

The Kruckeberg Botanic Garden at Richmond Beach is dedicated to fostering and providing educational, cultural and aesthetic enrichment for all who visit: gardeners, amateur and professional horticulturalists, and young students of the plant world — in all, people of all walks of life.

*"In the end we will conserve only what we love; we will love only what we understand; and we will understand only what we are taught."*

- Baba Dioum, Senegalese ecologist.

### Mark Your Calendar

Sunday, Oct 5	Garden cleanup work party 12-4 pm
Thursday, Jan 22	General membership meeting 7pm

**Garden Location:**  
**20312 15th Ave NW**  
**Shoreline, WA 98177**

### Questions, ideas, suggestions?

Please contact KBCG at  
(206) 542-4777  
kbcgf@kruckeberg.org  
www.kruckeberg.org

P.O. Box 60035, Shoreline WA 98160-0035

Newsletter produced by Suzanne Koidahl

Art by Mareen Kruckeberg: *Cyclamen coum*  
from the Caucasus Mountains blooms mid-winter  
regardless of weather.

## Drought-Tolerance in Our Gardens

by Art Kruckeberg

Late spring and mid-summer of 2003 gave our gardens a drastic taste of drought. Rainfall in June, July and August was below normal and was coupled with record-high temperatures, some days even in June reaching over 90° F. We witnessed at the Kruckeberg Botanic Garden sharp differences in signs of tolerance (and intolerance) to the drought months. Plants from high rainfall areas in eastern North America and eastern Asia showed clear signs of drought stress, notably wilting. Some have not yet recovered. Foliage of Asiatic rhododendrons, maples, clethras, linderas and the like drooped alarmingly. They have had to be watered periodically all summer. Yet most Pacific Northwest natives, other than those of wet habitats, showed little or no signs of suffering from the drought. These contrasting responses to the hot, dry summer prompt this inventory of garden plants at KBG that can tolerate drought. Such a listing seems most desirable, as we may anticipate long-term climate change favoring summer drought.

Are the drought months of 2003 merely a single year's deviation from the normal? Or do they portend drier summers to come? Both are likely occurrences. However, long-term shifts to drier summer seasons can be tied to El Niño events and to Global Warming. Both causes are supported by solid scientific evidence. Hence it is a safe assumption that drought seasons more severe than normal will persist. Such a climatic shift would exaggerate the normal, expected mid-summer droughts in our area. Forest ecologists have concluded that our region's climate approaches that of Mediterranean areas of the world; the term 'near-Mediterranean' describes our region's climate. Normally, rainfall reaches a minimum from early July to mid-September, simulating the dry season of the Mediterranean and its counterpart in California. It is no wonder, then, that our native vegetation and that from similar Mediterranean climates can withstand drought. Plants native to these regions have evolved hereditary resistance to drought.

Since some degree of summer drought is inevitable, an inventory of drought-tolerant plants can be a useful guide to the gardener. An added bonus to using drought-tolerant plants is the saving of water; well established, drought-hardy plants can go without water all summer. The listing below favors those plants of proven ornamental value.

We start with Northwest natives: trees, shrubs and herbaceous perennials. A useful reference is Kruckeberg, A.R., *Gardening with Native Plants of the Pacific Northwest*, University of Washington Press, Seattle, 1996. Appendix B of this book lists natives that thrive in sun. Most of these Pacific Northwest natives are drought-tolerant, except for ones in moist to boggy, wet habitats.

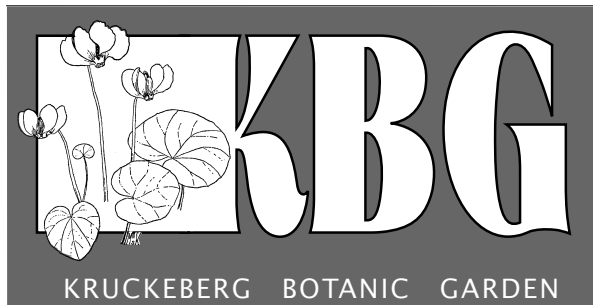
**Trees:** Most conifers, including Douglas fir, grand fir, subalpine fir, Alaska cedar, western white pine, shore pine, and western or Rocky Mountain juniper. Broadleaved (hardwood) trees include bigleaf maple, vine maple, Sierra maple, hazel-nut, hawthorn, and madrone.

**Native Shrubs:** Serviceberry, oceanspray, bald-hip rose, Nootka rose, mock-orange, red-flowering currant, hairy manzanita, kinnikinnick, evergreen huckleberry, red huckleberry, salal, and red flower honeysuckle (climber).

**Herbaceous Perennials** (S=prefer shade): Inside-out flower, wood sorrel (S), fawnlily or dog's tooth violet (S), fringe-cup, and starry Solomon flower (S)

In the next newsletter we'll list drought-tolerant plants from other lands.





### Board of Directors

#### Kruckeberg Botanic Garden Foundation

Laura Zybas, President

Michael Broilli, vice President

Kathie Morino, Treasurer

Robert Hauck, Secretary

Wendy K. Kay

Jeanette Kunnen

Matt Loper

Bonnie Storm

### Ex officio member

Art Kruckeberg

### Meetings and Elections

At the general membership meeting in June Matt Loper was elected to a second term on the Board of Directors, and Jeanette Kunnen and Bob Hauck were elected to their first terms. The new board met on July 15 and chose its officers: President, Laura Zybas; Vice President, Mike Broilli; Treasurer, Kathie Morino; and Secretary, Bob Hauck.

The winter general membership meeting is scheduled for 7 pm on Thursday January 22, 2004, at the Richmond Beach Congregational Church-United Church of Christ. The church is located at the corner of Richmond Beach Rd. and 15th Ave. NW. The speaker will be KBGF member Bors Vesterby, whose talk is titled "Key Washington Ferns." As many readers know, a botanical "key" is a means for identifying a plant. A traditional key is a written series of diagnostic steps, developed for a given species, that leads the reader to a conclusion about the identity of a certain plant. As anyone who has tried to "key out" a plant knows, such text-based keys are notoriously difficult to use. Bors will explain his alternative to the traditional approach: A *photographic key* that is visual and intuitive to use, where every described feature is imaged, linked and defined. His focus will be on native ferns, and he will show lots of photos of scenic Washington habitat and some of the state's rarest ferns. Mark your calendar now!

Regular Board meetings are normally scheduled on the third Tuesday of each month; members are welcome to attend. Call 206-542-4777 or email [kbfg@kruckeberg.org](mailto:kbfg@kruckeberg.org) for more information.

### Remembrances

by Walt Bubelis

I first came to Seattle in the summer of 1963 while exploring grad schools. The University certainly put on an appealing show, with Mt. Rainier glimmering at the end of Rainier Vista. I met some of the grad students and was overall impressed with the friendliness and commitment levels.

A year later, after finishing my B.A. at Wabash, majoring in Botany, I appeared at the UW and was assigned to another new arrival, Dr. Robert Cleland. Dr. Cleland's major interest was in physiology, specifically enzymatic reactions in cell walls of wheat. I dutifully immersed myself in the literature and procedures of this aspect of botany. One phase of the experiments required my staying overnight so that I could change water and cut coleoptiles off the wheat seedlings at an appropriate hour which always seemed to be 2 or 3 am. I got some fairly stiff joints sleeping on the hard floors in my sleeping bag. This routine got to me eventually, so I gathered up my courage to approach Dr. Kruckeberg to ask if he wouldn't mind adding another person to his load. He assented, and then all I had to do was tell Dr. Cleland of my change of heart.

Of my earliest interactions with the Botany Department, one that always stuck with me was a group of the professors taking a group of us incoming students for a quick look at the ecozones of the state. This entailed a trip over Snoqualmie Pass to the Columbia River at Vantage and then to Chinook Pass at Mt. Rainier. Explanations of the botany and geology of the scenes were offered by Dr. Kruckeberg, among others. I thoroughly enjoyed the travelogue and the camaraderie shown by all. I can still picture us standing in snow at the end of the daylight looking down at Tipsoo Lake and hearing about the giant salamanders found at this high elevation.

It was with much anticipation that I looked forward to working with Dr. Kruckeberg on a research problem for my thesis. He recommended that I do an ecological study of a plant endemic to the Wenatchee Mountains of Washington. Being new to this area, I hadn't heard of *Lewisia tweedyi* but soon found much to love about this NW beauty. It was the perfect plant to match my interests. It was evergreen so it could be found whenever the snow cover had melted; it was known by enthusiasts of the rock garden variety and hikers so one could follow up leads on new locations; its name commemorated one of the early explorers of this state; and it grew on the east side of the Cascades, an area that I didn't know very well. Later, I came to appreciate Dr. Kruckeberg's suggestion even more when I gravitated into horticulture; here was a plant that could beautify the garden, albeit in a special, demanding site. He already had an eye for the landscape value of the native plants in a time just beginning to feel the surge of interest in our native flora.

Phasing into research with Dr. K brought me a fantastic chance to accompany him and another grad student, Mike Baad, on a collecting trip to California. From Mt. Lassen to Tehachapi Pass in southern California, we sought stands of as many species as we could of *Streptanthus*, an erect crucifer often limited to serpentine rock exposures. We wove ourselves in and out of the Sierras, crossing and recrossing from one side to the other, to find and collect seeds. We put the botany truck, a large Suburban, onto roads that would test four-wheel drive vehicles today. Towns such as Iowa Hill were so small they were only found on forest service maps. Picture a hamlet of 10-15 unpainted wood structures all fronting a single, unpaved, one block-long main street at the crest of a forested ridge. One really felt like time had passed some of these places by, they were so small and primitive.

Some patches of *Streptanthus* were easily found next to the road. Others required hiking in the back country. Kearsarge Pass<sup>1</sup> on the east side of King's Canyon National Park was one such test of our stamina. Named after a famous Civil War vessel, the Union sloop-of-war USS Kearsarge,<sup>2</sup> this was an 18-mile roundtrip that reflected the sturdiness of its namesake. Dr. K's legendary stamina showed itself well, as we did this hike in the afternoon and were back at the campsite before suppertime. The alpine meadows of the eastern front of the Sierras were as lovely as anything that Frederick Church or Albert Bierstadt could have envisioned.

Surreal. That's what came to mind when we went to Inyo National Forest and drove up to the Bristlecone pines. To walk, and later camp, amongst these venerable relics, so individually grotesque and beautiful, was mind-boggling. At 8,000 feet the colors were so pure on everything, from the clear skies to the dazzling, decomposed white granite to the wind-polished, gray and twisted trunks of these truly amazing specimens. We could only guess as to whether any of these were older than the known Methuselah of some 4,700 years.

Another stand of *Streptanthus* was an endemic known only from a small location on private property. The private property in this case turned out to be a 50,000-acre cattle ranch. The species name honored the family which owned the ranch: *Streptanthus farnsworthianus*.<sup>3</sup> We were greeted by the wife who had agreed to take us to the site. We had no idea of the adventure awaiting us. The four of us piled into an open, army-model Jeep and immediately started up steep, roadless, grassy slopes, Mike and I hanging on for dear life in the rear. Up and down but mainly up we went. Eventually we came to a patch no larger than a couple hundred square

feet which represented the entire known population of this particular plant. Seeds were eagerly collected. Under the heat of the sun, we were treated to a most delicious lunch of just two items: fresh tomatoes and ice-cold well water. Combined with the rolling yellow hills and valleys of various oaks, this was a true treat.

We had no idea of what lay next as we started descending, following a ridge line. Mrs. Farnsworth stopped and beckoned us to make our way quietly to the edge of a parallel ravine. There, gliding silently upslope, were two condors! Huge, black-winged animals on the verge of extinction were before our eyes – just a hundred feet away! This semi-wild landscape was one of their afternoon feeding grounds as they came across the arid central valley from their coastal refuge. We saw three of the population of 21 known birds that afternoon and felt very privileged to have witnessed this extraordinary sight. That still remains the highlight of the California trip for me.


Later, back in Seattle, I got to sow the seeds of the plants we had collected and, later yet, to attempt to try different crosses to see which plants truly deserved species status. Most of a greenhouse bay of the New Botany Greenhouse was devoted to this endeavor. Working with Jim Nishitani, the Greenhouse Manager, during those years was very rewarding, Jim teaching me many tricks of the trade that I later used in my classes. He had learned these techniques from the family greenhouse business in the Lake City area of North Seattle. I stayed in contact with him until he retired to a fishing spot in eastern Washington.

Lastly, I remember the great kindness Dr. K showed to his grad students when he would invite them to a supper at the house or have them along on an extended hike in the mountains. Mareen was the perfect host to these extra mouths, whether the kitchen facilities were nearby or packed up in the rear of the truck. One lobster feast at the Kruckeberg house was made more special by a bagpiper playing non-dirge tunes around an open-pit fire in the lower field late at night.

Thanks to Dr. Kruckeberg, I ended up eventually at Edmonds Community College. I had finished my Masters degree but was working in a non-related field while my wife finished her degree. He had recommended me to a Horticulture Advisory Board that was just being formed; they were seeking candidates to teach college classes part-time in the evening. I went up for an interview with the board, then started teaching an introductory course due in large part to my ecological and botanical training both as an undergraduate and at the graduate level. Some of the first class members offered me employment with their firms; I chose to go with a retail garden store in North Seattle, Van's Nursery. I started just as their busy season was beginning in March, but unfortunately it closed forever by December of that same year. I found employment at two wholesale nurseries over the next couple of years, continuing to teach evenings when I could. Eventually, the college offered a full-time position which I applied for and got. Thirty plus years and I'm still there.

I still love teaching and sharing, just as I see Dr. K doing it in different venues. I'll be doing my regular Broadleaf Plant Identification and Plant Disease classes this fall and continuing work on the CD-ROMs I started some five years ago. The Spring section is about to be finished soon, and then come updates of the Broadleaf and Conifer CDs. These are great for students to review the plants and would be helpful to home gardeners as well. The EdCC bookstore has them on sale, if readers are interested.

Footnotes:

1. Check the Kearsarge Pass view from these websites: <http://www.pointsunknown.com/kingskern.htm> or <http://www.isber.ucsb.edu/~avssnt/gallery/album01>
2. The ship, built at the Portsmouth Navy Yard in Kittery, ME, and commissioned in 1862, was named after Kearsarge Peak in Merrimack County, NH. Later U.S. Navy namesakes include a battleship, an aircraft carrier, and the amphibious assault ship that was commissioned in 1993. For a visual history of the battleship, see <http://www.history.navy.mil/photos/sh-usn/usnsh-k/bb5-l.htm>. A short history from her days in 'The Great White Fleet' to the lifting of the submarine USS *Squalus* in 1941 is at <http://www.chinfo.navy.mil/navpalib/ships/battleships/kearsarge/bb5-kear.html>. (A movie of the *Squalus* saga, under the name 'Submerged,' is worth seeing.)
3. *Streptanthus farnsworthianus* – Farnsworth Jewel Flower, is being offered for sale by a Virginia nursery, Windy Hill Plant Farm! It's leapt across the continent. 


**Award to Walt Bubelis**

Belated congratulations to KBGF member Walt Bubelis, who was selected by his peers as one of the 2002-2003 recipients of Edmonds Community College's Echelbarger-Sherman Exceptional Faculty Award. The award, for exceptional service to students and dedication, expertise and outstanding teaching abilities, was presented at a ceremony in March of this year.



Walt Bubelis

Walt earned his BS at Wabash College (Indiana) in 1964 and his MS in Botany in 1968 at the University of Washington, where he studied under Art Kruckeberg. Walt began teaching at Edmonds Community College in 1967 as the college's first horticulture instructor. He soon became chair of the department and held that position for almost 30 years, planning the schedule, attracting and hiring new faculty, creating new programs and classes, and guiding landscaping of the EdCC campus. Please see his accompanying article.

In addition to his membership in and hands-on support of KBGF, Walt has been a contributing member of many garden and professional societies, including the Washington Association of Landscape Professionals, the Northwest Perennial Alliance, and the Association of Women in Horticulture. 

**membership**

Name \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_

email \_\_\_\_\_

How did you hear about the Garden? \_\_\_\_\_

**Membership Categories**

- \_\_\_\_\_ \$1,000 Oak (Benefactor)
- \_\_\_\_\_ \$500 Douglas Fir (Patron)
- \_\_\_\_\_ \$250 Red Cedar (Sustaining)
- \_\_\_\_\_ \$100 Dogwood (Club)
- \_\_\_\_\_ \$50 Dawn Redwood (Contributing)
- \_\_\_\_\_ \$35 Madrone (Regular)
- \_\_\_\_\_ \$25 Vine Maple (Student/Senior)

**Membership Renewal**

We continue to mail our newsletter to friends whose membership has expired, and to others who have not yet joined. Look in the upper right corner of the mailing label for the expiration date of your membership. Please consider rejoining our effort to preserve this very special place. Just clip and mail this form. Your donation is tax-deductible.

Please make checks payable to KBGF and mail to:

**Kathie Morino**  
**958 Walnut St.**  
**Edmonds, WA 98020**

**New Members**

Welcome to the following members who have joined since June:

- |                             |                            |
|-----------------------------|----------------------------|
| Joanne Boehme               | Jeanette Kunnen            |
| Anne Cunha and Judy Hoefler | Pat Mock and Sila Washburn |
| Kate and Michael Gormley    | Sue Nevler                 |
| Pattie and Paul Gotz        | Angela Nouwens             |
| Ann Hobson                  |                            |

**Renewing and Returning Members**

Thanks to those members who renewed or rejoined since June:

- |                                     |                              |
|-------------------------------------|------------------------------|
| Patrick Anunsen and Linda Lindquist | Wendy K. Kay                 |
| Sue Banks and Stewart Terry         | Nancy Moore                  |
| Liz Birkholz                        | Kathie and Jim Morino        |
| Lee and Kathleen Boeckstiegel       | Julie Pickering              |
| Carol and Mitchell Brittnacher      | Rich and Mary Shrader        |
| Al and Gretchen Brookes             | Brad and Darla Smith         |
| Carole Gordon                       | Bobbi Suse                   |
| Michael and Cindy Harry             | Elizabeth and Richard Wagner |
| Randall Hitchin and Lynn Kanne      | Laura Zybas                  |
| Bonnie Jardine                      |                              |

**Volunteer Help**

Thanks to the following volunteers for their help in the Sunday afternoon work parties in July, August and September:

- |                         |                         |
|-------------------------|-------------------------|
| Gretchen and Al Brookes | Bob O'Brien             |
| Walt Bubelis            | Darby Ringer            |
| Judy Griesel            | Bonnie Storm            |
| Barbara Hilty           | Pamela and Finis Tupper |
| Frankye Jones           | Janet Way               |
| Wendy Kay               | Laura Zybas             |
| Kathie Morino           |                         |

We're still hoping someone who resides in Richmond Beach will volunteer to share the "PO Box task" with Olga Hauptman. There's not much to it: Twice-weekly review and forwarding of KBGF mail; box is located at the contract post office in the Richmond Beach Foods store.

As always, there's a big need for volunteers in the other work of the Foundation. We're looking for people who would enjoy learning to be a docent, and we need help with plant inventory and labeling, grant applications, and workshops and seminars. If you have an interest in any of these areas, especially docent training, please contact us.

**President's Corner**

Dear Friends of the Kruckeberg Garden:

This summer I was selected as this year's president of the board of the Kruckeberg Botanic Garden Foundation. This is a very exciting and challenging time to be at the helm.

Dr. Kruckeberg's property will soon have permanent protection in the form of a conservation easement. This now opens the door for the board to begin fundraising for the purchase and long-term management of the garden. This task is the sole reason the Foundation exists. Without the funds, we cannot support and protect the garden in perpetuity.

As members of the Foundation, you are helping to build the support needed to sustain this garden for future generations; however, the foundation for this endeavor is not yet solid enough. Our foundation must be deeper, wider, and stronger to spread the word, recruit volunteers, involve the community, and raise the funds to secure the garden and its legacy.

If you believe in our mission, I offer this challenge: Over the next year – share with your friends, family, and neighbors the delights of the Kruckeberg Garden. Bring them to Open Days and General Meetings. Suggest they join us as volunteers and donors.

I would like to see our membership (our Foundation) triple in 2003-04. We have 122 current members. If each of you can bring two members to our foundation, it will demonstrate the community support needed to make this a public garden. The Kruckeberg Botanic Garden is a very special place. You believe it – help us spread the word!

Go forth and recruit!

Laura



Laura Zybas

**Web Site**

Reminder: our web site is at [www.kruckeberg.org](http://www.kruckeberg.org).

Worldlink Internet Services donates domain-name hosting for KBGF, and offers the following discounts to KBGF members: Dialup Internet Access at \$15/month, DSL at 15% off and All other Worldlink services at 10% off

Worldlink is a local company with over 5,000 subscribers, and we have been pleased with their support and positive attitude. Visit [www.w-link.net](http://www.w-link.net) or call 1-888-361-4638 for more information.

**Please pass this newsletter on to a friend!**

**KRUCKEBERG BOTANIC GARDEN FOUNDATION  
P.O. Box 60035  
Shoreline, WA 98160-0035**

