

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Macrozamia communis, a palm that is well suited to a water efficient garden..

GARDEN NOTES

The Desert-Rainforest House was closed to the public in October due to structural failures that created a falling glass hazard. Plans for the replacement building continue under the management of the campus department of Planning, Design, and Construction. All of the plants in the Desert House have been inventoried and given additional labeling in preparation for the move to temporary quarters. We especially thank Curatorial Assistant **Barbara Keller** and volunteers **Sonja Altena**, **Eileen Romero**, and **Bibi Chapman** for their participation in this huge project.

Thanks to Marketing and Development Officer **Janet Williams** and volunteer **Pat Hatch**, the Garden's web site has been redesigned and updated. Pat spent nearly a hundred hours on this project. If you find yourself wondering what the next program is or whether we have a particular plant in the collection, check the web site for quick and easy answers.

In the near future, we will be making more of the collection data available on the web site; at present the list for our next Plant Sale, on April 28th and 29th can be seen at www.mip.berkeley.edu.

Curator **Holly Forbes** visited the Washington Park Arboretum (Seattle, WA) on behalf of the North American Plant Collections Consortium (NAPCC) program of the American Association of Botanical Gardens and Arboreta. She was there in November to see the holly collection (*Ilex*) as part of the review process to bring the collection into the NAPCC.

Research use of the collection continues. Recent projects receiving plant material from the Garden include:

Sandra Floyd, University of Colorado at Boulder, received developing seed capsules of *Illicium mexicanum* (related to Chinese star anise.) Sandra Floyd, a graduate student, and **Dr. William Friedman** in the Department of Environmental, Organismic, and Population Biology, are one of a small number of research teams investigating the origin and evolution of some of the unique reproductive features in flowering plants by focusing on endosperm, the embryo-nourishing tissue found in all flowering plants. The early evolution of endosperm is still a mystery, but recent findings by several different investigators indicate that Amborella (Amborellaceae), Nymphaeales (water lilies), and a group that includes *Illicium* (Illiciaceae) represent the three earliest living branches.

Mr. Steve Hootman of the Rhododendron Species Foundation, Tacoma, WA, visited the Garden in January. We were happy to receive his advice on some species determinations in the Asian Rhododendron collection.

Volunteer Services Coordinator **Nancy Swearingen** attended the February meeting of the Greater Bay Area Gardens Network, hosted by the University of California at Davis Arboretum.

The Garden requests copies of publications resulting from research use of the collections. We recently received a copy of the article *Floral Ontogeny and Morphology in Subfamily Spiraeoideae Endl. (Rosaceae)*, Int. J. Plant Sci. 160(5):981-1012 by Rodger C. Evans and Timothy A. Dickinson. Garden accessions used in this work were Santa Cruz Island ironwood (*Lyonothamnus floribundus ssp. asplenifolius*), *Kageneckia angustifolia* and *Kageneckia oblonga*.

In addition to this distribution of material for research purposes, the Garden also distributed surplus corms and bulbs from the California Native bulb collection to the following institutions: Arboretum of Los Angeles County, Brooklyn Botanic Garden, Michigan State University, Missouri Botanical Garden, Norfolk Botanical Garden, Rancho Santa Ana Botanic Garden, Santa Barbara Botanic Garden, SFA Mast Arboretum, and Strybing Arboretum.

Wilhelm Welzenbach, University of Washington at Seattle, has received seeds of soap plant (*Chlorogalum pomeridianum*) for a Master's Thesis. He plans to use these plants in studies to determine whether they could be used to help eliminate toxic pollutants from contaminated sites while also accomplishing limited revegetation.

Amy Buthod, University of Oklahoma at Norman, has received leaves of the orchid genus *Bulbophyllum* for a Master's thesis molecular study of the infrageneric relationships of the genus.

Michael Zanis, Washington State University at Pullman, has received flowers of boldo (*Peumus boldus*) for his PhD research study of floral development of a few taxa within the family Monimiaceae.

Bonnie Crozier, University of Texas at Austin, has received plants of many genera of Cactaceae for her PhD research study on evolutionary relationships among cacti.

EDUCATION AT THE GARDEN

Garden environments have long been used to get children out-of-doors to experience a bit of the natural world. In such rich settings, opportunities arise to integrate learning across disciplines of life, earth and physical science. While the studies are few, recent data shows that when the environment is used as an integrating context for learning, students' acquisition and retention of knowledge increases. To date, however, few educators have used garden environments to facilitate mathematical investigations, but the value of learning within real-world settings is recognized in the new national mathematics standards.

I am pleased to announce that the Botanical Garden's Education Program has just received a \$925,000 grant from the National Science foundation to address this issue. During the next three and one-half years, we will create activities that bring adults and children together in garden settings to learn the mathematics inherent in the nature of gardening. The materials developed by the project will 1) teach both adults and children mathematics concepts and skills that apply to the real world context of the garden; 2) feature plants, flowers and fruits as mathematics manipulatives that appeal to diverse senses; 3) promote an active learning mode inherent in gardening activities, and 4) support the new national standards for mathematics education.

In conducting this project, we will work with 17 local and national community groups, including Girl Scouts, 4-H groups, after school programs in housing projects, and programs at other botanical gardens. The activities developed will be gathered into five to six Activity Guides in the *Math in the Garden* series, to be produced and distributed by a national publisher. Each Guide will organize activities into clusters that can be done at various points in the year. Areas of mathematics such as discovering patterns, making predictions, investigating numbers, measuring and comparing, and delving into geometry will be taught through planning the garden, then planting, composting, harvesting and renewing it. Background information will ensure that adult leaders can



Second grade children at Lazear Elementary School in Oakland develop estimation skills as they explore the number of seeds in tomatoes of different sizes.

successfully conduct the activities without special training.

Kathy Barrett of the Lawrence Hall of Science joins me as Co-Project Director, and the Garden's horticultural staff will help in activity planning and review. The outstanding botanical team is paired with LHS's proven and talented mathematics curriculum developers **Jaine Kopp, Grace Coates, Jose Franco, Bev Braxton and Karen Mayfield**. The staff also includes a practicing sec-

ondary teacher, **Dr. Yvette**

McCullough from Martin Luther King Middle School in Berkeley. Our Advisory Committee includes mathematicians, botanists, science educators, and staff from botanical gardens across the country and community groups.

We are excited by this new initiative and the prospect of changing peoples' attitudes about math as they discover it in the beauty all around them in their garden.

— Dr. Jennifer Meux White

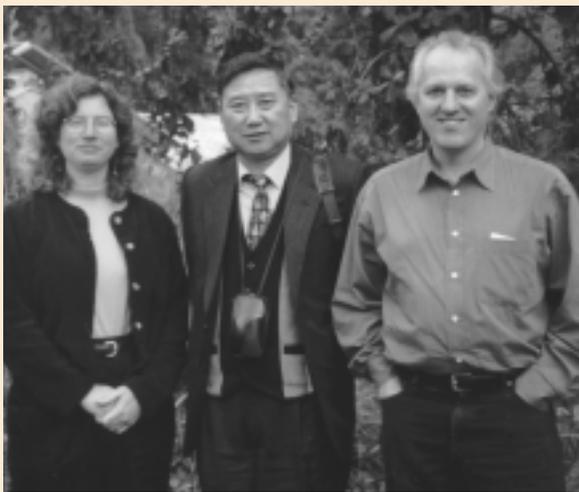
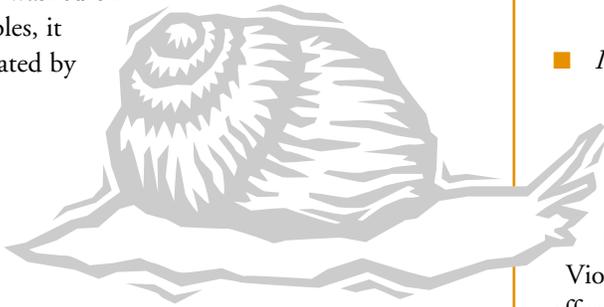
Gardening Tips

Controlling Pests

■ Now available is Hot Pepper Wax TM, a biologically degradable, organic mixture of cayenne peppers and wax that is reported effective against white flies, other soft bodied insects, spider mites and, in addition, repels squirrels and rabbits. *American Rose* 35(3): 18.

■ An article in *Agribusiness Fieldman* July-August 1999: 5 reported a biodegradable, all natural deer repellent now registered by the EPA for use on vegetable and fruit crops. The material leaves an odor and a taste that deer, rabbits, and squirrels find offensive. An application will last 3 months. Though it can be washed off fruits and vegetables, it will not be dissipated by rain or snow.

■ New in Great Britain is a snail and slug inhibitor, which uses a special plant pot saucer in which a low-voltage flashlight battery is installed. Snails and slugs recoil when they touch the electrified band. *Garden Answers* August 1999: 100.



Distinguished Chinese Ethnobotanist, Dr. Pei Sheg-Ji (center), from Kunming Institute of Botany, was accompanied around the Garden recently by Holly Forbes, Curator and Dr. Tom Carlson, UCB Ethnobotanist.

■ Volebloc is a new material which, when put around bulbs, corms, rhizomes etc. at planting time, protects them from voles. The material is slate, which has been heated to make it light and porous. The resulting sharp edges deter the voles from getting to what they consider a food source. *Organic Gardening* 46 (5): 14.

Making News

■ The International Plant Names Index is an Internet accessible data base of scientific names of all plants. It combines Index Kewensis, the Gray Index and the Australian Plant Names Index. *Kew Scientist* Oct. 1999, Issue 16: 1.

■ *Penstemon angustifolia*, released in the fall of 1999 by New Mexico State University and the USDA, is a drought resistant perennial. It can survive with less than 6" of rainfall. *Seed World* 137 (11): 55.

■ A new columbine *Aquilegia x hybrida* 'Colorado Violet and White' (Remembrance TM) has resulted from an effort by floriculturists, an internet service and a seed company. It is promoted by many Colorado growers, Colorado State University, and the Denver Botanical Garden. Ten percent of profits will be donated to the Jefferson Foundation, dedicated to preventing of violence in schools. *American Nurseryman* 190 (12):12.

■ A fat substitute from crushed oats and barley contains high concentrations of beta glucans, which has been shown to reduce cholesterol. The powder, called Nu Trim, is produced by mechanically crushing and heating the grains. The process, developed by the USDA, is not much different from cooking oatmeal and putting it through a sieve. However, in hamsters, it has reduced the cholesterol level by 27%. *Science News* 154 (10): 157.

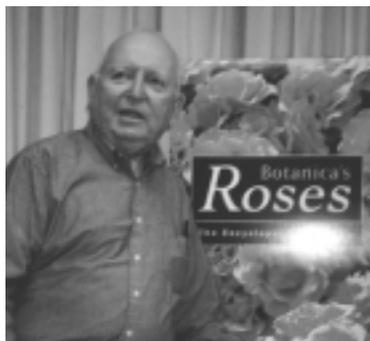
■ The last of the original Liberty Trees was felled several months ago. Originally there were 13 Liberty Trees, one selected in each of the original colonies and each having a history. This tree, a 400-year old *Liriodendron tulipifera* on the campus of St John's College in Annapolis, has had many problems including heart rot, but Hurricane Floyd created such a huge crack that the tree had to be taken down. Before this happened however, cuttings were taken and presently are being grown in tissue cultures at the University of Maryland. *American Nurseryman* 19 (1): 12, 19.

—Robert D. Raabe

Celebrating 110 Years of Growth!

*Help us celebrate! You're Invited!
Please come to the Garden Party! Attend one of our special program offerings!*

SPRING PROGRAMS FOCUS ON ROSES...



Mr. Bill Grant, rose expert, recently talked at the Garden about "Landscaping with Roses in the Bay Area" as part of our program series.

But there is something for everyone in the current program line-up. We've already offered three talks about rose gardening by eminent experts, but you can still pick find out about pioneering roses from Bill Grant, enjoy the visual and olfactory pleasures of our own Garden of Old Roses with Peter Klement and see where other roses hide in the

Garden with Elaine Sedlack. We're also offering more bird-watching, Art in the Garden, a walk among the late Rhododendrons, and special Twilight Tours with Garden experts on Wednesday evenings all summer long. Or bring your little ones the last Sunday of each month to walk in a special area of the Garden and draw or paint what you see.

Don't miss our exciting Sonoma Rose Tour on May 18. You'll see a vast assortment of roses, grown in many intriguing ways. We'll travel by private coach to Sonoma county, visit two spectacular rose gardens, enjoy luncheon and a private viewing of the garden at the Korbel winery, and finally stop at a fabulous specialty rose nursery, where you can purchase what you need to fulfill your fantasies of roses. Rose experts will be with us to answer your every question! Members only \$65. Please call 510-643-2755 to reserve your space.

WISH LIST

We need sponsors for our fabulous Garden Party event! If you can provide food or wine or would like to contribute in order to underwrite the event then please call Janet Williams at 510 526-8138.

*To celebrate our 110th anniversary year
we are planning a*

Garden Party

to be held on June 3rd from 3:00 p.m. to 7 p.m.

*Please join us to enjoy food and wine,
talks and walks, music and activities!*

See back cover for ticket details or call 510 643-1924



Photo by Janet Williams

Mark Russell and Laura Rioux from TBWA/Chiat/Day visit the Garden with volunteer Pat Smith and illustrator Yan Nascimbene.

We cannot thank distinguished illustrator **Mr. Yan Nascimbene** enough, he has generously donated his amazing talents to create a charming poster image for us to commemorate both the Garden Party and our 110th Anniversary year. Featuring the view from the top of the Garden towards the Golden Gate Bridge and Marin headlands in the background and the image has roses framing the foreground. He says he's delighted to be associated with the Garden and is looking forward to signing copies of the poster at the Garden Party.

Mr. Marc Russell, from the nationally renowned advertising agency, TBWA/Chiat/Day, has also volunteered to help us this year on a pro-bono basis. He and his creative team: **Elizabeth Siverts**, **Sherrie Lesniak** and **Laura Rioux**, have combined their awesome talents to produce a very handsome program flyer for us and will be collaborating with us on the task of converting the poster image into a poster as well as other projects related to the Garden Party.

We extend our heartiest thanks to all of them—we are just thrilled to have such talented help this year!

In Memoriam

Beloved and longtime volunteer **June Falkner** passed away on January 24 after a long illness. June first joined our volunteer corps in 1981 as a Volunteer Propagator, and propagating trees and shrubs was her great joy and the thread that runs through all her years at the Garden. However, June got involved in all kinds of other things, too. She inaugurated our travel program, and organized trips to Ireland, Portugal, France, Italy and Chile. As a Board member of the Friends, she initiated a travel fund for the horticultural staff. She and Elly Bade planned, organized and put on no fewer than nine symposia that attracted attendees from all over the U.S. June was an ardent Garden supporter and a faithful friend to many of us. We will miss her.



June Falkner

Another longtime supporter of the Garden, **Elizabeth Hammond**, also passed away in January. An avid gardener who was also devoted to the University, Mrs. Hammond combined those two passions through work for the Garden. She was a member of the original Board of the Friends, donated the first memorial bench in the Garden, and encouraged a broad circle of her friends to become involved in Garden projects. Failing health limited her involvement in recent years, but she will be remembered fondly for her energy and generosity.



Elizabeth Hammond

DIRECTOR'S COLUMN

(Continued from page 8)

cut 11 lines or more if want art "try something new and different", which drives us to dip into the huge array of exotic plants that can grow in our relatively benign climate. And, therein lies potential danger. Many beautiful and unusual plants come from other regions of the world that share our Mediterranean climate, and these are appropriate candidates for a water-conserving garden. This advantage may come with a hidden hazard. As the climate in their native homes is so similar to ours, these plants may be pre-adapted to thrive in our wild lands as well as our gardens. Furthermore, many traits we find attractive in a landscape plant—for instance, ease of propagation and fast growth—may also promote its invasion into wild lands.

In the Garden, for example, French broom is a beautiful

weed. These fast-growing shrubs crowd out native species. Further, because they harbor bacteria that obtain nitrogen from the atmosphere, they are also likely to create conditions favorable to nitrogen-loving exotic grasses. Many public parks spend significant sums of money and deploy large cadres of volunteers wielding "weed wrenches," "weed whackers," and even pesticides, to control these and other intruders.

It is especially important that those of us gardening adjacent to wildlands take great care in choosing which exotic plants to include in our gardens. For example, we at the UCBG have initiated a quarterly perimeter survey intended to discover plants that are escaping the confines of the Garden. We carefully eradicate any escapees and then evaluate the continued risk of including such species in our collections. If we determine that the risk is too large, we remove the species from the collection. We have found that two characteristics have contributed to species escaping our Garden, both related to the mode of propagule (seed or fruit) dispersal. Those species that seem most likely to escape have seeds dispersed either by wind or by birds. This observation suggests that we should be especially careful in which shrubs we chose for attracting birds to our gardens. The fruits that attract those lovely cedar waxwings to our yards may sprout and establish invasive populations in nearby wildlands.

Invasive species are an important concern in the US and are especially problematic in California. Because of the major habitat changes they can impose, invasive exotics are second only to habitat destruction in threatening California's unique native plants and plant communities.

In a recent speech at the annual meetings of the American Association for the Advancement of Science, Associate Professor of Integrative Biology, Carla D'Antonio, noted that "most harmful non-indigenous insect pests and plant pathogens arrive in the U.S. as stowaways on nursery stock ... and many invasive exotic plants are purposely introduced through the horticultural market." With her research specialty on the population biology and community ecology of invasive plants in the Western US, including Hawaii, D'Antonio went on to document the economic costs of invasive species. According to a January BioScience article (Pimentel et al. 2000), current costs are on the order of \$130 billion per year in the USA alone. Additionally, D'Antonio and UCB graduate student Jonathan Levine have used a relatively conservative model to estimate that the booming global economy may create an exponential rise in international trade and that, over the next 20 years, this rise could increase by 50% the costs of mitigating the impact of exotic species.

Practicing earth-friendly gardening is thus more complex than it first appears. Often several competing concerns must be balanced, and research is desperately needed to prioritize these concerns. Supporting research devoted to this goal will be an important role for the UCBG Center for the Study of Plant Conservation, and Carla D'Antonio, for one, looks for-

Celebrating 110 Years of Growth: *The Garden's Earliest Accessions*

Among the Garden's earliest accessions at our current site are these venerable members of our collection. Next time you visit the Garden be sure to have a look at how well they are doing.

28.0175 *Podocarpus gracilior* (Podocarpaceae) is the longest surviving accession in the Garden. This was acquired near the time of the Garden's move to its current site in Strawberry Canyon. No record of its source has been found. We know it's native to east Africa. This majestic tree can be seen on African Hill in Bed 143



Photo by Janet Williams

Podocarpus gracilior



Photo by Janet Williams

Rhododendron with Nancy Swaenger

32.0264 *Rhododendron insigne* (Ericaceae) is in Bed 236 of the Asian Area. It was one of many seed lots donated by the Edinburgh Botanic Garden, now known as Royal Botanic Gardens, Edinburgh. Native to China.

Many of the 132 accessions surviving from the 1930s are from the Rhododendron collection and others were succulents from South America and South Africa.



Photo by Janet Williams

Atlas Cedar

Another stand out is the Atlas Cedar, 33.0599 *Cedrus libani subsp. atlantica*, in Bed 300 of the Palm and Cycad Garden. It was acquired from C.E. Wilson Nurseries, and is native to North Africa.

215 accessions survive from the 1940s, the oldest being 40.0207 *Agave schottii* in Bed 154.

—Holly Forbes, Curator

Recognition

New Members

The Garden welcomes the following new members:

Michael Allen and Rebecca Poliskin
Ms. Helen Barber
Mr. Mark Biglieri
Ms. Susan Bolton
Ms. Jan Buckwald
Robert and Diane Burnham
Ms. Diane Church
Ms. Jane Coulter
Mr. Stephen Downey
Mrs. Miranda Ewell
Ms. Cameron Forde
Ms. Amanda Hamilton
Mr. Huntley Johnson
Ms. Christina Jordan
Ms. Diane Lowe
Ms. Laurie Mason
Mr. Burr Preston
Ms. Bonnie Mary Rathjen,
Fine Art Photography
Jushu Rehfeld
Jean Reilly
James Rumbaugh and
Madeline Morrow
Ms. Jeanne Ryan
Ms. Sandy Scott
Ms. Rebecca Sherry
Ms. Valerie Sopher
Steven Stoft and Pamela Perun
Ms. Jane Sylvester
Diane and Arturo Taboada
Dr. Judith Taylor
Ms. Jean Vieth
Mr. Conrad Webb
Deborah Yager and Barry Muhlfelder

Grateful Thanks

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

Tom Appleton and Doris Wuhrmann
Mr. and Mrs. Thomas Connolly
Dr. and Mrs. Jonathan Dixon
Lee and Ervin Hafter
Ms. Virginia Havens
Ms. Diane Henry
Raymond and Mary Jewell

Sally Levinson and Douglas Daniels
Paul and Barbara Licht
Jim Lovekin and Iris Tommelein
David and Caroline Miller
Margaret and James Mitchell
Ms. Gale Pickering
Mr. Laurence Rickson
Ms. Ellen Rosenau
Mr. Andrew Sessler
John and Josephine Shuman
Bernard Taper and Gwen Head
Elizabeth and Robert Tuck
Mr. John Whitcomb
David and Susan Wirshup
Mr. Thomas (Rex) Wolf

In Appreciation

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

Dr. Bayard Allmond, Jr.
Ms. Janet Alvarez
Mr. Lawrence Angleman
Ms. Mollie Balamuth
Mr. Fred Balderston
Peter and Carol Berkenkotter
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Ms. Nancy Caputo
Ms. Jean Carmichael
Ms. Josephine Clark
Mr. Robert Connick
Richard Cowan and Kathleen Collins
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Mr. Michael Craib
Mr. Robert Dagley
Ms. Cynthia Debrunner
Frank and Janice Delfino
Ms. Virginia Denison
Dr. Bernard Dietz
Mr. O'Neil Dillon
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Free Twilight Tours:

Stroll your way through the Garden in the peace and quiet of the summer evenings! Each guided tour focuses on a different section of the Garden and is lead by a horticultural specialist.

Every Wednesday between Memorial Day and Labor Day at 5:30 p.m.

Affiliated Nurseries

The Garden is pleased to present the following nurseries offering a 10% discount on plant materials to UC Botanical Garden members (*remember to present your membership card at time of purchase*):

Copacabana Nursery

234 Hall Drive, Orinda
510-254-2302

The Dry Garden

6556 Shattuck Avenue, Berkeley
510-547-3564

East Bay Nursery

2332 San Pablo Avenue, Berkeley
510-845-6490

emerisa gardens

555 Irwin Lane,
Santa Rosa CA 95401
707-525-9600

Grand Lake Ace Garden Center

4001 Grand Avenue, Oakland
510-652-9143

Magic Gardens

729 Heinz Avenue, Berkeley
510-644-1992

Smith & Hawken

1330 10th Street, Berkeley
510-527-1076

Thornhill Nursery

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510-339-1311

Westbrae Nursery

1271 Gilman Street, Berkeley
510-526-7606

Yabusaki's Dwight Way Nursery

1001 Dwight Way, Berkeley
510-845-6261

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Janet Williams, *Editor*

Administration 642-0849
 Development 643-2937
 Director's Office 643-8999
 Education 495-2805
 Entrance Kiosk 643-2755
 Fax 642-5045
 The Garden Shop 510/642-3343
 Plant Collections 643-8040
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E-mail: garden@uclink4.berkeley.edu
 Web Site: <http://www.mip.berkeley.edu/garden/>

CALENDAR OF EVENTS

CAL DAY

Saturday, April 15th. 9 a.m. – 4:30 p.m.

Garden tours & activities including Fibers & Dyes exhibit

ART IN THE GARDEN

Wednesday, April 19th. 2 p.m. to 4:30 p.m. (8 sessions)

HISTORY OF ROSES IN CALIFORNIA Talk by Bill Grant

Saturday May 6th. At 10 a.m.

OLD ROSES IN THE GARDEN Walk with Peter Klement

Friday May 12th. From 3 – 5 p.m.

MOTHER'S DAY TEA ON THE PATIO

Sunday May 14th. 1 – 4 p.m.

SONOMA COUNTY ROSE TOUR

Thursday May 18th. 8:30 a.m. – 4:30 p.m.

Rhododendron Walk with Elaine Sedlack

Sunday May 21st. at 1 p.m.

Species Rose Walk with Elaine Sedlack

Sunday June 18th. At 1 p.m.

Except for Cal Day and the Sick Plant Clinic (First Saturday of each month 9 a.m. to noon), a fee applies and reservation is recommended for these program events. Call 510 643 – 2755.

Celebrate our 110th
Anniversary!

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

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