

the BULLETIN A quarterly publication of the Arboretum Associates

Santa Cruz Mountain Violets

The Santa Cruz Mountains might seem a strange place for unidentified violets to hide.

However, at least four fragrant violets in the Santa Cruz Mountains alone have escaped reasonable attention and have not been named (probably because of the unshakable influence of long-established dogma). Very unfortunately, these violets are rare and need taxonomic attention. These new violets are in the process of being described as new to science by the UCSC Arboretum.

Because ancient dogma is difficult to shake, many points are belabored in the following paragraphs. The aim of the belaboring is to convince a diverse readership that these violets exhibit many characters that did not come from Europe. First, it should be mentioned that violets can produce two types of flowers, chasmogamous (open) flowers, which are showy and often held above the leaves, and cleistogamous (closed) flowers, which are inconspicuous, produce many seeds, and are commonly said to be fertilized in bud. Usually the proportion of cleistogamous flowers to chasmogamous flowers varies with the season and age of the plant. A frequent but questionable assumption is that cleistogamous flowers always pollinate themselves. The very words can be vexing, because many violet flowers are morphologically in the middle between cleistogamous and chasmogamous.

Viola A sp. nov. is a good violet to use to begin this story. The especially able and careful botanist Neal Kramer watched this species for years. It never produced a showy flower. Thus his list of the plants in the Bonny Doon Ecological Reserve includes this violet that he left unidentified. His list is available at: www. stanford.edu/~rawlings/pl-bd.htm

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Nearly beardless V. A. sp. nor., with spotted spur (petal removed)



Spring 2009 Vol.33, No.1

Mahonia gracilis

Arboretum Spring Plant Sale Saturday, April 18th

Come to the Arboretum's spring plant sale for a great selection of unusual plants that you may not be able to find anywhere else! We have many select drought-tolerant plants from California and Australia and from other locations with a Mediterranean climate similar to ours. We have larger special specimen plants this time too. Also look for an impressive selection of cacti and succulents. Arboretum staff and volunteers will be on hand to answer questions and help you find the best for your garden.

From our Australian collection, for the first time, we are offering *Hakea salicifolia* 'Gold Medal'. It is a large rounded shrub with variegated yellow and green leaves, with new growth flushed in pink. Grow this glowing plant for a bright accent in the garden. This plant is new from our Koala Blooms Plant Introduction Program, and many people have admired it in the garden for a long time.

Native to Mexico is *Mahonia gracilis* (*Berberis gracilis*), a tall evergreen shrub with fragrant, bright golden flowers in wintertime. Edible bluishblack berries that birds may feed on are then produced in the late spring. Shiny green leaflets strikingly contrast with the red stems of this plant. This frost-hardy plant does best with some shade.

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Australian Fires

news & notes

Our thoughts go out to our friends in Australia who have experienced such horrific wildfires. The crew at Cranbourne Botanic Gardens has really stepped up to help in the recovery. Two of the staff, Bob Lake & Terry Coates rescued a woman from the fires and were able to help save her home. Many are going out to help with mop-up efforts where the fires have been. The entire crew had a cricket game to raise funds for victims of the fires. Please consider making a contribution. Go to: www.redcross.org.au/vic/services_emergencyservices_victorian-bushfires-appeal-2009.htm

Jean Beevers – In Memorium



Jean Beevers and Marie Beckham. Cheerful greeters for the American Public Garden Visit of 2006

This morning when I was putting a stamp on an envelope, I happened to notice the words on the stamp, "First Class Forever." And I thought, that's Jean Beevers, a longtime supporter of the Arboretum who died on the 22nd of February.

Each of us who knew Jean has our own favorite stories about her, but the truth is, whether we knew her or not, all of us are affected by the devotion and tenacity that Jean brought to her involvement with the Arboretum.

Born in northern England, Jean, a trained botanist, and her husband, Harry, a biologist, graced the UC Santa Cruz campus with their presence in the early seventies when

Harry was hired as a professor. And when the Arboretum Associates was formed in 1976, both Jean and Harry immediately signed on as founding members, and, much to our lasting benefit; Jean dedicated herself to furthering the growth of the Arboretum.

Here are a few of the Arboretum "givens" that Jean helped make possible:

She gathered dried *Leucadendron* cones, *Protea* and *Leucospermum* flowers, and carried them in her car to florist and craft shops with the goal of selling them and popularizing the Arboretum flora. She then teamed up with Shirley Beneke, a retired florist, to set up the dry flower workshops that now supply the Dry Flower sales held every November, one of our most important fundraisers.

Jean was part of the group of talented women who were the original planners of Norrie's Gift Shop. Together they decided on the shop's floor plan, what kind of merchandise would be carried, and worked out the budget details that enabled them to launch a "startup" business that has become one of the most successful money-makers the Arboretum has ever had. And, in addition to their planning savvy, this group brought to Norrie's the eclectic bottom-up management style that experts say doesn't work, but which Norrie's volunteers pull off to this day. Until she moved to Fresno several years ago, Jean could be found every week at Norrie's where her bright face and enthusiasm sold a lot of merchandise and memberships, and signed up a lot of volunteers.

She also designed the "Reunite Gondwana" bumper sticker, another amusing (or shocking, depending upon your point of view) and educational fundraiser.

Jean and Harry both used their influence on campus to talk with University administrators and faculty about the Arboretum and to push for its recognition and support. Jean gave generously to the Arboretum, and, as recently as this past winter, she wrote to the chancellor to remind him of the importance of the Arboretum to the campus and planet as a worldclass plant collection.

So take a stroll down the Jean Beevers path in the South African garden, sit on the two Beevers benches there and reflect on what this tiny woman with her bright eyes and sense of fun has left for us to enjoy, cherish and foster in our own ways.

Thank you, Jean.

—Peggy Williams

At Jean's request, gifts in her honor and memory can be made to the Arboretum.

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Comments from our Visitor's Book

"Thanks for having us! We had a wonderful afternoon of watching pollinators visit your incredible plant diversity."

- Ingrid Parker & UCSC Plant Ecology (October 2004)

"Way rad! Never seen anything like this in all my travels. So much beauty!!!" – Visitor from Ireland

The Bulletin of the UCSC Arboretum Associates Volume 33, No.1 Spring 2009

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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Dear Arboretum Friends,

In mid-February I attended an outstanding meeting in San Diego titled, It's Alive! Petals to Primates: Preservation Challenges of Living Collections, convened by the federal Institute for Museums and Library Services (IMLS) and hosted by Heritage Preservation and the San Diego Zoo and held at the University of San Diego. This meeting brought together more than 200 participants who are the principle stewards of the nation's living collections of plants and animals to share ideas, build networks, share best practices, and foster a better understanding of the increasing number and severity of challenges facing each of our collections and institutions.

As part of IMLS's initiative, *Connecting* to *Collections; A Call to Action*, this meeting addressed a common concern: living collection managers nationwide recognize that under the current financial situation, as well as larger changes occurring to our environmental climate, we face an increasing number of challenges that are more difficult than ever before. Sharing information and increasing our effectiveness as stewards of these valuable resources without impacting the mission of our organizations are major challenges for living collections.

In 2007, Heritage Preservation and the IMLS published *The Heritage Health Index* as the first comprehensive survey ever conducted of the condition and preservation needs of our nation's collections. Astoundingly, the survey found that more than 4.8 billion artifacts are held in the public trust by more than 30,000 archives, historical societies, libraries, museums, scientific research collections, and archeological repositories in the United States. Unfortunately, the survey included only non-living collections but the lessons learned and relevance of the issues are shared with those of us with living collections, including zoos, botanical gardens, aquaria, nature centers and living history farms.

Our institutions are visited by more than 3.5 billion people a year as our collections teach and inspire and are vital to sustaining a well-educated and connected citizenry, a thriving tourist industry, and a wealth of knowledge to enrich and enlighten our civilization. Although curation and preservation techniques vary with each type of collection, all of our institutions are expected to provide a safe environment and proper care for our collections as a fundamental responsibility of collection stewardship. As a call to action, efforts are needed now to ensure these collections survive the twenty-first century and continue to enrich the lives of Americans and the world through an understanding that:

- 1. Institutions must give priority to providing safe conditions for each of the collections they hold in trust.
- 2. Every collecting institution must develop an emergency plan to protect its collection
- 3. Every institution must assign responsibility for caring for collections to members of its staff, and
- 4. Individuals at all levels of government and in the private sector must assume responsibility for providing support that will allow these collections to survive.

Under these trying financial times the Arboretum has trimmed our staff and

programs and have focused our efforts on meeting these four actions. Our top priority now is to preserve the value of the plant collections through maintaining adequate, minimal staffing, keeping support systems working and efficient, and using opportunity to expand and develop these resources for research and education. Responsibility for collection care is firmly in the able hands of our curators who have leadership roles within each of their gardens for display, collection development, and preservation.

Through our planning efforts two years ago with IMLS support, we addressed some of our emergency plans and procedures to protect our collection from drought, fire, frost, and theft. More work is necessary to develop a fully effective response plan. We continue to work on these issues and refine our plans so we are ready for any emergency that may affect our collection stewardship.

The fourth action, that of providing support, requires the effort of everyone. It is the responsibility of the curators, the Arboretum Associates, volunteers, the UCSC campus, the UC Office of the President, students, public and private individuals and institutions, and, especially, me to be ambassadors and instill ownership for these collections; to promote their value, articulate their importance for providing a healthy environment, and interpret their essential connections to humankind. Plants contribute to the health of ecosystems, sustain us by providing food, medicines and other commodities, and provide opportunities for recreation and exploration. Most importantly, plants influence the evolution of life on land. Botanical gardens and arboreta are special in their priority commitment to preserving plants and as centers for research, education and conservation.

Thank you for all you do to support our efforts to protect plants.



First Hand Academic Experiences: Reflections of a Student Employee

The first I ever stepped foot at the Arboretum was in the fall of 2006, on the first day of my two credit internship for the Restoration Ecology class. For two years, as a UCSC student, I passed the sign every day riding the bus up Empire Grade to campus, I knew of the Arboretum but never really understood what went on there. I knew it was a place of plants, a place to explore, but for some reason never took the opportunity to wander in on my own. When Karen Holl, my Restoration Ecology professor, provided a list of possible internships to supplement our classroom work and gain a few extra credits, I found my opportunity as my eyes went straight to the UCSC Arboretum. We attended a meeting where all campus units gathered to provide information and sign students up for their internships. As the meeting was coming to a close, I got fidgety in my seat, waiting for them to let us loose so I could be one of the first to get to the Arboretum table, afraid that too many people would want to sign up and they wouldn't take us all. I was relieved when Brett Hall met all of us eager interns with a smile, said he would be happy to take as many students as were interested, and instructed us to meet at the domes for our first day of internship work at the Arboretum.

That was the start of a new chapter in my academic life. I did not study botany but rather dabbled in the wider field of environmental studies. I did not realize I would enjoy studying botany until I began working at the Arboretum, where I got

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membership & gift support

The Arboretum An Incredible Gift!

It's nice to give yourself a gift once in a while, and it's nice to give one to those you care about. It's even nicer when you actually can do both – and some gifts can just keep giving!

I was thinking about the Arboretum in that way. We, as members, give benefits to ourselves – the opportunity to learn, to take walks in the gardens, to make friends -

and we gift to others – visitors, students, the surrounding community, even teachers, faculty, and those doing serious plant research - the benefits of the collection and its knowledgeable curators, volunteers, and staff. But even more than that, we also gift the beauty, learning, and incredible value of our living collection to so many in future generations to come.



Dan's column about what he learned at the IMLS Living Collections Conference also reminded me of both the incredible value of our collection to so many, and of the challenges and responsibility we face in maintaining our collections and educational and research programs. Living collections nationwide are facing financial challenges at the same time as they are requiring even more responsibility for preserving collections and programs that will increasingly affect the quality of life for humankind. Providing support, he noted, will take our whole community - our curators, the Arboretum Associates, volunteers, the UCSC campus, the UC Office of the President, students, public and private individuals and institutions - to

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be ambassadors and take ownership for our collections and programs.

We are fortunate to have a community of friends that makes it possible to give the gift of the Arboretum, to ourselves, others, and future generations. So once again, I want to thank you for being part of that community, and in advance, for your future giving to preserve and enhance our collections and programs.

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

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Violets... (cont'd - p. 1)

Application of ancient horticultural tricks can, however, make *V*. *A sp. nov.* produce a few chasmogamous flowers. Those few flowers are an amazement. They possess the legendary English violet scent, with a vengeance. Centuries of human selection have not resulted in a violet with so much violet scent. (Indeed some garden varieties of *V. odorata* have almost no scent at all.) Moreover, these flowers of this unidentified species are bluer than nearly all of the carefully coddled products of human selection.

Careful examination of V. A sp. nov. reveals more: There's no beard! At best, this new species produces a few, wispy hairs. Strange, as well, is this: If this species escapes the attention of deer, cottontails, and tiny rodents, it stands tall on a woody stem. From that stem, particularly near the apex, it sends out wiry, strawberry-like runners, which are so strong that they can trip an unwary person. Moreover, V. A. sp. nov. does not produce the traditional heart-shaped leaf of English garden violets. Rather, it produces rounded leaves that are open at the base.

To continue, two new species long ago attracted the attention of Margaret Sowers. She grew them in her garden on Walnut Street in Santa Cruz, and she shared them with her friends. Precisely where she got them is unknown. According to legend, it was somewhere up the San Lorenzo River. Today these two violets grow together in a remarkably cold box canyon along Bear Creek, a tributary to the San Lorenzo River. (Hybrids are unknown, both along Bear Creek and in gardens.)

At first glance, the woody *Viola B sp. nov.* might be regarded as a highly floriferous, large-flowered undetermined *V. A. sp. nov.* If examined closely, a curious fact stands out: *V. B sp. nov.* has a beard. It's short, but it's clearly there. This new species also has a distinctive, long, thick, unmarked spur, not much resembling a *V. A sp. nov.* spur. *V. B sp. nov.* is another, fragrant and distinctive Santa Cruz Mountains violet.

Viola C sp. nov., which is not very woody, is the only Santa Cruz Mountains violet that is white. Ordinarily, it does have purple



Bearded flower of V. B sp. nov. with hairy stem

markings on its long, curiously shaped spur. This undetermined species has its own kind of odor. Many people are inclined to say that is smells like a garden narcissus. Other people say that it stinks and smells fecal. *Viola C sp. nov.* is the grossest of the Santa Cruz Mountains violets. Its leaves can be seven inches across. This species is a third, undetermined, fragrant and distinctive Santa Cruz Mountains violet.

Viola D sp. nov. may be the rarest of all Santa Cruz mountain violets. Once numerous, just several individuals now survive, all on the UCSC campus. It may someday be grown in gardens for its very large, sweetly fragrant, rose, cerise, or magenta flowers. This undescribed species has a beard, which is very short and sometimes slightly greenish. Unlike *V. A sp. nov.* and *V. B sp. nov., V. D sp. nov.* is a small plant, slow to develop woody stems. The spurs of this species are remarkably long and patterned with purple, rather like those of *V. C sp. nov.* However, the spurs of *V. D sp. nov.* are without a lengthy appendage.

V. C. sp. nov., V. B sp. nov., and *V. D sp. nov.* arise and flower after the arrival of winter rains. Like many California natives, they shrivel away in summer. If artificially watered, they remain leafy all year and thus may be pleasing to many gardeners. (*V.A sp. nov.* grows in moist locations and has not been observed to go dormant.)

Curiously enough, all Santa Cruz Mountains violets have the company of mites (or mite-like creatures). These tiny creatures hide in the spurs and on the undersides of leaves, and they crawl into cleistogamous flowers, as well. Where these creatures go when violets are dormant is not known. Do these creatures pay any rent? Possibly they perform a pollinating service. Possibly they discourage other creatures harmful to violets. Who knows?

An important number of famously beautiful creatures are somewhat harmful to violets. California once was famous for its butterflies. That was back when huge California panoramas were a sheet of violets in spring. The caterpillars of Boloria epithore and many species of Speyeria eat only violets. The great sheets of violets once provided them with an abundance of food. People with memories extending back into the 19th century often told of the mariposas and the "flowers" in the California sky. Bernie Porter, a generous supporter of the UCSC Arboretum, was fond of recalling the butterflies of early California. (She was fond of frogs, also, and she endowed the Arboretum frog pond. Few of the world's frog ponds are endowed.) So famous was Santa Cruz for its butterflies that Gerhard Ringel knew of them when a young man in Eastern Europe. One of the



Bearded flower of Viola C sp. nov.

world's most honored mathematicians, he often said he came to Santa Cruz "because of all the butterflies." He was especially fond of violet-dependent *Speyeria*.)

Basic questions about all Santa Cruz violets and butterflies are still to be asked and answered. Which violets are the favorites of which butterflies? How do the many kinds of violets protect themselves against the many kinds of herbivores? How are new hatchlings from *Speyeria* or *Boloria* butterfly eggs regarded by the mites (or mite-like creatures) that accompany Santa Cruz Mountains violets?

Anyway, this much is true: Without sheets of violets on the ground, California loses many famous "flowers" in its skies. Already some California residents may never have seen a violet-dependent butterfly. What do they look like? The Internet provides an answer at butterfliesofamerica.com

-Ray Collett



Large-flowered, Small-leaved Viola D sp. nov.

A Special Offer for Arboretum Associates

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Note: This list represents the combination of actual membership dues payments and gifts received in the 2008 calendar year. Names are listed based on what is in the university gift record. Every effort was made to properly list everyone, however, please contact Tad Sterling, Arboretum Development Director, at 427-2998, to correct any errors or omissions.

The Australian Rock Garden, Western Australia Plantings

The larger Sonoma Fieldstones are in position, granitic scree has been added, and the irrigation line is finished. The Australian Rock garden is now being planted with choice collections from sub-alpine regions of Australia including higher elevation areas of the Sterling Range in Western Australia, the Grampians in the east and from Tasmania. The new planting areas are developed to feature special plants that might get overlooked in a general landscape planting. The Elvenia Slosson endowment and directed gifts provided support for a major portion of this garden. This spectacular new garden planting is drawing visitors to the back sections of the Banksia Field. This open area will not be planted in large trees or bulky shrubs in order to evoke the sand plants of Australia. Coastal plants will be grown in the sandstone areas near the edges and plants from the interior of Australia near the larger fieldstones. Western Australian plants will be located to the north of the central rift in the planting and eastern Australian plants to the south. Plants from specific geographical regions will be clustered with other regional plants. Plan a visit to see how this spectacular garden is coming along.



Australian Rock Garden

Laguna Lagoons Restoration

The Arboretum's work contract growing and, then, planting for the California State Parks and Recreation is complete. Under the direction of Francis Campbell (Arboretum Facilities Manager), a cadre of student workers, community volunteers within the Friends of Santa Cruz State Parks, California State Parks, the Arboretum, and the California Native Plant Society helped plant the 110,000 native plants on five acres at Coast Dairies at the mouth of Laguna Creek. This project is one of the largest restoration projects in the county. The Arboretum collected all of the seed locally, grew the plants, and planted many of these for this restoration.

In a single day in January nearly 90 volunteers helped plant 11,000 plants to reclaim land along Laguna Beach to coastal sage scrub habitat with native coyote brush (*Baccharus piluaris*), lizard tail (*Eriophyllum staechadifolium*), and sage (*Artemesia tridentata*). The plants used in this restoration will serve the wildlife that live in this area such as the snowy plover, golden-crowned sparrows, and more than 200 species of insect.

Slosson Endowment Award

The Arboretum received a \$36,000 award from the Elvenia J. Slosson Endowment for a project titled, "Central Coast Native Plant Horticulture". During the 2009-2010 fiscal year, the Arboretum will develop garden displays, improve availability to these choice garden plants, and enhance educational resources focused on Central California Coast native plants. The award will specifically support growing out of existing collections from seeds and cuttings and establishing these plants within the California Province Gardens. Exploration within Central Coast wildlands and the collection of seed and cuttings of outstanding selections is also supported. Educational outreach will be developed to promote the use of native selections in local gardens and for labeling of these plants in the garden.

Hummingbird Day Hum-Dinger

A warm, sunny day greeted visitors to our annual educational open house, Hummingbird Day, on March 7th. It was easily one of the largest events ever held at the Arboretum. To accommodate the extra people, we spontaneously added four tours to the fifteen we had scheduled. New this year, we had a sorority, Alpha Kappa Delta Phi and a fraternity, Lamba Phi Epsilon helping our volunteers staff the kids' tables. The ornithology grad students led many children's tours and came up with a new graphic, postcards showing a pile of 572 Snickers bars, the number of bars that a person would have to eat to consume the equivalent calories per ounce of body weight that a hummingbird eats each day.

We thank our participants, volunteers and sponsors; Todd Newberry, David Suddjian, Barbara and Kevin Monahan of the Santa Cruz Bird Club; Oliver Klink and Munir Kureshi of incredibletravelphotos. com; Larry Selman of mostlybirds.com; the California Native Plant Society; Gold Rush Nursery; Sierra Azul Nursery; the Garden Company; Ladera Garden and Gifts; Pacific Sun Properties; Staff of Life; Joni Janecki and Associates; and the ornithology students from the Department of Ecology and Evolutionary Biology.

A Message from Matthew Thompson, Arboretum Associates President



Dear Friends,

Volunteerism is flourishing at the Arboretum. There were 7,700 recorded volunteer hours at the Arboretum in 2008.

And we know there were many more volunteer hours that went unrecorded. I want to thank all of you for your contributions to the Arboretum. I also want to acknowledge that keeping track of time may seem at odds with the spirit of volunteer gardening. Time reporting is a part of the world that is not gardening, after all. But documenting the volunteer contributions to the Arboretum is extremely important as the Arboretum competes for non-profit and public-sector grants, contracts, and gifts. The level of local support is frequently a factor in the funding competition. An outstanding depth of support is demonstrated with the 2008 volunteer numbers.

The Arboretum would not look the way it

does today without continued volunteerism in countless tasks. Over the next several months the Associates Board will be looking at how the volunteer network can evolve to improve the volunteer experience, to reduce the staff time required for coordination, and to continue to attract dedicated volunteers. We solicit your comments and reflections.

It is also important to acknowledge the crucial role the Arboretum staff plays in the volunteer system. As the trainers, managers, and mentors of all the volunteer efforts, the staff spends time and creative energy to help keep all the balls in the air as they juggle multiple tasks. We all thank you for your boundless help and patience.

Your grateful Associates Board President,

-Matthew Thompson

Make a Legacy Gift & Further the Mission of the Arboretum

Thankfully, members and friends have been generous in their support of the Arboretum, and that support has made it stronger. There is still much to be done to realize our mission and plans as articulated in the Mission and Program Plan. This article reviews various paths that one might take to further strengthen the Arboretum.

Lifetime Gifts - Making a lifetimemonetary gift to the Arboretum is fairly easy. Although checks are made out to the UCSC Foundation, by putting a notation "to benefit the UCSC Arboretum" the money will be wholly for its benefit. Setting up an automatic monthly withdrawal from a bank account or a recurring charge to a credit card can make gifting easy. Tad Sterling, Arboretum Director of Development, can help set this up for you at 831-427-2998. To underwrite a specific project consider making a multiyear pledge. Gifts of appreciated property usually allow you as the donor to claim a tax deduction for the value of the property while avoiding the capital gains tax on the appreciation.

Retained Benefit Gifts - Donating property, including money, in exchange for a lifetime annuity is a popular retained benefit way of giving. The Arboretum, through the UCSC Foundation, would pay you, the donor-annuitant, periodic payments (often quarterly) for your lifetime or, if giving as a couple, for your joint lifetimes. The amount is often set as a percentage, e.g. around 5%, of the value of your gift to the Arboretum. There are several annuity payment options such as having the amount fixed, based on the original value of the donated property; having it change each year based on the value of the property as of the end of each year; or even having the payments start low and increase in later years. Tad Sterling and Michael Lorilla, UCSC Director of Development, welcome the opportunity to discuss these and other options with you.

A retained benefit option with considerable potential to reduce income taxes is the charitable remainder trust funded with one's home. In a future article we will present creative ways to use one's home in conjunction with one's charitable gift planning. Tad is eager to meet with anyone wishing to discuss this kind of planning.

Gifts as Part of Your Estate Plan Transfers that are finalized following the death of a donor are usually accomplished through the donor's will or trust. Your bequest to benefit the Arboretum should be worded as follows: "...to the UCSC Foundation for the exclusive use of the UCSC Arboretum." If the bequest is intended to benefit a particular project or invested in an endowment for a particular purpose, e.g., to fund student employees, this should be made clear in the bequest. Care must be taken that the gift is not so restrictive that your charitable intent goes unfulfilled. Generally, this is avoided by stating alternatives in the event that your initial designation cannot be accomplished. For instance, if your bequest is intended to support the Arboretum's long range plan to build a visitor center you would want to specify an alternative in the event that

the visitors center was already built. The alternate might be something else that is dear to your heart, such as endowed curator support for your favorite section of the garden, or you might authorize the Arboretum Director, after consultation with your family, to select a substitute project as an appropriate use of your bequest.

Estate planning gifts are often contingent in the sense that the charity's interest, in other words the Arboretum's interest, will follow the interest of family members, hence you might establish a trust that benefits you and your spouse for as long as either of you are alive, and only after that will the Arboretum benefit. If you wish to make sure that the Arboretum will eventually receive the gift you intend, wording must be used that makes that part of your estate plan irrevocable upon your death. This is where the Arboretum Development Director can give you peace of mind by working with you and your attorney to assure, as far as humanly possible, your charitable goals are met and promises kept.

Our website will give you some creative ways to donate to the Arboretum. Either go directly to our website: arboretum.ucsc. edu or, simply Google "UCSC Arboretum" to get there and click on the "Ways to Give to the Arboretum" heading on the home page—bright red lettering.

—John C. Bost, Arboretum Board Member, retired estate planning attorney and professor emeritus, & Michael Lorilla, J.D., UCSC Director of Development.



a hands-on introduction to botany that I didn't get in a classroom. My classroom experiences suddenly changed when, for example, Professor Holl would talk about restoring native grasslands and I could actually picture the plants she was talking about. During my Arboretum internship I transplanted native Festuca seedlings for the Arboretum's native collection, thus putting a face to a name that I had heard about in class. My short internship not only solidified my understanding of topics in the class but got me directly involved and interested in native plants. That involvement led to the job I have today at the Arboretum.

I remember during my internship, Brett was always encouraging us to develop and follow our own varied interests in native plants. Brett feels that exposing interns to a variety of topics prepares them for truly learning about a subject later on, and so he opened his extensive library to us. I told him I had interest in plant uses and he quickly directed me to various books on California ethnobotany, many of which I now own and refer to regularly. At the end of that internship I began working as a student worker at the Arboretum, and my practical knowledge of plants grew in a way that could not be achieved in classes alone. At the end of my senior year I was again immersed in an Arboretum internship, this time under the guidance of Professor Steve Gliessman, as I fulfilled my graduation requirement with a two quarter senior internship, "Ethnobotany of California: The value of traditional knowledge and our relationship to the land".

Winter quarter Brett had six student interns working on projects at the Arboretum, specifically assisting in the development of the California Native Province Garden. The students, with the exception of one, are studying Restoration Ecology in ENVS 160, this time under the direction of Professor Susan Langridge. For the Arboretum it is an opportunity to interact with the student community and get more accomplished on ongoing projects. For the students it is an opportunity to learn more about the Arboretum and put their studies into practice. Brett Hall says that it is the "Arboretum's role to interact with students and give them different perspectives", and the restoration ecology internships achieved the goal of "helping students to have a broader experience with native plants than they'd have in classes".

Over 10 weeks, Brett's interns worked to plant seeds, transplant seedlings, and finish deer fences around the California Province Garden. There are now hundreds of seedlings coming up thanks to the efforts of the students, and these seedlings will be planted in the California Province Garden as part of an effort to expand the Arboretum's native plant collection and restore portions of the meadow between the Arboretum and Oakes College to native grassland. Intern Stephanie Winn says she appreciated the active introduction to native plants and taxonomic relationships she got this quarter during her internship. Stephanie was surprised to learn that she could actually enjoy studying taxonomy. She commented that she had never taken a taxonomy course because it seemed so daunting. At the Arboretum, however, it was more accessible and more interesting, and she says she naturally began to recognize and retain information about the classification of native plants.

The Arboretum provides a gift of beyond the classroom learning that benefits the entire academic community. Students who choose to use the Arboretum as part of their learning experience are rarely disappointed.

-Sara Reid

Plant Sale... (cont'd - p. 1)

A very special offering this spring is *Xeronema callistemon* or the Poor Knights lily. According to New Zealand collection curator Tom Sauceda, this plant is "one of the showiest plants in the New Zealand flora." It is rare but easy to grow and has showy scarlet bottlebrush-like flowers, 8 to 12" long. The stiff dark green leaves are sword-like. The plant grows best when its roots are constricted. This lily thrives as a container plant and requires a warm sunny location with good drainage. It needs special attention however, as it is not frost hardy.

If you want to provide nectar for hummingbirds from California natives, we have several plants to choose from. Aquilegia formosa, the western columbine, is a deciduous perennial that has distictive flowers with yellow petals and red spurs, and lots of nectar for hummingbirds. For light shade, you might also want to plant a twin-berry or *Lonicera involucrata*. This is a deciduous honeysuckle that can grow up to 10 feet tall. The tubular spring flowers are multicolored, and if pollinated they give rise to pairs of shiny black fruits. For a sunnier location, plant Galvezia speciosa, or island snapdragon. This is a low mounding shrub with semi-succulent leaves and bright red flowers.



Xeronema callistemon

Photo by Ian & Jocelyn Bell

A complete plant sale list will be posted on our web site by April 11th. Here are some more of the plants we will be selling:

Arctostaphylos pumila Arctostaphylos manzanita - Hood Mountain Adenanthos X cunninghamii Anigozanthos flavidus Banksia grossa Banksia seminuda Banksia speciosa Boronia megastigma Callistemon 'Can's Hybrid' Chamelaucium uncinatum Crowea exalata 'Sothern Stars' Darwinia citriodora 'Seaspray' Eriogonum giganteum Grevillea lanigera — cream & red Grevillea 'Ruby Clusters' Grevillea 'Suberb' Hebe topiaria Hibbertia truncata Iris douglasiana 'Santa Lucia' Isopogon formosus Indigofera australis Kunzea pomifera Pandorea pandorana Puya mirabilis Salvia apiana Salvia spathacea

-Helen Englesberg

New Pachyphytum & Echeveria hybrids available soon

Pachyphytum, Echeveria, and Mexican Sedum are attractive rock garden plants but they are fairly promiscuous. One offspring of an illicit affair is discussed later in this article. Echeverias are one of several plant groups, including Sempervivum, that are referred to as "hens and chicks" or "hens and chickens." This common name refers to species with low rosettes and several off-sets gathered closely around like little chicks. Members of this genus from Mexico (not those of northern Baja California) are summer growers. Several species are quite rare.

Regardless of some difficulty with the names, echeverias, graptopetalums, and pachyphytums look best and suffer less from pests and diseases when the older leaves are removed. They all benefit from applications of dilute liquid fertilizers a few to several times a year.

An Arboretum Life member, Robert "Bob" Grim, was successful in hybridizing between different genera and produced, for example, the inter-generic hybrids X Cremnosedum 'Crocodile' and X Cremnosedum 'Little Gem,' using Cremnophila nutans as a parent. The second parent for 'Crocodile' is Sedum lucidum and for 'Little Gem' is S. humifusum. We first received some Grim plants from Jack Napton and the International Succulent Institute. Soon after, noted hybridizer, the late Victor Reiter Jr, and his wife Carla hosted us and gave us many valuable Reiter hybrids and a few more of the Grim selections. After Bob and his late wife Margaret generously donated all of their remaining Echeveria and similar plants, we slowly began propagating the interesting ones, including the beautiful, but long-named, *Graptopetalum amethystinum* X *Echeveria lilacina*.

With one species having the name about amethyst and the other lilac, you can imagine the colorful effect Bob was trying to achieve. The many shades of color present in this hybrid is rather remarkable. A waxy outer covering differs in thickness and whiteness over leaves that can be several shades of lilac and pale purple depending on how well watered, shaded, and fertilized the plant is.

Margaret and Bob sometimes shared bits of the plants with others (including members of the Sedum Society and Carmen's Nursery) and named several cultivars themselves. It is clear that without Bob's knowledge, some of his plants were given cultivar names, including the lilac/amethyst hybrid mentioned above. Until everyone can agree to a single cultivar name, I'll hold off on disclosing in print the name for the cultivar, *Graptopetalum amethystinum X Echeveria lilacina.*

To honor Bob's work, apparently a friend named a hybrid he produced between Sedum veradense X Echeveria rosea as X Sedeveria 'Robert Grimm'. From our inquiries it seems it was probably named by the late Joyce Hoekstra of Squaw Mountain Garden Nursery. This colorful hybrid has been sold in the US and is distributed in Europe. The stems tend to elongate, the leaves are lightly short-hairy, not waxy and grow light-green to green with orange or red, depending on the growing conditions, getting redder with more sun. As this cultivar is widely distributed and recognized this name will probably remain. Bob had not heard of another of his hybrids being named X *Graptoveria* 'A Grimm One' either. Some of these plants have found their way into international horticulture. Both of these intergeneric hybrids erroneously spelled Bob's last name as "Grimm." More than half of the photos of "unnamed hybrids" without hybridizer names in the book *Echeveria Cultivars* may be clones of plants produced by the Grims. He created and gave to us *E. albicans X lindsayana*, *E. diffractens X E. carnicolor*, and *E. pulidonis X lindsayana*, all of which appear to match hybrids in the book.

As part of a grant to the Arboretum from the Saratoga Horticultural Foundation, the International Crassulaceae Network, the International Succulent Institute, and growers from several countries will be queried about these hybrids and their origins. As of this writing some of the names need sorting out, but soon there will be many of the beautiful, named Grim hybrids and other attractive succulents at the Spring Plant Sale and at Norrie's Gift Shop.

We thank the Saratoga Horticultural Research Endowment, California Succulents, and the Monterey Bay Area Cactus and Succulent Society for their support for propagating, distributing, and publicizing the Grim Hybrids.

-Stephen McCabe



Cultivars of Echeveria and Pachyphytums

PLEASE SEE COMMUNITY OF FRIENDS MEMBERSHIP PROGRAM ON PAGE 4

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And, of course, Norrie's Gift Shop at the Arboretum.

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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.