

# the BULLETIN

*A quarterly publication of the Arboretum Associates*

Summer 2008 Vol.32, No. 2

## Recent Collecting in New Zealand

Brett Hall

On March 26th, Cindy Hudson and I arrived in Auckland, New Zealand just before dawn. After gathering our bags and routing our way through customs and immigration we picked up a compact Subaru station wagon, fetched supplies and headed off to Taupo. Taupo is a town on the shore of an immense volcanic lake (Lake Taupo) in a caldera created by huge volcanic eruptions beginning over 25,000 years ago. According to geological records, "The volcano has erupted 27 times. The most recent major eruption occurred in the last 5,000 years, ejecting some 100 cubic kilometers of material and devastating much of the North Island." Fortunately, during the two times we were aside it, the volcano was quiet and the lake was beautifully glassy.

In Taupo, we joined Philip Smith, owner of

Taupo Native Nursery and his propagation/production manager, Juliette Curry and Belinda Heritt for a seed collecting journey into South Island. Philip is an extraordinary plants-man and ardent conservationist, whose prolific knowledge of the New Zealand flora and its cultivation is fantastic. Juliette and Belinda are also very knowledgeable about New Zealand plants, seed treatments, and the New Zealand landscape. All three were a pleasure to travel with and they were most helpful, funny, and kind.

Our first leg of the journey took us over the Volcanic Plateau country below Mt Tongariro enroute to Wellington to catch the ferry across the Cook Strait to Picton on South Island and then fairly quickly down along the Kaikoura coast and on into Christchurch.

Our first stop climbing out of Taupo was in a mixed *Nothofagus*/*Podocarpus* forest with a very rare hybrid between *Nothofagus solandri* (Fagaceae, Black Beech) and *Nothofagus fusca* (Red Beech). According to Phil, the hybrid is sterile and *Nothofagus* cuttings are nearly impossible to root. Further up into the Plateau country we took a short jaunt down the Rangipo Desert Road to botanize among ancient relict volcanic hummocks that support a diverse rare plant community including *Pittosporum annomolum* (Pittosporaceae), *Podocarpus nivalis* (Podocarpaceae), *Olearia nummularifolia* (Asteraceae), *Dracophyllum subulatum* (Epacridaceae), various *Coprosma* (Rubiaceae) species, *Celmisia* (Asteraceae), among much more. The hummocks are surrounded by tussock grassland and carpeted with a beautiful rhizomatous *Carex* (*C. coriacea*, Cyperaceae).

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## Collection Building in Chile

Tom Saucedo

This past winter I visited Chile, South America with the desire to continue our efforts of developing a temperate South American collection at the Arboretum. The visit was split between the central Mediterranean part of Chile and several days in the southern temperate part of Chile meeting people, plant collecting, and gathering seed, and going to native plant nurseries, botanical gardens and learning more about the Chilean flora.

In central Chile I worked in the coastal regions characterized by rolling hills, deep gullies and low growing trees and shrubs, where the vegetation is reminiscent of dry chaparral. On exposed slopes and extending to inland, hotter, drier sites, the dominant shrub known as "espino", *Acacia cavens*, (Mimosoideae, Leguminosae/Fabaceae) grows with very small leaves on wiry stems. Another legume common to the area is "espinillo", an *Adesmia* sp. (Papilionoideae, Leguminosae/Fabaceae) This plant is similar in appearance to "espino", with small compound leaves and yellow flowers. The latter forms long, wavy seedpods while *A. cavens* produces thick, oval pods. Plants common to this region are "macqui", *Aristotelia chilensis* (Elaeocarpaceae), a cultivated ornamental with edible berries, and "madroño", *Escallonia pulverulenta* (Grossulariaceae (Escalloniaceae)) with beautiful, fragrant flowers which rise above the vegetation and can be seen from afar. Perhaps one of the most important plants in this region is the tree, *Peumus boldus*, or "boldo" (Monimiaceae). The aromatic leaves of this tree are dried and brewed as a digestive tea after meals. Growing amongst these plants is a cactus, *Echinopsis* sp. forming tall, cylindrical stems, up to 7-10 feet tall. A very unusual bromeliad, *Puya chilensis* (Bromeliaceae), also grows here with strikingly beautiful iridescent blue-green flowers. I gathered seed from most of these plants even though it was still early in the summer, weeks from the best time to collect seed. Another associated plant is an *Epilobium* sp. (Onagraceae) known as the devil's flower (flor de Diablo) perhaps

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Cindy Hudson collecting seed in the Rob Roy Glacier, Southern Alps New Zealand.



## The Arboretum Family is Growing

Jonica Marie Wilson

Assistant nursery manager, Stephanie Hudson, and her husband, Andy, accepted responsibilities as new parents on May 3rd with the birth of their daughter, Jonica Marie. Weighing in at a smidge short of 8 pounds, Jonica is healthy, and mother and daughter are enjoying getting acquainted. Delivery was two weeks early and came on Stephanie's first day of maternity leave. Congratulations Stephanie and Andy! We hope to see Stephanie back at the Arboretum at the end of July.



### Katie Starr Cordes

Help in the office is on its way! May 20th Katie Cordes began work as the Administrative Operations Assistant working in the office with Susie Bower. Katie was selected as the top candidate among more than fifty applicants for this position. Katie brings much needed assistance to our sometimes-hectic office and will help to provide service to campus, staff, members, volunteers, students and visitors. In her application materials Katie felt the

Arboretum would put her skills to good use and that the conservation mission of the Arboretum was closely aligned with her personal values. Katie has a BA in biology from UCSC and has a keen interest in native plants in California. Katie and her husband, Pete Gustafson of Gustafson Construction, have a 4 1/2 year old daughter, Greta. Please join us in welcoming Katie to the Arboretum family.

## American Conservation Experience (ACE) Volunteers

Since February, the Arboretum has benefited from the dedicated volunteers of the American Conservation Experience or ACE program. These young, international volunteers work through ACE on a variety of projects within state and national parks and receive on-the-job training in trail establishment and maintenance, stonework, vegetation restoration, and a variety of conservation-related projects. ACE volunteers helped erect a temporary deer fence enclosure around the California Natives garden within the Arboretum and the jointly-managed area, helped clear the Eucalyptus Grove and California Native garden, and with the State Parks and Recreation native plant growing project. We hope to develop a more formal arrangement with ACE to continue their excellent service to the Arboretum and to the state.

## Native Plant Ethnobotanical Interpretation in a New Brochure

A UCSC student intern and Arboretum student worker, Sara Reid, recently produced an undergraduate thesis titled, *Ethnobotany of California: The value of traditional knowledge and our relationship to the land*. Sara used the knowledge gained researching the topic to produce a new Arboretum brochure, *Ethnobotanical Guide to the California Native Entrance Garden*. Van Wishingrad, fellow Arboretum student worker, assisted her in this work. Van is co-author of the brochure that will be out in the garden this summer. Sara has since graduated, but we hope to build on her work as we create three ethnobotanical tours at the Arboretum, supported by the Christensen Foundation.

When we can, we like to put out temporary versions of our educational materials to have the public try them out. We welcome your feedback about the Ethnobotanical Trail, so that we can make the finished products for the three trails easy to use, compelling, and informative. One of the advantages of Sara's thesis is that the ethnobotanical uses are documented in the thesis, so if there are further questions about plant uses, the original sources can be consulted. A copy of her thesis is in our library.

*New's & Notes continued on page 7*

### Comments from our Visitor's Book

"Nice to be home for a while."

— visitor from Australia (2006)

"Once again we've been impressed with how much we don't know. What an amazing collection."

— visitor from Keystone, Nebraska (October 2007)

## The Bulletin of the UCSC Arboretum Associates Volume 32, No.2 Summer 2008

The Bulletin is published quarterly by the UCSC Arboretum Associates, a non-profit organization that provides support for the Arboretum at UCSC.

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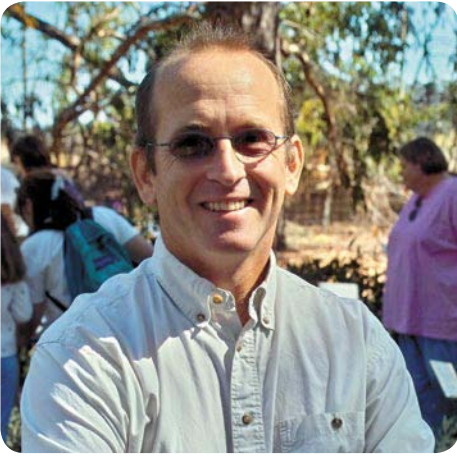
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Dear Arboretum Friends,

On July 1 the Arboretum will make specific changes to help address its budget shortfall and generate much needed support for curation and maintenance of our plant collections; the source of our value to the UC, to California, and to botanical conservation regionally and globally. As increased costs continue, we have found it necessary to implement several changes to increase revenue to the Arboretum and protect staff positions. It has been more than 5 years since the Arboretum Associates membership program and its benefits have been evaluated and modified. As of July 1, new dues will be applied for Arboretum Associates membership. In addition to reestablishing the \$250 Erica membership level, Poppy and Salvia membership levels will be increased by \$10 and \$15, respectively. For other changes and enhancements to the membership program, please refer to the articles in this issue and the spring appeal mailing each of you received recently.

Over the past 5 years visitorship to the Arboretum has increased. The estimate of the annual number of visitors to the Arboretum is between 50,000 and 60,000. In recent evaluations of our operations and budget, we realized the costs associated with this large number of visitors is being covered by the revenue generated from memberships to the Arboretum Associates. To defray the cost of non-member visitors, as of July 1, the Arboretum will begin to charge visitors for admission. Arboretum Associates will enjoy free entry with their membership while visitors will be asked to pay \$5 for adults and \$2 for youth (6-17 years old). These changes are necessary if the Arboretum is to meet its present challenges

and goals for the future.

This issue of the Bulletin highlights some of the collection building efforts the Arboretum is making to address the top priority identified in our Mission and Program Plan, 2020, that we will “.... continue to conserve and grow the collections that emphasize rare and threatened plants from around the world”. In addition to collection building mentioned in this issue in New Zealand, Chile, California, and Viet Nam, Visiting Scholars, Martin Grantham (South African restios and Iridaceae), Patrick Worley (Begoniaceae, Gesneriaceae and Peruvian plants), and Matt Ritter (*Eucalyptus*) have all contributed desirable plants to enhance and grow the collections of the Arboretum.

Why are collections so important? As human impact on the planet and its natural systems increases with human population growth, an increasing number of ecosystems and their contained flora and fauna become threatened. In many high population areas of the globe, natural ecosystems are unable to be sustained because of impact, and many plants and animals in these areas become threatened with local extirpation or extinction. Global climate change and its implications are also accelerating the demise of ecosystems and putting pressure on populations of plants and animals. Many of these threatened ecosystems are located in the tropics and subtropics where there is often an incomplete knowledge of the region's floras. Due to desirable climate conditions and a long history of human occupation, Mediterranean climate areas like California, or considered some of the world's most threatened ecosystems with long lists of extremely rare and threatened plants. A proportion of plants will go extinct without our knowledge of their existence. For the extant plants, it is the challenge of botanical gardens, universities, and taxonomic and ecological researchers to join together to discover and enumerate these plants and design sustainable ways to conserve them. In addition to making a permanent record for preservation in a herbarium, an attempt must be made to bring rare and threatened plants into cultivation or develop methodologies for long-term preservation as a seed or propagule. This is the present and future challenge of the

Arboretum and other botanical gardens within a global conservation context. Botanical gardens with diverse collections are the only institutions that have the expertise necessary to work through the challenges of propagation and preservation and to ultimately grow and conserve these plants. To adequately address this global issue, institutions in developed countries must work in collaborative partnerships with organizations in the world's most botanically diverse countries. Tom Saucedo's work in Chile highlighted in this issue is identifying individuals and institutions necessary to develop agreements to move forward together to build collections and move toward sustainable conservation of Chile's rich and diverse flora. The recently signed Letter of Agreement between the Arboretum and the Institute of Ecology and Biological Resources in Hanoi, Viet Nam is a first step to continuing efforts to enumerate the flora of Viet Nam and bring many of the most threatened plants into protective cultivation in Viet Nam and for educational and research purposes at the Arboretum and other botanical gardens worldwide. The Arboretum's work in New Zealand and in California has similar goals and positive implications to conservation, education, and research now and into the future. We are excited about the prospects of working directly on the propagation and promotion of rare and threatened plants where we have or are developing collections. In the future, botanical gardens will be the stewards of many of the earth's rarest plants and these collections may represent the only living record of an extinct plant in the wild.

Thank you for considering a gift to the Arboretum within our Spring appeal. Any gift is an investment in the future of the Arboretum and its efforts with conserving the earth's botanical diversity. Your engagement with the Arboretum through direct support or volunteering helps us move forward toward our goals, enhances our community, improves our facilities, and is part of making the Arboretum all that we have envisioned.

Thank you and I hope to see you in the garden. As always I am keen to hear your thoughts and ideas.

## "Pulling All the Stops"

I believe the origin of this phrase relates to what organists did when they wanted to make use of all of the sound capabilities of their organs. The scope and richness of a musical score required "pulling out all the stops" – using every single resource of the organ to meet a bold musical challenge.

Well, that is what the Arboretum, as an organization - no pun intended - is trying to do with the help of the Arboretum Associates Board, volunteers, and members – in order to meet the financial challenges it faces in raising over 80% of its annual revenue for maintaining the collections and educational, research and outreach programs.

So that is why you, as a member, have recently received a letter both asking for your continued support and announcing the new Garden Admissions Program, changes in our "Community of Friends" Membership Program, and efforts to expand our retail sales revenue. We wanted you to know how important your continued support is, but we also wanted you to know that we are "pulling all the stops" in pursuing every possible avenue to raise needed operating revenue.

On a related note – sorry - in recognition of all those who contributed in calendar year 2007, you will find our annual membership and donor list as an insert in this Bulletin. Thank you for your past support and, in advance, for your continued, and much appreciated, support.

*Tad Sterling – Development Director – (831) 427-2998 – sterling@ucsc.edu*



## Community of Friends Membership Program

### MEMBERSHIPS

**Poppy \$35** (1 adult card)  
Individual, Senior, Student

**Salvia \$50** (2 adult cards)  
Dual, Family

Basic Benefits for Poppy & Salvia:

- 10% discount at local nurseries/ garden centers (see list on p. 12)
- Rose Hand's book, *The UCSC Arboretum in Pictures*
- Priority entrance to plant sales
- Discount on lectures & events
- Quarterly *Bulletin*
- Recognition in the *Bulletin*
- 10% discount at Norrie's (including plants)
- Invitation to Members-only events
- Invitation to Member orientation

**Life \$2,500** (up to 2 cards)  
All the benefits as above, plus—  
• Protea Circle benefits for 1 year

### GIVING CIRCLES

**Kauri Circle \$100–\$499**  
• Basic membership benefits for 1 year, plus—  
• One transferable Guest Pass for priority entrance to plant sales  
• Coupon for one plant

**Banksia Circle \$500–\$999**  
All the above, plus—  
• One additional Plant Sale Guest Pass  
• Invitation to exclusive Curator events and field trips

**Protea Circle \$1,000+**  
All of the above, plus—  
• Two additional Plant Sale Guest Passes  
• Invitation to the Director's Dinner

**Changes to Membership  
Program Begin  
July 1, 2008**  
*See page 5*

### SPECIAL PROJECTS YOU CAN SPONSOR!

### SPONSORSHIP LEVEL

Aroma Garden Renovation	\$1,000
Front Entrance Gate and Wall	\$1,000
Eucalyptus Collection & Grove Interpretation <b>NEW</b>	\$1,000
Elvander Taxonomy Trail Signage <b>NEW</b>	\$500
Australia Rock Garden <b>NEW</b>	\$500
Native Garden Planting Beds	\$500
Paths in Native Garden	\$1,000
Hummingbird Trail Signage & Interpretation	\$250
New World Tour Trail Signage & Interpretation	\$250
Production of 6-Panel Visitor's Guide & Map	\$250
Sponsor a Student Intern	\$500
Succulent Greenhouse Improvements	\$500
Sponsor an Issue of the Bulletin	\$250
Nursery/Growing Area Improvements	\$250
Cutting Garden Shade Hut & Work Area	\$250
Succulent Garden Renovation	\$500
Memorial & Tribute Benches	\$3,500
Curator Discretionary Funds (for Australia, South Africa, New Zealand, Native California, Rare Fruit, Succulent Garden, and the Nursery)	\$100



## A Message from Peggy Williams, Arboretum Associates President



This year is all about change, right? Sometimes, though, it's enlightening to revisit things. Lately I have been rereading *War and Peace*. This came about because there is a magnificent new translation out there and because a good friend of mine recommended it. So, fancying that I have more time now for such pursuits, I gamely checked the 1000 plus page tome out of the library. Well. First of all, right in front of the book is a cast of characters. Having read at least part of the book before, I knew that this was an essential element to enjoyment; otherwise you keep having to turn back to find out who is being referred to when a new name pops up. So, immediately I made a copy of the Cast List and am using it as my bookmark. However, because I am too cheap to buy the book, I have been returning it to the library, relist it on my request list, and wait for it to show up again. This is slow going. But now I am deep into the

juicy gossipy aspects of it all (oh, and of course the philosophy and majestic prose as well), so I can't give it up. My solution was to go looking in my own library where, lo and behold, I found a Modern Library Edition. When I opened this book, a piece of paper fell out; it was a temporary parking permit from UCLA dated February 23, 1960! When I found the permit, I remembered the class - World Lit. I. It was an extension class, my first college level literature course (unless you count Freshman Humanities) and the one that made me decide to go back to college at the old age of twenty four and get a degree in literature so that I could teach English. At that time I could imagine nothing better than getting paid for reading books.

This remembrance set off a whole chain of memories and thoughts about the random nature of events that set us on a certain life path despite our plans to the contrary. It also made me vow to always be open to looking at new ideas with as fresh an eye as I can bring to them instead of retreating into "been there; done that."

This Spring I completed another revisitation: I finished taking the docent training class for the second time. As those of you who have taken it know well, this is a fantastic class that gives us an opportunity to get to know new volunteers and/or potential volunteers (bless you all), be treated to the treasures that are commonly known as curators who give out scads of information in either Hort II or on walks through the various gardens, and it's a chance to revisit old friends and acquaintances who, though they have volunteered for some time, haven't taken the

class until now or who, like me, are repeating it after many years. Here's the upshot of that revisit. While cleaning up my home office (once and for all, of course), I found my notes from when I originally took the class in 1996! In looking over these notes, I notice that, unlike my life since 1960, many things about the Arboretum have remained quite steady over the last 12 years, particularly the budgetary goals: nurture and maintain the collections; develop the California native garden (we've certainly seen that happen recently); restore the meadow (lots going on here too); make improvements to the facilities such as "sprucing up the entrance" and building a "reception patio" on the hill behind the office and Hort II. Much of this has happened, but the need to continually find ways to fund our ongoing operating costs and planned projects continues to be as vital as ever. The more things change, the more they remain the same.

I have a friend who last month told me that she really enjoyed my column until she got to the part where I mention giving (or at least allude to it). But, hey, that's what I do. We are always trying to figure out ways to get the money we need to meet the same budgetary goals we have always had. So it seems we will always be revisiting that topic. Here's the bottom line, though: We know that there is a lot of competition out there for your donation dollar and your volunteer time, and every moment and penny you give us is greatly appreciated. That will never change.

—Peggy

### Arboretum Initiates Garden Admission Fee Program

For the first time in its history, the Arboretum will charge admission fees for visitors to our garden, beginning July 1st. An analysis over the past year by Arboretum staff and a committee of the Arboretum Associates Board revealed that less than 10% of the costs of visitor services are covered by visitor donations. The difference has been covered by revenue from memberships, gifts, and retail sales, diverting these important funds from being used to support the collections and programs of the Arboretum. The Arboretum staff felt, and the Arboretum Associates Board agreed, that it was fair to have visitors support more of the services they are provided. Even with a modest admission fee structure, which was approved by the university, it is expected that closer to 50% of the cost of visitor services would be covered. The admission fees will be \$5 for adults and \$2 for children ages 6 to 17 years old. Admission will be free to children under 6 years old, to those visitors only going to shop at Norrie's, to UCSC students, to members of the American Horticulture Society Reciprocal Admissions Program, and, of course, to Arboretum Associate members and Arboretum volunteers. Also, the first Tuesday of each month will be Community Day with free admission.

The Arboretum will be publicizing the new admission fee program in local print media and visitor information sources. A university approved collection procedure will be put in place that includes converting the donation tubes as well as the option of making payments and getting receipts at Norrie's and the Main Office.

One of the benefits to Arboretum Associates members is that, because the Arboretum is charging an admission fee, our members will have reciprocal free entrance to all American Horticulture Society gardens and arboreta in the Reciprocal Admissions Program. Members will also receive a limited number of guest passes annually to give to friends and will be able to bring a limited number of free guests to the Arboretum. See the article at right on "Changes in Membership Dues, Levels, and Benefits".

The Arboretum will track visitor counts, revenue, traffic to Norrie's, and impact on and feedback from staff, volunteers and members, to assess the program over the coming year and, if necessary, make future adjustments.

### Changes in Membership Dues, Levels, and Benefits

The "Community of Friends" Membership Program was launched in 2003 to both improve and enhance benefits to Arboretum Associates members and to encourage increased basic operational support for the Arboretum's collections and programs. Over the past five years, both the cost of member benefits and the staffing and operating costs for maintaining the collections have increased. In particular, less than a third of Basic membership now goes to support the collections. Staff and the Membership Committee of the Associates Board researched membership levels, dues, and benefits of other public and private gardens and arboreta, local museums and parks and developed a recommendation to raise the Basic membership levels, add a new level, and add specific new benefits. The recommendation was fully endorsed by the Arboretum Associates Board. Implementation of these recommended changes was delayed in order to tie specific benefits to the approval and launching of the new Garden Admissions Fee Program.

*continued on page 10*

## Collection Building in Chile... (cont'd - p. 1)

named because of its poisonous milky latex in the stems. The plant has pretty red flowers and although it is common, it is a challenge in cultivation. Also common to this area is a beautiful tree "quillay", *Quillaja saponaria* (Rosaceae) growing up to 45 feet tall with a star-like, white flower, with a yellow center. The tree bark contains saponin, a natural soap, and is used in cosmetic products, especially shampoo.

In southern Chile, the vegetation changes as the amount of rainfall increases. In these higher rainfall areas, the vegetation is dominated by the large southern hemisphere beech, *Nothofagus* spp (Fagaceae). In this region is a specific forest type known as the Valdivian rain forest. Here the coastal mountain range is right near the ocean, and the abundant rainfall is measured in meters. Several species of *Nothofagus* dominate these wet forests, *Nothofagus dombeyi*, *N. oblique*, *N. antarctica*, *N. alpina*. These trees are evergreen although partial leaf color change and drop does occur in the fall. In general they are fast growing trees, *N. dombeyi*, the tallest, reaches a height of 150 feet. As one might expect, in a temperate rain forest, there is high diversity of species. In these forests are the bell flower, *Lapageria rosea* (Philesiaceae (Smilacaceae)), the national flower a vine climbing into the trees and forming large 3-4" long and hanging, bell-shaped flowers. These blooms grace the forest with ornament. In this region are three members of the protea family (Proteaceae), *Embothrium coccineum*, a small tree with its beautiful red flowers, *Lomatia hirsuta*, also a small tree of great



Active Volcano Villarrica (9,430 ft)

ornamental value, and the Chilean hazelnut, *Gevuina avellana*, whose seeds are toasted and sold locally.

I stayed in and around Valdivia, home to the Universidad Austral de Chile, (Southern University of Chile) which has an excellent botanical garden and arboretum, and an excellent program of forestry science.

I met with several key people who are knowledgeable in the propagation and cultivation of Chilean native forest trees and who were eager to help me collect and ship plants back to California. In the near future we hope to form a collaborative alliance with this university to develop our temperate South American collection.

Other plants collected in Chile that are new to our collection include: "lingue", *Persea lingue* (Lauraceae) an avocado relative that is under threat and becoming rare in the wild; "pelu", *Sophora microphylla* (Papilionoideae, Leguminosae/Fabaceae), a small tree also occurring in New Zealand, with bright yellow flowers; "olivillo", *Aextoxicon punctatum* (Aextoxicaceae), a timber tree up to 60 feet tall producing fruits that resemble small olives; "peumo", *Cryptocarya alba* (Lauraceae) a small tree with edible fruits; "quebracho" *Senna candoleana* (Caesalpinoideae, Leguminosae/Fabaceae) a small shrub with bright yellow flowers that has potential for as an ornamental plant; and a *Eucryphia* sp. (Eucryphiaceae) forming a small tree with white flowers that is attractive to honey bees.

To hear more of my adventures I will be giving a presentation of this collecting trip at an evening potluck scheduled for Thursday, July 24, 2008. I hope you can make it. I will show images from several botanical gardens and many outstanding plants.



Streamside habitat in Chile



## Hummingbird Day Success

Nearly 800 people are estimated to have visited the Arboretum for Hummingbird Day. The sparkling weather and stunning spring blooms encouraged visitors to linger in the gardens among the hummingbirds. Good crowds attended the lecture by Tonya Haff, Curator of the UCSC Environmental Studies Natural History Museum and UCSC graduate students led tours for children and their parents. Dan Wood and Larry Selman led a hands-on workshop for those eager to photograph fauna and flora. Emeritus professor Todd Newberry's early morning bird walk was, as always, very popular. Oliver Klink and Munir Kuresh of Incredible Travel Photos provided a workshop in the garden to view hummingbirds and presented a lecture on Hummingbirds of the Santa Cruz Mountains. A special thank you to those who volunteered their help to make Hummingbird Day a great success.

## Spring Plant Sale; Another Record

What a Saturday! The initial rush never seemed to end as the members-only sale ran imperceptibly into the public sale beginning at noon. This sale was our best spring sale on record. Also at this year's sale were a silent auction and Norrie's in the Grove gift shop tables. All remaining plants at the sale were discounted at 3 pm to 50% off and this helped move remaining stocks of plants. An incredible effort on everyone's part made this a great success. Thanks to all who helped with the sale. Here are the numbers:

Total plant sales: \$31,708.23  
 Silent Auction total \$695  
 Food Sales \$131.50  
 Norrie's in the Grove \$179.15  
 Memberships: 18 new sold (\$780)  
 and 24 renewals (\$1,005)

## Enhanced Horticultural Interpretation Funded by the Slosson Endowment

The Elvenia J. Slosson Endowment Fund has awarded \$25,000 to the Arboretum to enhance the horticultural interpretation within the gardens. Through the production of permanent and temporary signs, brochures and handouts, and on-line, the Education Department at the Arboretum will develop and provide relevant information on its collections, horticulture, and mission-related themes. This grant runs from April 1 2008 until June 30th 2009. Congratulations Stephen.

## Arboretum Recognizes Outstanding Student Employees with SERAP Awards

Student employees and 2008 graduates, Aurora Gaines, Cody Grout, Rachel Moss and Elyse Seigle were recognized for their outstanding contribution and support of the mission of the Arboretum as student employees with awards within the Student Employee Recognition Award Program (SERAP). Aurora, Cody, Rachel, and Elyse exhibited outstanding ability in working with the diverse Arboretum community of faculty, staff, volunteers, and students. Going beyond the job-description, these skilled student employees have supported the mission of the Arboretum in many ways. They have served as positive role models for other student workers in a setting a high standard of dependability, responsibility, and self-motivation.

Aurora hails from the sunny hills and salty beaches of Santa Barbara, California. She is graduating with a degree in sociology and plans to return to school to work with plants in a degree program in landscape architecture. She loves the beach and is an avid outrigger canoe paddler. She also likes to dance. She plans to take a year off and ride south to the border by bike. The Arboretum has been one of her best jobs. Working with Francis Campbell, she has expanded her knowledge of plants. One of her favorite areas to work is back in the cottonwoods because of its "vibrating and spiritual presence". She also enjoys the carnivorous plants and watching the traps accumulate bugs. For Aurora, one of the most rewarding parts about working at the Arboretum is watching the progress of our work, particularly with the growing



Cody Grout

is now in Alaska with an ecotourism company that is dedicated to enriching people's lives by exposing them to the

richness of nature. He started working at the Arboretum as a sophomore in 2006. Cody wrote from Alaska, "It is hard to remember one experience at the Arboretum without appreciating what a blessing it was to work in the gardens". He remembers one instance when he was walking a path in the Entrance Native garden when he met eyes with a resident bobcat. The bobcat had just killed a snake and picked it up in his mouth



Aurora Gaines, Chancellor Blumenthal, Elyse Seigle, and Rachel Moss

before continuing his approach towards Cody. Realizing Cody posed no threat, the bobcat walked calmly by with its meal. This close encounter put Cody into a contented frame of mind for the rest of his day and he knew such a moment would come again. He wrote about how proud he was of his work at the Arboretum and how happy he was to work alongside the beautiful people at the Arboretum.

Rachel was born in Berkeley, and grew up between there and Chicago. She is a Theater Arts major at UCSC, and began working at the Arboretum in the summer of 2006. She enjoyed helping with the box office and with CD sales at the Music Series in 2006 and 2007 and loved every hectic minute of it! She is grateful for all the wonderful staff and volunteers that she has gotten to know and hopefully will continue to be in touch with. After graduation, this summer she will be managing a theater venue at the Edinburgh Fringe Festival and attending a theater workshop with her favorite contemporary playwright, Howard Barker. Her future goals include starting her own theater company and continuing with the theater from here on out!

Elyse is originally from Encinitas, in North San Diego County. She started working at the Arboretum as a freshman at the beginning of Spring Quarter 2004. She has loved every day she has spent here, except maybe the day she thought she broke the cash register at Norrie's during her third week when Susie was out of town. She

News & Notes continued on page 9



## Recent Collecting in New Zealand... (cont'd - p. 1)

One of the most exciting botanical stops that first day out was just north of Wellington in the Papakophei Reserve within the Cook Straight Ecological Area to visit a rare occurrence of *Sophora chathamica* (Papilionoideae, Leguminosae/Fabaceae). *Sophora chathamica* is one of the New Zealand “kowhai” species, that has adapted its seeds to survive long periods of ocean inundation and therefore has likely floated and established itself on off-shore Islands.

From Picton to Christchurch we visited many small reserves. The northern region of South Island as well as North Island had experienced what New Zealanders were calling a hundred year drought. Much of the landscape of the Nelson, Marlborough and Canterbury Districts had a dry summer Mediterranean look. This was especially so at Waterfall Ranch which is a privately-owned Queen Elizabeth II National Trust reserve. The waterfall rises steeply behind the ranch through beautiful greywacke outcroppings. Unfortunately it was just a trickle on our visit. Phillip took us here to look for *Pachystegia rufa* (Asteraceae), one of the Marlborough daisies. Although it was not flowering on our visit, the flowers can be deep wine red!

Following this we encountered the beautiful coastal forms of *Pachystegia insignis* on limestone outcroppings near Kaikoura although here it was not in flower either. Rick, Tom and Dan found these populations in full flower in November of 2006.

Upon reaching Christchurch, Philip attended a conference as Cindy and I headed off to the southern alps to take advantage of our collecting permits from the Department of Conservation on conservancy lands. We went straight west into the Arthur's Pass region to areas I last visited well over 15 years ago and some dating back to the early 80's with Ray Collett. Funny how old photographic images get imprinted into your brain and, fortunately, these former images and impressions are as beautifully true today as they were back then.

South Island is well known for its immense elevation gradients from coast to alpine glaciers within relatively few miles. It's the land of fantastic coastal rain forest, giving way to lowland beech forest and mountain beech forest to snow tussock grassland to sub alpine/tussock grassland to true alpine and, above, to permanent ice! (Global warming is melting back the New Zealand glaciers at an alarming rate.)

Among the extraordinary circumstances of alpine vegetation in South Island is its occurrence at low elevations, close proximity to the coast, and at latitudes comparable to Crescent City on up to Washington. Alpine vegetation can exist as low as 800 meters or less or even lower as you go south. At these latitudes even distant from the coast in Western North America you find yourself deep in conifer forest. The explanations include the lack of a persistent high-pressure area and an inversion

layer like we have in the west. So, as you go up in NZ it cools off dependably and quickly, results in alpine conditions. Also beech forest, *Nothofagus*, instead of conifers make up the characteristic trees below the alpine and sub alpine. And boy, is it ever beautiful!

We were very fortunate to collect and visit many southland subalpine communities from Arthur's Pass south to the Fiordlands. On Arthur's Pass we visited the Otira Valley with snow tussock sub-alpine at lower elevations and climbs into alpine and boulder-scrub slopes. The Otira valley has an absolutely dazzling flora where tussock *Chionochloa* species grow with several species of *Celmisia*, *Helichrysum* (Asteraceae), *Gaultheria* (Ericaceae), *Pentachondra* (Epacridaceae), thorny *Aciphylla* species (Apiaceae), a very leathery leaved *Brachyglottis elaeagnifolia* (Asteraceae), *Raoulia* (vegetable sheep, Asteraceae), alpine *Hebes* (Scrophulariaceae), carpets of alpine club moss, *Lycopodium fastigiatum* (Lycopodiaceae), and of course the so called pygmy pine, *Lepidothamnus*

*laxifolius* (Podocarpaceae), which is one of the smallest conifers in the world. It is a true mat forming species that occurs in blue forms and vibrant green foliated colors as well. With it, grows *Halocarpus bidwillii* (Podocarpaceae), the so-called bog pine, *Podocarpus nivalis* and exquisite dwarfed, blue-foliaged forms of *Phyllocladus alpinus* (Phyllocladaceae), the mountain “toatoa”.

After Arthur's Pass, we rejoined Philip Smith and the Taupo Nursery crew in Alexandra and headed across the Garston—Nevis road which has the distinction of being the highest elevation road in New Zealand and runs within view of the Remarkable Range, Hector Range and the Garvie Mountains. Along the way we crossed the Nevis River about thirty times putting the little Subaru to the test. This region was pretty dry although we did collect some seed. We hung on and raced behind our guides down south to the Bluff Scenic Reserve where the Foveaux Walkaway begins, which is as far south as you go before stepping into the ocean

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*Olearia lacunosa* (Asteraceae)



is completing her major in Politics and Community Studies with a specific emphasis on health policy. During her five years at UCSC she studied abroad for a year in Wellington, New Zealand and spent six months in Washington, D.C. in an internship with a non-profit pro-universal health care organization. Her favorite things about the Arboretum are its non-hierarchical structure and lack of a dress code. She enjoys the staff and volunteers and considers the Arboretum Community as her extended family. What she loves most about working at the Arboretum is that it has not mattered that she did not major in natural sciences and that there were always people to answer my questions no matter how complicated or basic they might be. She is keeping her options open for the future and hopes to attend graduate school to earn a law degree and a masters degree in public health. Elyse will continue work at the Arboretum through summer and who knows what will happen after that.

These students exemplify outstanding student employees and reflect positively on the Arboretum and the UCSC. All are graduating this spring and we wish them the best in their endeavors and careers. Thank you for being part of our community.

## New Titles in the Jean and Bill Lane Library

Donated by Mike and May Clark, *Santa Cruz County Place Names; A Geographical Dictionary* by Donald Thomas Clark published by Kestral Press in Scotts Valley is the second edition of the 1986 publication of the same title. This fascinating reference provides the etymology of all of the county's place names including the details of the derivations and context for these names. Also new to the library are a series of ten large format, beautifully photographed books sponsored and donated by Cemex, a local and international cement company that has become a conservation leader in the corporate arena. Chapters are written by leading conservationists in the field and illustrated with large format photographs taken by the world's most acclaimed nature photographers. Stop by the library on your next visit to the Arboretum and have a look at these new titles.



Living type in cultivation of an unnamed species of *Aspidistra* from Viet Nam.

## Letter of Agreement with Viet Nam to Build Collections

The Arboretum has developed a Letter of Agreement with the Institute of Ecology and Biological Resources (IEBR) in Hanoi, Viet Nam to work together to build a program of developing a national collection of living plants in northern Viet Nam at the Me Linh Biodiversity Station. With this agreement, the Arboretum and IEBR will collect plants for Me Linh Station and export living plant material to the Arboretum including plants of research and educational value and CITES-listed conifers, orchids, and other rare and threatened plants. During a recent visit, the Agreement was discussed and approved. The Arboretum will continue to develop its Indochina collections through this program and will provide training and expertise to projects with the goal of increasing the capacity in

Viet Nam to propagate rare and threatened plants. The Arboretum will use these collections in research, education, and promotion of the botanical richness of Viet Nam and Indochina. The potential of this new agreement to make great strides in conserving plants from Viet Nam is unparalleled. The next steps are to identify support for this new collaborative partnership in Viet Nam from donors and national and international agencies.

## Director of Education attends Channel Island Symposium

As a staff member, I presented a report on fieldwork and use of the Arboretum's collections at the Seventh Channel Islands Symposium in Oxnard, CA. in Feb 2008. The official title of the talk was, McCabe, Stephen W. and Sarah Chaney. Dispersal, recovery, stochastic extinction, hybridization and adaptive radiation in *Dudleya* (Crassulaceae) on California's Channel Islands. This paper represented a progress report on the findings of three years of a research grant by me and Sarah Chaney (national park botanist) in the Channel Islands National Park. The Arboretum's *Dudleya* collection on which part of the research was based, is the most extensive in the world.

The *Dudleya* collection is particularly valuable for research because of the collection data that accompanies each specimen and because the plants are all in one place. A standard research technique is to grow plants in one place under identical conditions, a technique known as a "common garden experiment." This allows one to filter out differences in a plant's appearance that are solely due to environmental conditions. All plants are affected by the conditions that they are grown under, but *Dudleya* and some other groups tend to be a little more plastic in their morphology depending on the growing conditions. Having all of the research plants under "one roof" allows researchers a better understanding about which characteristics of the plant are genetic and which are more easily modified by adding or subtracting light, water, or nutrients.

The symposium had sessions on terrestrial biology, marine biology, and archeology. In addition to learning about other research on California's Channel Islands, there were papers about exciting restoration work being done on Mexico's Pacific Coast and Golfo de California islands. I made valuable contacts at the conference that led to an international trip to Isla Guadalupe, a 25-mile long, entirely volcanic island 162 miles off the coast of Baja California. [There will be more on this trip in a future Bulletin.]

—Stephen McCabe



## Collecting in New Zealand... (cont'd - p. 8)

on the way to Stewart Island or Antarctica. It was an amazing April Fools Day with the dawn and the rain pouring down in buckets. It was lush with ferns and *Pittosporum* and *Olearia arborescens*. *Astelia*, *Pseudopanax* (Araliaceae), *Fuchsia excorticata* (Onagraceae), *Selliera radicans* (Goodeniaceae) and a gorgeous perennial *Poa astonii* (Poaceae) with blue-green foliage growing right out on the edge of the coastal cliffs. (A collection note: we did not collect any grasses on the trip. In fact, the Arboretum has long avoided importing grasses from anywhere outside California.)

In the remaining two weeks we traveled and collected through the Fiordlands Southland conservancy, on up into the Mount Aspiring area into Rob Roy Glacier, and then over Hast pass and along the Hast river and up through the Mountain Beech forest hiking straight up (almost literally) through mountain beech forest into alpine, up the west coast over Lewis Pass, and back again and down and around the Buller Gorge and on up to Nelson, and to Picton to Auckland and home by April 15 just in time for taxes.

All told we made a little short of 400 collections including over 200 seed collections and fern spore collections. Our live collections from cuttings and divisions were sent from little towns along the way via NZ Courier service to Mark and Esme Dean's Naturally Native Nursery in Tauranga where propagator Anne Fair has been taking care of them (thanks Anne!) in the North Island where they are being grown on to be sent to us in the coming months. All the seed collections were cleaned of fruits and packaged and sent via airmail and all arrived in excellent condition. Shipping from overseas is always a bit of a worry but everything is now on board and we have begun to plant and/or cold stratify the seed.

## Changes in Membership Dues... (cont'd - p. 5)

Effective July 1st, new and renewing Basic Membership Levels dues will increase. Poppy Level will go from \$35 to \$45 (one person membership) and Salvia Level will go from \$50 to \$65 (two person membership). A new Level will be added back at \$250 called the "Erica" Level (formerly "Grevillea"). An added benefit for this level will be a "Behind the Scenes" Tour annually.

Additional benefits for all membership levels includes free admission to the Arboretum, and reciprocal free admission to all American Horticulture Society Reciprocal Admissions Program gardens. There will be free admission for a limited number of guests accompanying members: at the Poppy level, member only; at the Salvia level, one guest with each member;

Cindy Hudson, my collecting partner on the trip is a keen, enthusiastic and skillful field worker. Her eyes were wide open, and she spotted seeds from afar like an eagle soaring over the prairie. Among her many marvelous attributes is her genuine appreciation and sheer delight with the natural world.

Thanks to the hard work and skills of our Executive Director, Dan Harder, who initiated our permits with the Department of Conservation in 2006, we were able to renew these again for a handful of the South Island Conservancies. The permits carry with them many restrictions on distribution and so forth, but we are able to grow and display the results of our permit collections in the gardens. However, the permits do not allow us to distribute the collections, sell or share propagations from them. We will fully honor the conditions of the permits from the Department of Conservation (DOC).

Finally a huge thanks to Shirley Harder, Dan's mother, who provided specific financial support for the ground travel, permits, postage and supplies.

Why so much attention to New Zealand these days? One answer is that it is a continuation of one main focus of the Arboretum pioneered by founding Director Ray Collett when he said that these gardens serve as a reminder of the floras around the Pacific. The Arboretum's collections and gardens serve conservation, education, and modern research. The valuable friendships, partnerships, and exchanges with people from New Zealand and elsewhere in the world teach us immensely about their floras and their conservation challenges. These conservation collaborations will continue to help us as we grow our collections and programs and in applying what we learn to conserving our own flora in California.

and at the Kauri, Erica, Banksia, and Protea level, all guests with members are free. Finally, members will annually receive a limited number of transferable Guest Passes to give to friends who they cannot accompany to the Arboretum. At the Poppy and Salvia level, members will receive one or two Free Guest Passes respectively. At the Kauri, Erica, Banksia, and Protea and above levels, members will receive four Free Guest Passes annually.

The Arboretum will track membership renewals and use of Free Guest Passes, as well as seek member feedback and suggestions in an effort to continue to refine and adjust the "Community of Friends" Membership Program to both benefit members and encourage additional support of the Arboretum's collections and programs.

## Congratulations to a few of our friends!

Jeff and Lisa Rosendale are the subject of an extensive article in American Nurseryman June 1, 2008. Their "love of plants and devotion to horticulture" has created Sierra Azul Nursery & Garden in Watsonville, one of the participants in the Arboretum's Gardeners' Discount Program. Jeff was president of the Arboretum Associates for nearly a decade.

Luen Miller of Monterey Bay Nursery has won the Horticulturist of the Year award from the California Horticulture Society for his contributions to horticulture and new plant introductions.

Ovations!

## Collection Building from California

Every place that has a large collection of plants loses some every year. To maintain those collections, people take cuttings, make divisions or collect pure seed. For our *Dudleya* collection, I have been taking plants home for years and collecting seed in a place where I know the plants won't hybridize unless I transfer the pollen myself: my living room shelf. Under grow lights the plants flower and set seed without disturbance by the birds and the bees. Additionally, in some bad pest years, plants may need to be renewed from the wild. I spent many hours of steep hiking this year on one five-day trip only to get to two populations that were too small to collect from. In that case conservation trumped research and I had to go home empty-handed. Maybe I'll return in a future year?

To further our research efforts and enhance the California Teaching Garden collection, I have focused on *Dudleya*, manzanitas and other California natives this year. As professor Jose Delgadillo says, vegetation sampling and ecological work is of little use if the plants are misidentified. With this in mind, we continue to build the native plant collections with an eye for plants useful in instruction. This last year I collected on the Channel Islands and the following counties: San Diego, Los Angeles, Ventura, Santa Barbara, San Luis Obispo, Monterey, Santa Cruz and San Mateo.

—Stephen M'Cabe



# Calendar of Events

Arboretum at  
UCSC

## Summer 2008

### June 2008

NORRIE'S GIFT SHOP

ANNUAL MEMBER APPRECIATION SALE

Saturday, June 21, 10 to 4

Arboretum Members will get a 30% discount on everything in the store, (except books and plants, which will be the usual 10% discount). Selected items are marked down by 75%.

Memberships available on site!

### July 2008

ARBORETUM ASSOCIATES BOARD MEETING

Wednesday, July 9, 5 pm

### PLANT COLLECTING IN CHILE

Thursday, July 24, 7 pm

Tom Saucedo, Arboretum Curator, will give a slide show on the trip he took to Chile in January 2008, and the plants he encountered and collected there. Potluck supper at 6 pm precedes the lecture. Donations welcome!

### September 2008

ARBORETUM ASSOCIATES BOARD MEETING

Wednesday, September 3, 5 pm

### CACTI, AGAVES, AND YUCCAS

OF CALIFORNIA AND NEVADA

Monday, September 22, 7 pm

Cachuma Press has released the new book by photographer and botanist Stephen Ingram, titled *Cacti, Agaves, and Yuccas of California and Nevada*.

He will give a lecture, book-signing, and stunning slide show based on his work. The focus is natural history, but it does include a good section on horticultural uses of native plants. Co-sponsored with CNPS. Potluck supper at 6 pm precedes the lecture.

### ARBORETUM BBQ

FOR MEMBERS & FRIENDS

& ARBORETUM ASSOCIATES MEETING

Saturday, September 13, 2 to 6 pm

Tour of the Grove at 3 pm

BBQ entrees served at 4:30 pm

Associates Meeting at 5:15 pm



Once again the pot-luck and BBQ will be held in our Eucalyptus Grove, which continues to transform itself into a showcase for the trees and other flora through the herculean efforts of its Curator Melinda Kralj. Come see the progress we have made on this restoration since last year. Entertainment will be graciously provided by *Fiat Musica*, the fine choral group of the UCSC Women's Club.

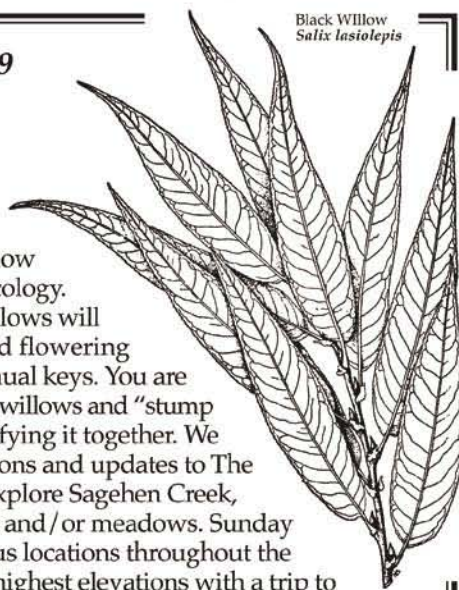
Please RSVP by September 5 to (831) 427-2998, email [arboretum@ucsc.edu](mailto:arboretum@ucsc.edu), so we will have enough main-dish entrees! Thank You!

**Official Notice:** The Annual Membership Meeting will be held during the BBQ, Sept 13, 2008 at 5:15 pm, to elect Directors-at-large to the Arboretum Associates Board. Any Arboretum Associates member may nominate another member in advance of this Membership Meeting. To nominate, it is recommended that, at least one week before the 13th, you contact Tad Sterling at the Arboretum for details, at (831) 427-2998, or refer to the "Associates Constitution and By-Laws" posted on our web-site. <http://arboretum.ucsc.edu/aabylawsmay03.html>

Friday — Tuesday, July 25 — 29

## WILLOWS OF THE SIERRA NEVADA

The class, led by John Bair, will begin Friday evening by introducing the willow family, its anatomy, distribution and ecology. Fresh material of cottonwoods and willows will illustrate the variety of vegetative and flowering characteristics used in The Jepson Manual keys. You are encouraged to bring your own problem willows and "stump the chump"—we'll work through identifying it together. We will also provide some helpful corrections and updates to The Jepson Manual key. On Saturday we explore Sagehen Creek, with an afternoon trip to a nearby lake and/or meadows. Sunday will be a day in the field visiting various locations throughout the Sierra Valley. Monday we push to the highest elevations with a trip to Sierra Buttes! Tuesday morning we will pack up, but John will be making a stop at the Spanish Creek Botanical area on Highway 70, for those interested. Costs: \$175 for members of the Arboretum or the CNPS. \$300 general public. Register by calling the Arboretum at (831) 427-2998. Limited to 20.



FIRST SATURDAY OF THE MONTH

TOURS OF THE ARBORETUM AT 11 AM  
July 5, August 2, September 6, October 4

Meet at Norrie's Gift Shop. Join our dedicated staff and docents for a look at what's in bloom around the Gardens. \$3 Public. Free for Members.





## ***nursery discount program***

*Arboretum Associates can enjoy 10% discounts on plants (and sometimes on related merchandise) at the following nurseries:*

### **Drought Resistant Nursery**

850 Park Ave., Monterey, CA 93940 • (831) 375-2120

### **Elkhorn Native Plant Nursery**

1957B Highway 1, Moss Landing, CA 95039 • (831) 763-1207  
3621 Main St., Soquel, CA 95073

### **Garden Company**

2218 Mission St., Santa Cruz, CA 95060 • (831) 429-8424

### **Golden Nursery**

1122 Second St., San Mateo, CA 94401 • (650) 348-5525

### **Hidden Gardens Nursery**

7765 Soquel Dr., Aptos, CA 95003 • (831) 688-7011

### **Ladera Garden Center**

380 Alpine Rd., Menlo Park, CA 94028 • (650) 854-3850

### **Lumbermens Garden Center**

235 River St., Santa Cruz, CA 95060 • (831) 423-0223

### **Pottery Planet**

2600 Soquel Ave., Santa Cruz, CA 95062 • (831) 465-9216

### **Sierra Azul Nursery**

2660 East Lake Ave., Watsonville, CA 95076 • (831) 763-0939

*And, of course,*

**Norrie's Gift Shop** *at the Arboretum.*

*Printed with soy inks on recycled paper*

*The **Arboretum** at UC Santa Cruz is a living museum **inspiring** stewardship of the world's biodiversity through research, **education**, and the **conservation** of rare, endangered, and **extraordinary** plants.*

*Moving? Please let us know the address of your next garden... Thanks*

## **Norrie's Gift Shop** at the Arboretum at UCSC



**10am - 4pm • 423-4977**

**Show your current membership card for 10% off!**

**Norries' always has a great selection of plants, jewelry, housewares, statuary, books, and gift items.**

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The Arboretum is open daily from 9AM-5PM.

Norrie's Gift Shop is open daily 10AM-4PM

The Jean & Bill Lane Library is open by appointment.

Visit the Arboretum's website at: **arboretum.ucsc.edu**

For information, or if you have any disability-related needs, call

(831) 427-2998 or fax us at (831) 427-1524.