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Photos by Janet Williams

*The spectacular Namaqualand bulb, *Brunsvigia josephinae*, puts on quite a show in the South African Desert habitat during the early fall.*

Desert Collections in Transition

On several fronts, the Garden has begun to expand and improve the display of our cacti and succulents—the largest and one of the most significant of our collections. This fall, weather permitting, work on renovating African Hill will continue. This project is made possible thanks to a generous gift from Rob Ferber, a Garden supporter and African plant enthusiast, with a particular interest in the petaloid monocots that are a major feature in our collection.

Phase One of this renovation will occur along the steep base of African Hill, adjoining the main road, where a series of rock outcroppings will simulate the desert habitat of Namaqualand on the west coast of South Africa. Reminiscent of the desert landscapes of the Southwest, Namaqualand is punctuated with rounded head-shaped boulders known as "koppies" in Afrikaans. Philip Johnson (who built the alpine

fell-field and the Serpentine Plant Display in the Californian Section) will design a naturalistic setting for bulbs, succulents, and other arid-growing plants of South Africa. To recreate this environment, Johnson will install huge granite boulders in richly textured gray tones with splashes of ocher and sienna. In all, once existing plants and soil are excavated, more than 125 tons of weathered granite boulders will be placed on the steep hillside.

This austere setting will enhance the viewing of bulbs and succulents, which are in their distinct ways eminently adapted to growing in arid environments. Bulbs can survive heat and drought by going dormant, while succulents are able to store water for long periods of drought. Bulb and succulent species make up a major part of the South African flora. With their extraordinary diversity displayed here, they will illustrate the botanical richness of the Cape.

(continued on page 2)



Photo by Janet Williams

The Desert Rainforest House in the process of demolition.

(continued from page 1)

Viewing the spring display of African bulbs, long a seasonal Garden highlight, will be a new pleasure at this renovated hillside. While the bulbs will provide a breath-taking palette of color, African Hill will also be a testing ground for the hardiness of unusual, small succulents, such as *Haworthia*, *Gasteria*, *Aloe*, and many miniature members of the Aizoaceae. Phase One in this thorough-going renovation of African Hill is not, however, the only project for improving the care and display of the desert plants!

In August, the Garden began the long awaited process of replacing the Desert/Rainforest House. The Garden's orchid collection was first moved into an existing greenhouse. Then almost overnight, a temporary holding greenhouse was erected for cacti and succulents. Moving these plants into their temporary shelter required patience and finesse, for the trip was potentially dangerous to both plants and people. We took many precautions. To prevent individual cacti from impaling each other with their long spines, some plants were carefully packed in boxes and wrapped with crumpled newsprint. In addition, staff, volunteers and students who moved the plants had to wear construction hard hats and heavy-duty gloves for protection from spines. Sometimes they also wore latex gloves to protect them from poisonous sap of some *Euphorbia* species. In total, more than 3,000 plants ranging from miniature succulents in two-inch pots to

EDITORIAL NOTE: Horticulturist Elaine Sedlack was the author of the article "Haruko's Moonlight", which appeared in the last *Newsletter*. She also took the accompanying photos

ten-foot tall columnar cacti were packed and moved!

The twin-roofed Desert/Rainforest House had served the garden for more than 60 years, but was condemned and closed to the public in 1999. Once emptied of plants, the entire structure of glass, wood and steel was torn down, leaving only the foundation. On this, the Garden will construct a new greenhouse, designed by Noll and Tam Architects of Berkeley. The entrance will face Centennial Drive, opening on to a large area for the interpretation and display of cacti and succulents. Along a corridor on the southwest side of the greenhouse, visitors will view our extensive collections in secure areas divided into warm and cool growing sections. Greenhouse construction

will occur during the fall and winter, with an anticipated grand opening in spring 2001.



Photos by Larry Lee

Students in protective gear carefully pack cacti for the move into their temporary greenhouse.

Needless to say, visitors to the Garden have found these projects disruptive. Demolition of the old greenhouse has required the occasional closing of the main loop road. Again, in the months ahead, building the new greenhouse and doing the rockwork on African Hill will cause occasional closures. Sometimes, too, we expect the Garden entrance to be a staging area for boulders, soil, and equipment. Alternate routes into the Garden will be clearly marked. We appreciate your patience during this busy—but exciting—construction period. We know you'll welcome the transformation when the first spring bulbs blossom and our cacti and succulents are newly housed!

—Larry Lee

DIRECTOR'S COLUMN

When I lived in Chicago, I would frequently visit California in the late spring to collect seeds and roots from the annual lupines in the valleys and hills of Northern California. Students in Chicago needed to germinate these seeds for greenhouse experiments. The first time we tried it, we started with fresh full seeds. To prevent disease, we sterilized the seed coats with bleach and thoroughly rinsed them in sterile water. To promote germination, we gently nicked each seed coat with a razor. We wet the seeds and were gratified to see them swell up, imbibing water. However, our first batch of seeds developed no further. Puzzled and worried, we consulted the literature and learned one important characteristic of many Californian seeds: They don't like warm temperatures. Of course! They do germinate in December and January, after all. We lowered the temperature a few degrees, and our next batch of seeds produced plenty of seedlings.

At this summer's annual meeting of the Ecological Society of America (ESA), I attended a workshop on *Confronting Climate Change in California*, jointly sponsored by the ESA and the Union of Concerned Scientists (UCS). The climatologists and ecologists who authored this report explained that if current trends in greenhouse gas emissions continue, then they expect that in the future California will experience warmer and wetter winters and, possibly, warmer and drier summers. Listening to this presentation, I thought of those poor hot seeds which never grew into lupines. They languished when only a few degrees warmer than the seeds that displayed exuberant germination. Indeed, the winter temperature increase of 5 – 6° F by 2050 suggested by most regional climate studies would doom those lupine seeds.

Of course, lupines also live in warmer places. For example, we could probably find lupines in southern California that wouldn't require such cool germination temperatures. Shifts in species' ranges might be an important mechanism by which they could respond to climate change. A recent study of 35 European butterflies indicates that during the 20th century, most species ranges shifted northward by 20 to 150 miles, presumably responding to an average 75-mile northward shift in temperature during that same period. A similar northward shift has been documented for the California butterfly, *Edith's Checkerspot*.

Since plants are generally much less mobile than animals, how would they move north so rapidly? In fact, many California natives cannot do so because they are adapted to unique soil situations, such as serpentinite or vernal pools, that are patchily distributed across the landscape. Further, many previously extensive habitats have become fragmented

by human activities. Many species lack the dispersal mechanisms necessary to move among patches. Climate change could leave them trapped. And, even if they could move to cooler climes, would they flourish? A sizable body of literature now suggests that plants can be quite closely adapted to local soil conditions.

Not only do climatologists expect winters to be warmer. They also expect them to be wetter. All plants depend on water but, as good gardeners know, more water is not always better. This is especially true for many California natives. At Bodega Marine Reserve, one striking effect of the record rainfall accompanying the 1997–98 El Niño was the death by water-logging of hundreds of yellow bush lupines. Increased rainfall during the winter growing season could greatly alter competitive relationships among plants, leading to dramatic changes in the structure and species composition of natural vegetation.

What does all this mean for our gardens? Bay Area gardeners may rejoice in the ability to cultivate more tender perennials. However, if summers are hotter and drier, demands on our already taxed water supply will increase. Our current water distribution systems depend on winter storage of water as snow. Warmer winters would reduce the Sierran snowpack and lower summer stream-flow, which could further intensify competition for water. Many climate models also suggest that weather will become more variable. El Niño events may increase in intensity and/or frequency. The heavy rains that accompany these events create landslide hazards, as were experienced at the Garden during the last El Niño event. The winter rainy period might extend further into the spring, as well, which could encourage population outbreaks of many garden pests. In particular, rodent populations might flourish, increasing risk that gardeners will be exposed to rodent-carried diseases such as Hantavirus and Lyme disease.

Is there anything we can do about global climate change? *Confronting Climate Change in California* describes a two-pronged strategy for minimizing the disruptive impacts of climate change. The first involves reducing the production of greenhouse gases that appear to be driving climate change. Although only 0.5% of the earth's human population lives in California, we consume 2% of its fossil fuel. Thus, our individual actions as consumers can be globally significant. We can also work to preserve larger tracts of natural lands, which will facilitate natural shifts in species ranges. For more information, I invite you to visit the web-sites of the Ecological Society of America (<http://esa.sdsc.edu/whitepapers.htm>) and the Union of Concerned Scientists (<http://www.ucsusa.org/>).

—Ellen Simms

IN MEMORY OF Robert Ornduff

The UC Botanical Garden community was grieved to learn of the death of Dr. Robert Ornduff on September 22. Our loss was expressed by Bob's own mentor, Botany Professor Emeritus Arthur Kruckeberg of the University of Washington, who said, "Bob was one of the treasures of the botanical world. He was a green thumb botanist who delighted in growing plants and disseminating his interest to the general public." How richly he proved this true during his eighteen years as the Director of the UC



Photo by Richard Anderson

Botanical Garden! For this energetic man invested his botanical knowledge not merely in his academic career, but in conserving endangered plants and in educating our community about the increasing threat to biodiversity.

A native of Oregon who graduated from Reed College, Bob received his doctorate from UC Berkeley in 1961. From the beginning, he made distinctive contributions to understanding the California flora. One of the world's most varied floras, California's plants offered ample scope for his research into plant systematics, which led him, in turn, to investigate plant reproductive strategies, biogeography, and the evolutionary relationships of flowering plants. From California flora, Bob moved naturally to the study of the four other regions where plants had evolved in a mediterranean-type climate—the lands surrounding the Mediterranean Sea, South Africa, central

Chile, and western Australia. During his career, he published over 100 scientific papers, as well as 50 articles on horticulture.

As impressive as Bob's academic achievements were, his genial character and the issues that engaged him found a fuller expression when he became Director of the UC Botanical Garden in 1973. He encouraged plant-collecting trips, whether in California, other mediterranean-type climate regions, or as far afield as China. Roger Raiche, for instance, credits Bob's pursuit of a lady's

slipper orchid in the serpentine soils of Sonoma County with sparking his twenty years of collecting serpentine plants, now so well represented in the Garden. In the words of Dr. Peter Raven, Director of the Missouri Botanical Garden and a friend for 45 years, Bob made the Garden "world-class...a leading place for studying and displaying the unique variety of California plants."

While extending his interests to other floras of mediterranean regions, Bob made a lifelong commitment to conserving the flora of his adopted state. From its beginnings, he was a member of the California Native Plant Society and eventually served 27 years as an editorial advisor of its publication *Fremontia*. Additionally, he was a member of the boards of the Save-the-Redwoods League, the Pacific Horticultural Foundation, and the Center for Plant Conservation. With his rare combina-

The Ornduff Fund for Garden Interpretation

Dr. Ornduff's executor has informed the Garden that Bob designated the Garden's Docent Program as one of his preferred recipients for memorial gifts.

As we all know, Dr. Ornduff took great joy in communicating his profound love of plants, and it was his steadfast belief that the Garden was responsible for seeking to actively educate the public about the marvels of the botanical world. To help achieve this goal, he initiated the Garden's first docent interpretive

training classes in 1975, and he tirelessly worked to support the program throughout the years. His unremitting commitment to the docent education program bespeaks the immense respect he held for all of the docents trained in the program, who dedicate themselves to service in the Garden for the love of plants and nature.

Accordingly, in response to Bob Ornduff's generous and thoughtful designation of the UC Botanical Garden Docent Program for receipt

of memorial contributions, the Garden has established the Ornduff Fund for Garden Interpretation. This fund will be used to promote the Docent program by supporting Garden interpretation for the public and especially those activities that involve and strengthen the Docent Program. Among projects that may be supported are publications, self-guided tours and related Garden displays, interpretive signage, weekend programs, and web-based outreach to wider audiences.

Donations may be sent to the Garden, made payable to UC Regents, with the annotation, UCDBG/Ornduff Fund, on the memo line.

tion of botanical knowledge and ability to communicate, he became a persuasive advocate for our endangered native plant communities.

Within the Garden, however, Bob was most beloved as an educator. Among his proudest accomplishments was the founding of the Docent Program in 1975. Margaret Mitchell, a member of the first class, wrote to Bob recalling how he introduced her "to the wonders of the plant world. Your wonderful easy to follow style of teaching, laced with stories of your plant collecting trips around the world, truly enriched my new learning experience." Engaged by Bob's knowledge, as well as his wit and charm, class after class of docents testify to the impact of a stroll through the Garden with him.



Bob Ornduff unwrapping the picnic table named for him at his 1991 retirement party.

When Bob retired as Director in 1991, long-time volunteer Myrtle Wolf acknowledged Bob's many botanical contributions, but emphasized another aspect of his leadership. Thanks to him, she believed, the Garden became "a sanctuary for poets, lovers, birders, picnickers, artists, and those seeking tranquility." After he retired, he may have discovered that very tranquility. It was not uncommon for Garden staff to arrive early and find the retired Director already here, perhaps to work on his research plants, perhaps to give a friend or colleague a tour. His elbows propped on the rail outside the Shop, his gaze would be fixed on the fog drifting down amongst the tree-tops. With his wealth of botanical knowledge, he might have said much about the scene. Instead, he'd simply sigh, "Beautiful, isn't it?" Indeed—and so, too, is his legacy.

—Ellen Simms

EDUCATION AT THE GARDEN

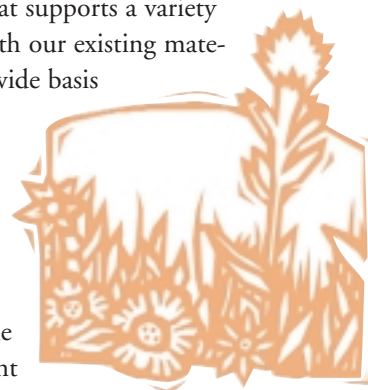
Collaborative Development of School Garden Curricula

In response to a rising demand for help to make school gardens effective educational resources, the UC Botanical Garden has developed an innovative, cooperative process of curriculum-development that supports a variety of school needs. Starting with our existing materials, we work on a school-wide basis with teachers interested in linking a school garden to environmental-science education. During testing of activities in classrooms and school gardens, our Garden staff takes direction from the school's faculty and its parent community; both make suggestions that tie the lesson's content and approach to other aspects of the curriculum and the cultural interests in each school. The resulting science units have been found effective and are easily incorporated into each school's curriculum.

This collaborative development strategy has produced two science units that over 50 teachers can teach on their own. Importantly, they want to teach the units because they address educational issues and goals specific to their school. For example, at Lazear Elementary School, the curriculum is used to increase vocabulary and provide motivation for writing and other language-development activities. Second-grade teachers at Lazear declared, "Your curriculum has enhanced and greatly enriched our students' knowledge of plants and their functions. The structure of your lessons and delivery of the instruction were a positive model for the teachers...in particular, the use of science journals, proved to be an effective way to promote literacy." At another partner school, the versatile middle-school science unit forms the scientific foundation for working and experimenting with plants in the school's garden and on overnight field trips.

The resulting programs in each school vary greatly, but share the same underpinnings—collaborative development with the school's community, then incorporation into the school's curriculum. This strategy blends content with a school's educational goals in a way that is meaningful to students and teachers. The process helps transform school gardens into enriched educational resources.

—Dr. Jennifer Meux White

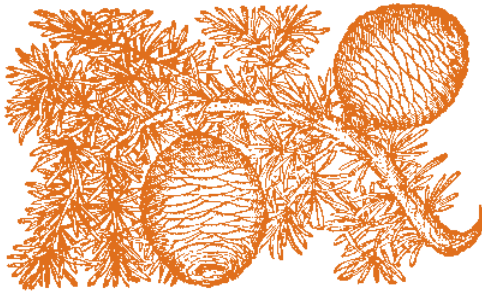


GARDEN NOTES

GARDEN TRAVELERS... Prior to attending the World Botanic Gardens Congress in Asheville, North Carolina, Horticulturist **Daria Curtis** visited two Nature Conservancy cedar glades in Tennessee, as well as a limestone barren and a Nature Conservancy preserve of mixed deciduous forest in Virginia. She also drove 100 miles of North Carolina's Blue Ridge Parkway.

Horticulturist **Elaine Sedlack** attended the annual convention of the American Rhododendron Society in Burlington, Massachusetts, and also visited the Arnold

Arboretum of Harvard University. Curator **Holly Forbes** and Curatorial Assistant **Barbara Keller** attended the semiannual Bay Area Gardens Network meeting at the Gamble Garden in Palo Alto. An opportunity for staff of the 35 greater Bay Area gardens to share information, the meeting topic was "Technology: Applications for the Public Garden."



GARDEN HOSTING... In mid-June the Bay Area Carnivorous Plant Society hosted the third International Carnivorous Society Conference at the Garden. Horticulturist **Judith Finn** developed a special display of carnivorous plants not normally available for public view.

LECTURES & TOURS... Horticulturist Roger Raiche recently presented the following lectures: "Wild Geology, Wild Rocks, Wild Plants: Serpentine Jewels of California" to the Western Chapter of the American Rock Garden Society, Winter Study Weekend; "The Cedars, Sonoma County's Remarkable Serpentine Canyonlands" to the California Horticultural Society and the East Bay and Yerba Buena Chapters of the California Native Plant Society (CNPS). Roger also led botanical tours of The Cedars for the Western Chapter of the American Rock Garden Society, Yerba Buena Chapter and Milo Baker Chapters of CNPS, the horticulturists of the Garden, a group of Garden Docents, and the California Horticultural Society.

—Holly Forbes

Research at the Garden

The Garden recently provided research materials to these individuals:

Professor **Kelly P. Steele** from California State University Hayward, collected many species in several families for her study (in collaboration with E. Tizon, R. C. Evans, C. S. Campbell, and M. F. Wojciechowski) of sister group relationships of the large and important flowering plant families Fabaceae (pea) and Rosaceae (rose).

Professor **James Doyle** and graduate student **Kevin Carpenter** from UC Davis collected *Schisandra* species for Mr. Carpenter's dissertation project. He is interested in the phylogeny and evolution of Illiciales (including the families Illiciaceae and Schisandraceae) and will use both molecular and morphological characters to infer phylogeny.

Professor **David D. Ackerly** from Stanford University visited to collect many species in the Rhamnaceae (buckthorn family). He is looking at the evolution of the "ever-green sclerophyll" strategy in California chaparral. The strategy is to examine each of the major taxa in comparison with their close relatives from non-chaparral habitats, employing a phylogenetic approach where possible.

Dr. **Joe Williams**, a post-doc at the University of Colorado at Boulder, obtained cuttings of *Schisandra* species and *Illicium* species for his and dissertation student **Sandra Floyd's** research on basal angiosperm evolution. Dr. Williams also collected cones of *Agathis australis* for graduate student **Jonathan Krieger's** dissertation project on pollen tube morphology in a fossil Araucaria (*nipponensis*).

Professor **Chong-wook Park** of Seoul National University, Korea, obtained many species in the Polygonaceae (buckwheat family) for his work on the molecular phylogeny of the family.

Daniel Rubinoff, dissertation student of the UCB Department of Environmental Science, Policy, and Management, obtained leaves of *Forestiera pubescens* (desert olive) to feed his research animals, moth larvae of a species native to Arizona.

Dr. **Philippe Barre**, a post-doc in Professor Michael Freeling's laboratory in the UCB Department of Plant Biology, collected bamboo relatives to investigate whether Single Simple Repeat markers defined in genes can be used in a wide range of grass species.

—Holly Forbes

World Botanic Gardens Congress, *A Special Report*

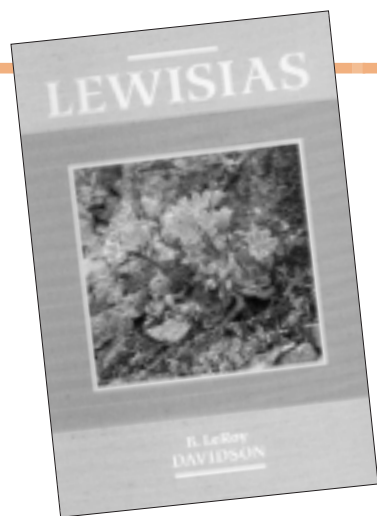
The World Botanic Gardens Congress was held in Asheville, North Carolina in late June. Hosted by the North Carolina Arboretum, this historic meeting was sponsored by the American Association of Botanical Gardens and Arboreta, Botanic Gardens Conservation International (BGCI), and the Center for Plant Conservation. The over 900 attendees represented 35 countries. Director **Ellen Simms**, Associate Director for Education **Jennifer White**, Curator **Holly Forbes**, and Horticulturist **Daria Curtis** represented the Garden.

Conservation was the main focus of the meeting, which served as the launch site for two new publications, the *International Agenda for Botanic Gardens in Conservation*, and *The Gran Canaria Declaration: Calling for a Global Program*

for Plant Conservation. Both were published under the auspices of BGCI and are now available for perusal in the Garden library. According to Peter Wyse Jackson of BGCI, "*The International Agenda for Botanic Gardens in Conservation* provides a global framework for the development of botanic garden policies and programmes for the effective implementation of international treaties and national laws, policies and strategies relevant to biodiversity conservation."

In addition to talks on the conservation theme, there were many related subjects under discussion. Jennifer White and Holly Forbes each participated as speakers at a panel presentation.

—Holly Forbes



LEWISIAS by B. LeRoy Davidson, foreword by Sean Hogan, illustrated by Michael Moshier. Timber Press, Portland, OR: 2000. Color photos, botanical paintings, line drawings, plant keys, maps. 236 pages \$29.95.

Even before Roy Elliott's 1966 monograph *The Genus Lewisia* was no longer available, western gardeners were saying that Roy Davidson, a prize winning gardener and author living in Bellevue, Washington, was writing the next book about these much loved plants. For many years the UC Botanical Garden was a source of information about the forthcoming book because Sean Hogan was working here. Sean had already begun his own personal collection of lewisias and was in close communication with

NEW BOOKS

Roy about the current botanical changes taking place in the genus.

Now Roy Davidson's long awaited book has been published, and it will be a welcome addition to the gardener's library. The author has spent a lifetime studying the horticultural needs and taxonomic characteristics of lewisias. His experience with them in his own and others' gardens and his observation of them in their wild habitats throughout the western United States has made it possible for him to write about lewisias as if he were describing old friends. His clear writing style and his own easy to understand keys, in partnership with the splendid color photos, botanical paintings and line drawings, are more than enough to bring confidence to gardeners, who are attempting to understand the differences between the species, subspecies and varieties of the genus—and to grow them in their own gardens.

The European-American discovery and naming of *Lewisia* is a remarkable story, well told by the author. This history completely intertwines with the travels and adventures of Meriwether Lewis and William Clark

on their "voyage of discovery" two hundred years ago. Fortunately Davidson includes Lewis' remarks on tasting the dry, shriveled root he had warmed to make more palatable. Lewis wrote that he found it to be, "bitter and nauseous to the palate, although the natives eat them heartily". Today the common name of this plant is "bitterroot". Eventually the Lewis and Clark botanical acquisitions were examined in Philadelphia at Bernard McMahon's seed store and nursery. There, a herbarium specimen of the bitterroot came to life and was coaxed into growth (but not into flower). In *Flora Americiae Septentrionales* (1814), Frederick Traugott Pursh, who had worked with McMahon in Philadelphia, names the bitterroot *Lewisia* after Meriwether Lewis, and *rediviva* to describe its remarkable coming back to life.

In the next few years we will be celebrating the two-hundredth anniversary of the Lewis and Clark expedition. There is no better time to have a new book on *Lewisia* put before us.

—Elly Bade

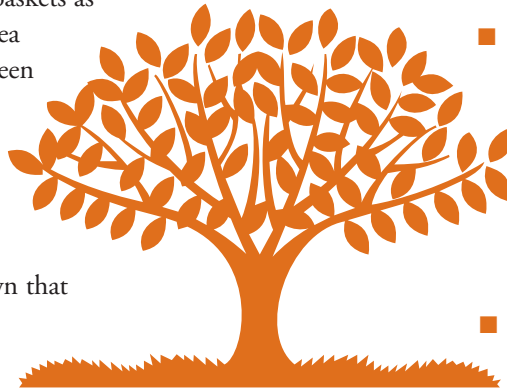
Gardening Tips

■ Somehow, several groups of highly endangered red colobus monkeys in Zanzibar have learned that adding charcoal to their daily diets enables them to feed on a wide range of plants that normally would be toxic to them. Charcoal is known to absorb many chemicals including those with features common to plant toxins. Not only do the monkeys obtain charcoal from charred stumps, logs and branches but also from abandoned village kilns. They even will squabble to scavenge small pieces from natives' baskets as they are being carried to market. In one area near the Jesami Forest Reserve, there has been a population explosion resulting in the highest population density ever recorded for a non-human anthropoid. *Wildlife Conservation* 101 (6): 11.

■ In the State of Washington, it was shown that patients recovering from surgery required fewer pain-reducing medications if the view from the room included trees rather than a building. It also was shown that patients were able to keep a hand submerged in very cold water for 5 minutes if they were in a room containing plants. In rooms without plants, patients could not hold their hands in ice water that long and registered more pain, even though the walls were colorful. *Hort Technology* 10 (1): 53-58.

■ All prunes are plums but not all plums are prunes. This is

because prune plums have a high sugar content that allows them to dry without fermenting around the pit. Right? The Food and Drug Administration recently granted the California Prune Board permission to use the words "dried plums" as an alternative for "prunes", since research has shown that the term "dried plums" is more attractive to women, age 35-50, than the word "prunes". *California Farmer* 283(12): 8.



■ The International Plant Names Index is an Internet accessible database of scientific names of all plants. It combines Index Kewensis, the Gray Card Index and the Australian Plant Names Index. *Kew Scientist* Oct. 1999, Issue 16: 1. <http://tc.huh.harvard.edu>

■ Deadheading roses is being studied in England. Several groups are trying three techniques: cutting back to three leaf axils; snapping the old flower at the abscission layer; cutting back to the first leaf. The snapping off technique produced more flowers more rapidly than the other techniques. However, it was most successful with large flowered cultivars and not as good with multi-flowered cultivars. (Though quicker, it leaves a less sightly stem). *The Garden* 125 (4):237.

—Dr. Robert D. Raabe



Photos by Janet Williams

Rare Plants Liven Up Fall Plant Sale

*The introduction of a silent auction of unusual plants to the Fall Plant Sale proved a very popular move! Claude Babcock, volunteer co-chair of the silent auction, closed out the bidding to the applause of the crowd. Plants like this beautiful *Dichorisandra thysiflora* (Blue Ginger) attracted a lot of interest and lively bidding. The plant sale raised over \$15,000 for the Garden and was noteworthy for attracting a large number of people who had never been to one of our plant sales before.*



Photo by Janet Williams

Warren Roberts of UC Davis presented a lecture on Members' Day about landscaping with vines in Northern California.



Photo by Janet Williams

Garden members Robin Petrie (left) and Leslie Harden, surrounded by unusual grapes which were kindly donated for the tasting event by the Wolfskill National Germplasm Repository at Davis, which has hundreds of rare grape species in its collection.

Members Day 2000

Members who came to the Garden on September 17th were delighted to tour and taste!

Despite the extreme heat those participating in new members tours and tours led by horticulturist Eric Schulz of the Mesoamerican Section of the Garden certainly found a lot to look at. The exotic table grapes offered for tasting in the Ornduff Room attracted amazed interest ("Whoever thought a grape could taste like that?") and just about everyone needed a cookie and a cold lemonade to get through until Warren Roberts' talk about vines. Mr. Roberts, Agricultural Superintendent of UC Davis Arboretum, had an array of vines with him and delighted the audience not just with the thoroughness of his vine lore but also his glee at sharing his jokes!

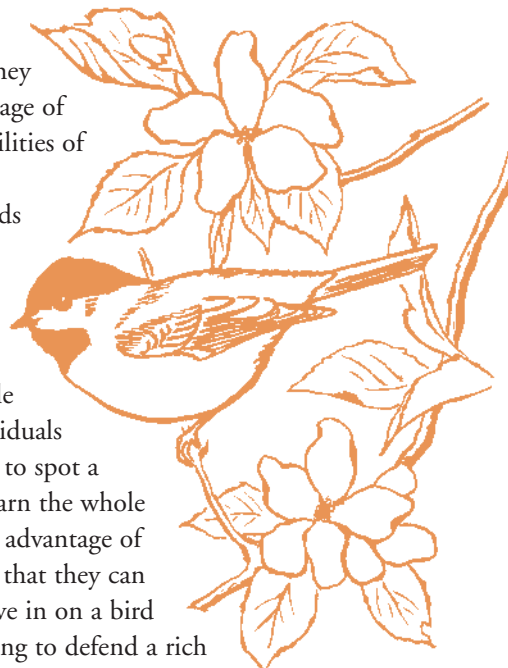
Birds Not of a Feather

During the colder months, it is interesting to track down the sound of a chickadee vocalizing in the trees. Upon finding this noisy bird, you can often spot many other species that seem to be traveling together in a loose band. Frequent companions include bushtits, kinglets, warblers, nuthatches, titmice, creepers, vireos and juncos.

What's going on here? Mixed-species flocking has a number of advantages for the members of the group. Not only can more birds

find more feeding resources, they can take advantage of the different abilities of each species.

Nearsighted birds are better at finding the larval and insect prey all tend to feed on, while farsighted individuals may be quicker to spot a predator and warn the whole group. Another advantage of a large group is that they can more easily move in on a bird who is attempting to defend a rich feeding territory.



A slight variation occurs when one species derives a benefit from associating with another, but the other, while not harmed by the pairing does not benefit. An example of commensal feeding would be when one species stirs up prey, which is undesirable to it, but attractive to an attending species.

Research has supported the assumption that a major purpose of mixed-species flocking is to increase feeding efficiency. On otherwise similar woodlots, one well stocked with food and the other not, mixed-species flocking was much less common in the well-stocked area.

So when you're out in the Garden this winter, especially in oak habitat, listen for the familiar "chick-a-dee-dee" sound and follow it to its source. You are likely to be rewarded with a fascinating variety of foraging birds.

And if you can't pick up on the "chick-a-dee-dee," perhaps you should consider enrolling in our Birdwatching class come Spring!

—Dennis Wolff and Chris Carmichael

Recognition

Contributions received from 6/20/2000 up to and including 10/20/2000.

New Members

The Garden welcomes the following new members:

Mr. Alex Adelman
 Ms. Carol Anderson
 Ms. Mary Arbogast
 Mr. Arnold Arcolio
 Mr. Carl Arnoult
 Ms. Candace Barnes
 Ms. Michele Benson
 Mrs. Diane Bernbaum
 Ms. Nina Beutel
 Marion Brenner
 Ms. Eleanor Briccetti
 Ms. Rachel Broadwin
 Ms. Dorothy Brose
 Mrs. Frances Brown
 Maryola Burkhead
 Ms. Sandra Burrow
 Marti Butler
 Mr. Steven Cacela
 Phyllis Cady and Susan McAllister
 Ms. Joan Caldwell
 Ms. Stacey Chase
 Robin Chetkowski
 Jocelyne Chiari
 Ms. Barbara Clement
 Ms. Margaret Copeland
 Rosemary and Douglas Corbin
 Jeff Corbin and Janette Schue
 Ms. Sue Cossins
 Ms. Janice Crawford
 Mr. Peter Curzon
 Arthur and Sue Day
 Ms. Judith Dean
 Charles and Alice Dekker
 Ms. Pearl Delventhal
 Mr. Vernon DeMars
 Ms. Sue Dickie
 Ms. Mary Diehl
 Ms. Mary Donovan
 Ms. Ann Eastman
 Mr. Vincente Elmgren
 Ms. Miriam Epstein
 John and Barbara Erickson
 Mr. Fred Etheridge
 Mr. Dave Fafarman
 V. Fahnestock
 William Feng, Ph.D. and
 Lydia Lee Feng M.D.
 Ms. Judith Fewster
 Ms. Margaret Filby
 Leonore and Lyn Fine
 Mr. C. George Fitzgerald
 Mr. Richard Fong
 Ms. Karuna Fosselius
 Ms. Mary Klee Frank

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CALENDAR OF EVENTS

HOLIDAY PLANT SALE

If you have a plant lover on your holiday list, don't miss this sale! There will be unusual orchids, herbs, ferns, bromeliads, and an array of houseplants and succulents, many rare and unusual.

Saturday, December 2, 10 am to 2 pm

Free

ROSE PRUNING

Peter Klement will once again offer his popular hands-on workshop on rose-pruning. Don't miss learning from the Garden's rosarian extraordinaire!

Saturday, January 6, 9:30

Saturday, January 13, 9:30

Fee, \$20 Members, \$27.50 Non-Members

WREATH-MAKING CLASSES

Join Horticulturist Jerry Parsons and craft wizard Nancy Swearengen for their traditional class on making one of a kind Holiday wreathes using Garden plant materials.

Monday, December 4, 7 pm

Tuesday, December 5, 7 pm

Thursday, December 7, 10 am

Fee, \$20 Members, \$27.50 Non-Members

SAVE THIS DATE!

JUNE 2, 2001

2ND ANNUAL UCBG GARDEN PARTY

Call 510-643-2755 to register.

*Space is limited. Please register early.
For information about any of these events call 510-643-2755*



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