Washington Park
ARBORETUM BULLETIN

Published by The Arboretum Foundation
for the University of Washington
Volume 55, No. 1, Spring 1992 $2.50

Concerning This Issue . . .

The *Prunus* species on the cover typify spring in the Washington Park Arboretum, the time of rebirth and new life. Beneath the blossoms are fifty-year-old trees representing the "mature" garden specimen, topic of our feature interview. In the interview, Jan Pirzio-Biroli and Mareen Kruckeberg tackled strategies for giving new life to older plants and gardens, while taking a spouse's viewpoint into consideration. Take Mareen's dilemma about what to do with her husband Art's aging, damaged sequoia. Art brought the tree home years ago as a seedling given to attendees at a banquet in Washington, D.C. But what happens to such trees when they become old and damaged? Does pruning triumph over sentiment?

Appropriate to our emphasis on the mature garden is some discussion of the first one—in Washington State. Precisely three hundred years after Columbus came to the New World, another Spanish explorer arrived on the present-day Washington coast. Kathy Mendelson explores the history of the first garden grown here, and the first introduced trees, now gone.

Green Lake also has one tree gone this month, according to Arthur Lee Jacobson, author of the forthcoming book about trees in this popular park. Jacobson solemnly noted that between the first and second draft of his article, a tree was cut down, leaving the Green Lake population at 2,472.

Cutting down the shaggy carpet of green grass in your back yard was originally designed to ruin a teenager's afternoon. Arboretum Curator Timothy Hohn takes it from there to reveal the ornamental grasses that grow best in our climate and provide the highest interest in gardens. You can add further color to the landscape throughout the summer by trying fuchsias, a sign of summer and subject of Mary Robson's article.

Other signs of the times are sprouting all around the Arboretum to get you from point *a* to point *b*. Coordinator Lynda J. Ransley explains what now is posted if you're seeking some guidance. If you want to sing the blues in the Arboretum, Daniel Hinkley suggests ways to enhance your landscape with plants whose foliage is blue, gray, or silver.

Three new books are reviewed in this issue, and many more listed by Center for Urban Horticulture Librarian Valerie Easton. They can be found at the Elisabeth C. Miller Library along with another asset who assists Val and co-librarian Laura Lipton: Martha Ferguson. Martha continues to help the *Bulletin* maintain accuracy with her diligent research and fact checking. We appreciate her efforts, and those of the contributors to this issue who bring you the best of the Washington Park Arboretum.

Jan Silver, Editor
The Washington Park Arboretum Bulletin

Typesetting and production by Scarlet Letters, Ltd.

Prunus subhirtella var. *pendula* in front of the native *Arbutus menziesii*, discovered by Europeans in the late 18th century. (Below) Aerial photo of the Arboretum in 1952, exactly 160 years after the Spanish expeditions in which the oldest Washington State garden and earliest plant discoveries were made (page 21). Photos by J. Sneddon, courtesy Center for Urban Horticulture.

CONTENTS

In Bulletin *articles, an asterisk (*) indicates species, including varieties and/or forms, that can be found in the Washington Park Arboretum; a dagger (†) indicates specimens in the public collections of the University of Washington's Center for Urban Horticulture.*

Cover: The pink blossoms of *Prunus subhirtella* 'Pendula' (left) and *Prunus* x *yedoensis* (Yoshino cherry). Photo courtesy of David MacDonald.

The Washington Park Arboretum Bulletin is published quarterly, as a bonus of membership in The Arboretum Foundation. The Arboretum Foundation is a non-profit organization that was chartered to further the development of the Washington Park Arboretum, its projects and programs, by means of volunteer service and fund-raising projects. The Washington Park Arboretum is administered through cooperative efforts between the University of Washington, its Center for Urban Horticulture, and the City of Seattle Department of Parks and Recreation. The programs and plant collections are a responsibility of the Center for Urban Horticulture.

The mission of the Arboretum Foundation is to ensure stewardship for the Washington Park Arboretum, a Pacific Northwest treasure, and to provide horticultural leadership for the region. This stewardship requires effective leadership, stable funding, and broad public support. For membership information, write to The Arboretum Foundation, University of Washington (XD-10), Seattle, WA 98195 or call (206) 325-4510. Articles on gardening and horticulturally related subjects are welcome. Please call for guidelines. For permission to reprint any part of the *Arboretum Bulletin*, please contact the Arboretum Foundation for written permission.

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Printed on 50% recycled gloss coated paper (10% post-consumer waste)

Elaeagnus angustifolia (Russian olive), in September (upper left). Right, *Eucalyptus niphophila* (snow gum). Bottom left, *Abies concolor* 'Glenmore'. Bottom right, *Cytisus battandieri* (Atlas broom). Frequently, foliage of blue, silver, and gray tint is associated with yellow flowers.

Strokes of Moonlight

by Daniel J. Hinkley

Photos by Joy Spurr

At that time of day when the race has been run and a moment of contemplation is called to order, the garden awakens with silver-leaved plants that reflect the horizontal rays of the sun deposed.

In the garden or landscape, we think of the silver-leaved plants as being the perfect drapery in the front of which we plant the soft and easy pastels. Yet silver is a hue that serves the purposes of the gardener to his or her ends rather than dictating the intended effect. It communicates equally with the bold and bright colors, cooling the overall composition in full sunshine, as well as enlivening the space of a darkened somber corner. A handful of conifers, broadleaf shrubs, and deciduous trees are known for outstanding silver or blue foliage.

Drought Tolerance

Shrubs, trees, and herbaceous perennials have evolved in many ways to conserve that most precious of all commodities: water. Often denizens of desert or alpine environment, the gray, silver, and blue-leaved plants have employed an assortment of coverings and coatings used to reduce water loss through transpiration.

Dense hairs (pubescence) may act as a biological air conditioner. These minute strands of plant tissue cool the plant surface through reflection of the sun's energy and increase the relative humidity at the leaf surface where microscopic openings, known as stomata, are found. It is through stomata that water is lost by evaporation when they open to exchange gases with the atmosphere for the functions of photosynthesis and respiration. This explains why many plants have more indumentum on the undersurface of the leaf where stomata are generally found in greater abundance.

Plants providing the horticulturist with a brilliant bluish gray are generally those whose leaves or needles are coated with a glaucous coating or waxy bloom, essentially covering the plant's tissue. When new growth begins in early spring, this layer is thick and lofty, the color extraordinarily bright. As the summer progresses, the layer compacts. The color becomes duller and fades to bluish green from the chlorophyll of the actual leaf blade lying beneath. Petroleum-based pesticides, such as dormant oil sprays, will dissolve the glaucous covering, converting a blue-foliaged plant to dark green within minutes; the growth in the following year will emerge the typical color. Our native Douglas-fir, **Pseudotsuga menziesii*, takes on a much more bluish cast from this waxy covering in populations inhabiting the drier slopes of the Rocky Mountains. Whatever means the individual species employs, the end result is a lowering of the transpiration rate of the plant tissue.

The Conifers

Conifers employ the waxy-bloom mode rather than hairs to reduce water loss. *Abies concolor* 'Candicans' and **A. concolor* 'Glenmore' selections of the white fir that is native to Oregon and California, have broad needles of brightest blue-silver. Their growth habit is irregular and must be staked early on if a single upright leader is

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Glossary

Compound leaf is a leaf whose blade consists of two or more leaflets.

Coppice means to cut a plant off near the ground to induce sprouts or root suckers.

Evapotranspiration is loss of water from the soil, both by evaporation and by transpiration from the plants growing in it.

Indumentum is the hairiness on the underside of rhododendron leaves.

Lanceolate leaves are shaped like a lance head.

Panicle is a branched flower cluster.

Pinnately compound leaf is a compound leaf having leaflets arranged at intervals on each side of an axis.

Pubescence is hairiness, as on leaves.

Simple leaves have undivided blades.

Stomata (sometimes stomates; singular is stoma or stomate) refers to the tiny, very numerous pores in the epidermis of leaves and young stems.

Taxonomy is the scientific classification system of flora and fauna in which they are ranked according to genus, species, variety, etc.

Transpiration is the loss of water vapor from the surfaces of leaves and stems.

Type variety indicates the variety of the plant upon which the description was first based.

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desired. *Abies concolor* 'Glenmore' can be seen in the Washington Park Arboretum east of the legume section near the Broadmoor fence. The brilliant blue of many select forms of the Colorado blue spruce (*Picea pungens*) is a tempting selection for many gardeners. However, in my experience, this tree is not well adapted to our cool, moist climate. Though it survives, it generally becomes an unsightly feature of the landscape.

Broadleafed Evergreens

Broadleafed evergreens also may have glaucous leaves but, as in the genus *Rhododendron*, pubescence is common. With leaves intensely shrouded in white, **Zenobia pulverulenta* is a lovely plant to enliven a semi-shaded corner in the garden. It forms an arching shrub to six-feet tall and produces grayish leaves undercoated with a brilliant white. Nodding clusters of white, urn-shaped flowers are produced in early summer and are beautiful in combination with the white of the foliage. *Zenobia* can be seen near the *Pieris* collection, north of Rhododendron Glen in the Arboretum. It is available from Woodlanders, Inc., 1128 Colleton Avenue, Aiken, South Carolina 29801.

Taller growing and more vigorous silver-leaved "evergreens" may be found in the genus **Eucalyptus*, located at the south end of the Arboretum near the Chilean firebush and *Hebe* species. The ranks of eucalyptophiles shrank during our recent back-to-back winter losses, yet some may still have a species or two in their gardens—probably one of the three species that have proven themselves the hardiest.

**Eucalyptus niphophila*, the snow gum, has large leathery lanceolate leaves of blue gray and will eventually grow to a large tree in our climate, to fifty feet or more. The trunk becomes white with age, showing streaks of red through tears and rips of its shaggy bark. Both **Eucalyptus gunnii* and *E. archeri* begin their lives producing the familiar silver-dollar leaves of juvenile growth and later revert to leaves more lanceolate in shape. These species are more diminutive than the snow gum and will produce a tall shrub or small tree, easily coppiced to retain the brilliant blue silver of the juvenile foliage.

Deciduous Trees and Shrubs

Deciduous trees or shrubs with silvery foliage include **Elaeagnus angustifolia*, which eventually will form a very large shrub or medium-sized tree. Hardy as a granite paver and used extensively in wind breaks, perhaps the utility of this tree has kept us from considering it as a worthy ornament to our gardens. The willowy, slightly spiny branches sport gray leaves with platinum undersides of a quality seen only in other species of this genus, such as **Elaeagnus pungens*, an evergreen species, as well as the closely related genus *Shepherdia*, a low deciduous shrub of western North America. In this case, the color is provided from silver scales borne on the stems and leaf undersides. Even the fruit appears as if it has been spattered by a careless nearby application of silvery metallic paint. The flowers borne in spring, creamy white, are overwhelmingly fragrant. Find *Elaeagnus* spp. near the Lilac Section of the Arboretum.

Mountain ashes are remarkable large shrubs or small specimen trees for the small-sized urban landscape, and also for a mixed border. In the Arboretum, **Sorbus* species of the taxonomic section *Aria* are distinguished from other species in the same genus by their simple, rather than compound, leaves. Many species within this section also are distinctive for the gray or whitish cast to leaves provided by a dense hairy pubescence. The beautiful white undersurface of the leaves of **Sorbus aria* has given rise to its common name, the white beam. Another remarkably beautiful species in this section is **Sorbus folgneri*. It has relatively small leaves on willowy stems which droop in an elegant and graceful form. The leaves are silver gray above and intensely silver white beneath, exposed on the slightest breeze.

**Sorbus folgneri* often is confused with a nearby impostor when visitors encounter it in my garden. The weeping silver-leaf pear, **Pyrus salicifolia* 'Pendula', has similar pendulous branches bearing small gray-silver leaves. The grace and small stature of this tree make it an excellent selection for the small garden setting. Though it does flower and may even set small inedible pears, it is grown as a foliage plant and is useful in the shrubbery, mixed border, or as a specimen in the lawn. I've planted it in a bed of many silvery-leaved plants including a favorite willow, **Salix elaeagnos*. The leaves of this willow are remarkably similar to those of rosemary; in fact, the species name was changed from *S. rosmarinifolia*. *Salix elaeagnos* becomes a large shrub or small tree; however, it can be easily coppiced to produce vigorous, but controllable, growth in the small garden.

Larger hairs coat the leaves and stems of *Buddleia nivea* var. *nivea*, a Chinese species of butterfly bush. The flowers of this species are a bit on the disappointing side, considering the potential found in this genus for large terminal panicles of colorful and fragrant flowers coveted by butterflies and bees. It is for the intense silvery-felted leaves that I grow the species and have planted it near a trio of large-leaved red Japanese barberries (**Berberis thunbergii* 'Royal Clark'). The leaves are regularly petted by visitors as they pass by. The largest leaved of all the buddleias, **B. nivea* var. *yunnanensis*, can be found at the south end of Arboretum Drive East near the *Eucalyptus*, directly east of the Chilean firebush across from the Lookout parking lot. The leaves are immense for this genus, to 15 inches, and though a striking silver gray, are not nearly as felted as the type variety.

Foliage silvers can be brought to the garden through variegation as well. Perhaps my most exciting addition to the garden this year was a new variegated form of elderberry known as *Sambucus racemosa* 'Pulverulenta'. The pinnate foliage is slightly contorted but brilliantly splashed with white. The color is stable throughout the summer months, unlike many variegated elderberries that fade as the leaves age. It will produce a multi-stemmed plant to twelve feet and its delightful white foliage provides an ideal backdrop for many rich colors planted in combination.

With thoughtful selection, effective placement of plants in our gardens can extend the time of pleasure into late evening. Unlike the quest of the Olympiad, silver foliage in our gardens should be considered golden. It brings to the landscape subtle moonlit strokes on our frequent overcast days or late summer evenings.

Daniel Hinkley is an instructor of horticulture at Edmonds Community College, Edmonds, Washington. He is a member of the board of The Arboretum Foundation and owns Heronswood, a rare plant nursery in Kingston, Washington.

Photographer Joy Spurr is a member of Unit 81 of The Arboretum Foundation. Her plant photos are published internationally.

Some Special Trees of Green Lake

by Arthur Lee Jacobson

Green Lake is Seattle's most heavily visited park. In its fame as a local natural attraction it may not be as dominant as New York City's Central Park, yet Seattle offers an enviable abundance of parkland and greenery. Green Lake's trees are a most impressive collection, and I recently wrote a book about them because so many people love the place.

Of the 162 different kinds of trees at the park, totalling 2,472 individual specimens, here are three Green Lake trees that stir my heart each spring.

American White Elm
Ulmus americana

Seattle has been spared the elm disease that devastated most of Earth's temperate zone, so our elms comprise a "refuge" population. Fate has seen to it that Seattle, anomalous in having no *native* elms, has become a city well stocked with numerous kinds brought from elsewhere. They grow to perfection in this mild climate, not being picky about soil.

My special favorite is an American white elm (**Ulmus americana*). This fine tree stands with three of its peers and a European cousin (**U. minor*) atop Elm Hill (between the Bathhouse Theater and the nearby parking lot, at the lake's northwest corner). These elms, along with dozens of flowering crabapple trees donated by the Seattle Garden Club, were planted at Green Lake in 1932 as a living memorial to commemorate the bicentennial of George Washington's birth. Sixty years later, the "crabs" still rekindle their cheerfully bright blossoms every April and May, and the elms are mature shade trees of noble size.

No elm grows larger or is more beautiful than the American white elm. This species has all the inspiring presence of a grand cathedral, strong yet graceful. If you prefer a secular symbol, the Brooklyn Bridge will do. Nothing about the tree is crudely proportioned or objectionable. Beholding its swooping branches and fine tracery of branchlets symmetrically radiating upward, outward, and finally downward from the tall pillar-like trunk, can make us sigh with pleasure. Everything about the tree people love: strength, great size, pleasing shape, and elegance: a monumental beauty.

Pragmatists among us point out that elms are notorious "gross feeders" with rapacious root systems, that the crotch splits and large limbs fall, and that the wafer-like seeds of spring can be an ankle-high nuisance. Nonetheless, when we judge by looks alone, American white elm is an example of nature's best. François André Michaux (1770-1855), a keen, widely traveled naturalist, ended a lengthy account of the tree:

> Such are the few and unimportant uses of the white elm in the United States; it is far inferior to the European elm which is a tree of very extensive utility, and it deserves attention in the Old World only as the most magnificent vegetable of the temperate zone.

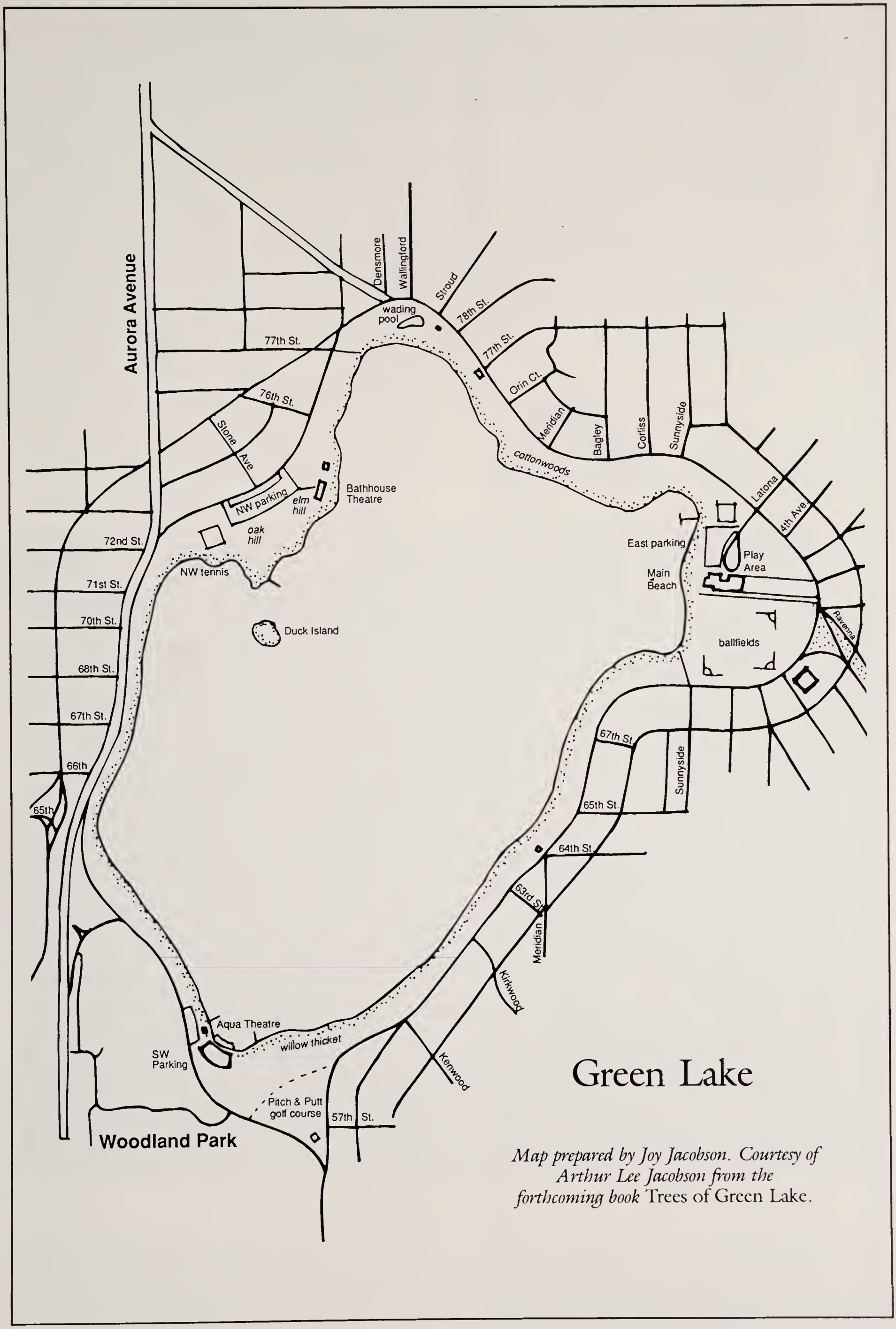
Coast Redwood
Sequoia sempervirens

Along with the elms, Earth's three redwood genera thrive at Green Lake. My favorite is coast redwood (**Sequoia sempervirens*), represented by a grove of six in the Pitch & Putt golf course at the park's extreme southern end. These six were planted in 1947, and the largest now has a commanding trunk, deeply furrowed and richly cinnamon red, 4½′ thick.

Coast redwoods grow from southwest Oregon to the Santa Cruz Mountains. The tallest are almost 375 feet, which is nearly 50 feet higher than any tree known in Washington. It is their neck-craning height, attractive red bark, mammoth trunks, and romantic history that makes us cherish redwoods. I know these trees as well as any, having climbed to 130 feet in one, swaying gently in the wind with its supple shaft, while startled birds gulped, as it were, at seeing a human in *their* realm. On another occasion in a Seattle redwood grove, I witnessed something that was almost miraculous. The spring had been strangely dry and rainless, but while taking a walk before sunset, I knelt to see on the dusty ground many redwood seeds sprouting. That night rain came.

I was deeply impressed. When you've hugged trees, pruned them, grown them, measured them, photographed and drawn them, and fashioned items from their wood, then their mysteries must contend with your own strong feelings of awe and appreciation.

(continued, page 8)



Map prepared by Joy Jacobson. Courtesy of Arthur Lee Jacobson from the forthcoming book Trees of Green Lake.

White Willow
Salix alba

Lake shores, riversides—even giant mud puddles—generally are well supplied with alder and willow trees. Green Lake is no exception, having over 80 alders and a hundred willows. Much to my gleeful surprise, I found a *unique* individual, the first I'd seen: a purebred, non-hybrid, non-varietal white willow (*Salix alba*). Although the tree is common in Europe, North Americans cultivate this species almost exclusively in its various hybrids and garden varieties. No wonder—they are all better looking than the original version. But still, just as we cannot fairly judge a good glass of wine until we've tasted bad, so it is with trees. We might not fully value selected varieties until we see from whence they originated.

Green Lake's lone white willow is in a thicket at the south end of the lake surrounded by gold-twig willows (**Salix alba* var. *vitellina*) and native black willows (**S. lasiandra*). It cuts a poor figure and would, if it disappeared, be missed by no one. Still, regardless of how plain its appearance may be, I love it for its rarity. To find rare trees for the first time, after reading about them for years, is a real thrill, a dream come true, that all tree fans indulge in occasionally.

In addition to the three species just singled out, Green Lake boasts some champion-sized trees mentioned in the Washington State Big Tree Program. It also has some flamboyantly colorful trees. In general, the park is home to an assorted, well-varied collection of what we might call "ordinary" ornamental trees. I've met them all, and regarding each kind can let loose a torrent of words. But the purpose is nothing more than to encourage you to derive equal joy from nature, in whichever of her creations touches the most responsive chords of your awareness. Warmth, refreshment, buoyancy, and reverence are humanity's most treasured sensations, and are free.

Arthur Lee Jacobson authored *Trees of Seattle* and the forthcoming *Trees of Green Lake*, due in book stores this spring.

Reference

Michaux, François André. 1817-18. *The North American Sylva*. Paris: C.D. Hautel. Translated from *Histoire des Arbres Forestiers de l'Amerique Septentrionale*, 1810-13. Paris: L. Houssmann et d'Hautel.

Working with the Mature Garden: Mareen Kruckeberg

by Jan Pirzio-Biroli

Photos by Joy Spurr

Mareen Kruckeberg and her husband, Arthur, have lived in Richmond Beach, Washington, since November 1958. Mareen runs MsK, a rare plant nursery, and Art is professor emeritus of botany, University of Washington.

Enter the Kruckebergs' quiet four-acre enclave through a wooden fence, bordering the residential street to the west. Heading east, the driveway divides two important parts of the garden. South of the driveway, near the entrance gate, you find yourself in an area where the Kruckebergs eliminated old pines, erstwhile Douglas-firs, and out-of-favor rhododendrons for more light, space, and Mareen's newer plantings. Across the driveway (north) is Art's experimental garden. Still walking several hundred feet east, toward the driveway's head, you find a main house, built in 1903 (south) and a small guest house (north). The driveway culminates in the nursery work area. Beyond the nursery greenhouse, down an eastern slope, is a three-acre meadow.

Mareen Kruckeberg pruned this *Cornus mas* to better show its beautiful form.

Retired Arboretum naturalist Jan Pirzio-Biroli explores with Mareen the mature Kruckeberg garden and its evolution over 33 years. How does the garden change? How do the Kruckebergs deal with older plantings? Do they still add to their collection? How do they negotiate creative differences about what stays and what goes? Following is the result of several exchanges between Mareen

and Jan during February and March 1992.

Jan Pirzio-Biroli: What plantings were on your property when you purchased it?

Mareen S. Kruckeberg: There were very few plants when we moved in. A row of Douglas-fir was along the road near where the fence now is, and four large spruce and white pine also were scattered in the front area. Also, in this area was a very large and beautiful **Abies concolor*, which I gave credit for clinching the sale.

The garden plots that we inherited were 10′ squares cut out of the grass and planted with large bearded iris in rows. These were easy to modify, but a laburnum and an annual lobelia refused to go quietly. Seedlings kept popping up for years, and the double-flowered narcissus and one single red tulip took a long time to expire.

The only eyesore that was scheduled for quick removal was a curved row of old **Cotoneaster horizontalis* across the middle of the front lawn. The tent caterpillars had marred any beauty or interest it might have had. Another reason for its removal was the effect it had on the view from the house. Your eye was stopped by the twiggy branches, and the area beyond was lost. Now you are visually led out to the front with an inviting path both left and right.

JPB: Did you have a preconceived idea when you acquired your property what you would do immediately?

MSK: Not really. We brought quite a few plants with us, but they were lost in this large area, so we essentially had a clean slate to start. My dad was planning to retire at this time, so my parents joined us soon after we moved in. Grandpa (as he was called by the whole neighborhood) finished the double garage into a cozy home, and was indispensable from then on. He built a fence around the four acres and made a point out of having it on the property rather than on the line. I've had reason to be grateful for his good judgement on that and many other decisions since. Years later my neighbor told me that the most wonderful thing she could have under the Christmas tree was not jewels or furs—it was a Grandpa.

His contribution to the garden was a large square sunny area, fenced to keep the dogs out, and devoted to the best vegetable garden I have ever seen. This, plus a large play area and fire pit, filled the back garden, so the landscaped area was between the house and the road. We soon defined planting areas, and enlarged them many times as the years went by. I gave a lot of thought to the placement of plants, but still some of the best combinations came quite by accident.

An example is the combination of **Pieris* and the **Rhododendron* with **Eucryphia* in back, which so many people have loved. The whole thing just pulled together beautifully, but it's not anything that we planned; it's just the way they worked out as they matured. You couldn't see that combination when they were all foot-high plants, but as they matured they just all went together.

JPB: I think this is true of all gardens. How have things changed?

MSK: One of the biggest changes came when my dad died. We had done extensive planting up above, and also moved down to the meadow, keeping a large area clear for horses. Art made an effort to keep the vegetable garden, but neither of us had Grandpa's know-how or patience to do an adequate job. So, we left the fence, but Art took the area east of the main road over as a holding place for his plants, and we have continued to use it as a work area.

Another change started when I realized the number of plants in the garden that were taking up precious space and giving nothing in return. Many of these had been filler plants or plant buffers to the road. About twelve years ago, I started a clearing campaign and it's been going on ever since. A double-trunked hemlock needed to be topped, so I asked the tree cutter to leave the trunks at about 40 feet. A rotting hemlock seemed a good nesting site for a woodpecker. A visitor inspected it last year, so maybe this year I'll have a boarder.

We have left quite a few trunks now, such as the ones from our Bing cherries which had stopped bearing fruit. When those were in bloom, they were one of the most spectacular parts of the garden. Some of the trunks are for birds or vines, and others for the beauty of the lichen and moss-covered bark. They blend into the landscape very nicely.

JPB: I always think of the part between the house and the road as a less intensively gardened area.

MSK: It's being gardened more now. In the process of clearing, I have opened up some choice planting sites that had been wasted areas, and it's wonderful. No more half-hour searches to find a spot for one plant—at least for a while. I made one part into a special little fern area because I do love

the ferns; I thought it would be a nice way to greet people and to tell them it's one of my favorite plants, by giving them a really prime spot like that.

JPB: One of the things you're implying is that you're still moving plants around all the time. The mature garden never becomes a static garden.
MSK: Never. In deciding about plants, I literally take time to go out and look at them and question: "Is this plant really worth the space that it's taking?" I love growing plants both from seed and cuttings, and there is always something new to try. When I am successful, then I have the fun of working a new plant into the landscape. It's important to be selective with a mature garden.

I pruned a mature *Quercus sadleriana*. It took me a long time because I just did a tiny branch at a time, but the results looked beautiful. As I worked, I would stand back and from looking at it you couldn't tell it had been cut. A week after I was done, I asked Art what he thought of the pruning. He looked out and said, "I *thought* it looked good. Of course I didn't notice it until you just mentioned it now."

I have one area that is over crowded, which I've studied many times. There are mature trees that can't be moved, but they are all so special that I've decided I have to put up with the mistake we made years ago. Pruning has helped, but I feel I owe an apology to the plants. They can't show off their individual beauty and character to the fullest when they have to share space.

JPB: A mature garden involves overcrowding. Are excess plants moved down to the meadow?
MSK: We seldom use the meadow for excess plants. Art uses quite a large space as a holding area, and five apple trees plus one prune tree take a large sunny area. The rest is being planted mostly with trees and we consider it to be our private arboretum. We have lost our meadow in all but name, but we both love unusual trees so we made the choice.

JPB: Where do you and Art differ in deciding what goes and what stays?

Joy Spurr

Twenty-year-old *Corylopsis pauciflora* (yellow), pruned to open shrubs to light.

MSK: We do have our differences about plants and landscaping, but we can usually work it out amicably. Quite often an initial response to a proposal can be blunt, but given time the idea doesn't seem quite as bad. So we usually live with our differences for a while and the solution becomes easier. Most plants that can't be moved can be replaced. We have such a wealth of plants to choose from as a result of our propagation efforts that the loss of even something special isn't as important as it used to be.

JPB: This place is in constant motion. What do you see as the future? Do you have any long-range plans or do you simply make your plans as you go?
MSK: Mostly I make plans as I go. When I'm in the garden, I get ideas from seeing the plants, and combinations work themselves out. If it's a good time for transplanting, I can carry out the new plans right away. If not, I have a manila folder that holds the ideas for later.

I'd like to concentrate on the garden—on one bed at a time—and complete it. This should be easy to accomplish, but it presents many problems. In the past, the nursery has taken a lot of my time, but it's pretty stable now. Propagation will always be time consuming, but that is for the garden as well as the nursery. Now it is important for me to include time for container planting. This is the year I will allow it some priority as many of the established containers are in need of re-doing.

My one long-range plan over the years had been to have a stream from the upper level flowing down to the meadow and forming a bog at the

bottom. I have purchased the rock and had water piped to the starting "spring," but it's a project that has lost its value before it ever got started. My trips to the meadow are seldom for relaxation, so instead of the bog, I've substituted simple bird baths and feeding areas in view from two windows of the house.

Maintaining the garden, nursery, and containers will keep me busy the rest of my gardening days.

JPB: Do you have any advice for other gardeners?
MSK: Keep your pruning shears handy on those walks around the garden, and the pruning saw where it is easy to find. And get rid of plants that you don't really care about. If they're not giving you pleasure, they're not doing their job.

Also try some new color combinations each season. In early spring, plant white crocus and hepatica under a white-flowering currant. Try pink *Primula kisoana* under **Rhododendron mucronulatum* or **R. dauricum*. *Cyclamen repandum* is spectacular under **R. albrechtii*. The lemon-yellow *Narcissus bulbocodium* goes beautifully under **Corylopsis spicata*. As these fade, other blooms and other combinations will be out to choose from. The September anemone will be the focus of a white flowering bed this fall.

JPB: A question for the mature *gardener*: How do you differ now than when you first began?
MSK: Having knowledge that comes from experience. Thirty-nine years of learning from books and plants and friends.

JPB: What do you wish you would have been able to plant thirty years ago?
MSK: I grew three plants of *Magnolia campbellii* from seed. I had planned one for the garden, but was talked out of it by a person much more knowledgeable than I. He knew it would take 20 years to bloom. It was years before we found viable seed again.

I do have a grove of **Rhododendron sutchuenense* var. *geraldii* that took 21 years to reach blooming age. We have had many years' enjoyment from the mature plants.

JPB: If you were younger, would you do anything differently than what you've done?
MSK: No. I have gotten a tremendous amount of enjoyment and satisfaction from the garden and the nursery. I can't think of anything I would have preferred to do.

Garden Waves of Grain

by Timothy Hohn

Unless we grew up on a farm or call the plains states home, most of us relate to grass as a convenient ground cover known as the home lawn. Little consideration of "grass" as a major component of the botanical world infringes on the often exhaustive weekend lawn gardening chores. As the principal mower of vast stretches of lawn in the neighborhood, I gave little youthful consideration to the grass itself—except in considering the potential monetary gains of charging by the blade.

By way of lawn, we have been carrying on an intense, and often expensive, love/hate garden relationship with grasses for decades. By way of our stomach, our relationship with grasses in the form of wheat, corn, oats, and other grains is older and more inseparable. Although ubiquitous under tooth and tred, other grasses are not as common in the garden as ornamental plants. Happily, their status is changing as people realize that ornamental grasses are elegant, versatile, and undemanding subjects that bring color, texture, movement, and sound into the garden.

Pacific Northwest gardeners may find that recommendations in reference material on ornamental grasses—including rushes, sedges, and some other monocots—are mostly based on gardening conditions quite different than our own. With this in mind, I established a small trial plot of select ornamental grasses and sedges at the University of Washington Center for Urban Horticulture (CUH), aided by a generous gift from grass enthusiast and Arboretum Foundation member, Edith Collins. The goal of this trial was simply to grow these ornamental plants, evaluate their performance, and make recommendations to the gardening public.

Edith Collins's gift, in the form of a large credit with Kurt Bluemel, Inc., a nursery in Baldwin, Maryland, made it possible to select some "old standards" and some new clones, a total of 55 taxa for trial. This is a small percentage of the ornamental grasses available to gardeners, but it seemed like a good start. The plants were obtained in spring 1990 and were grown for two full seasons. The final evaluation took place in fall 1991.

The site chosen at the Center for Urban Horticulture for the trial plot was open to the sun on heavy, landfill soil that is poorly drained. I hoped that the less-than-ideal conditions would serve to demonstrate the adaptability of each plant and expose potential cultural problems. Predictably, it turned out that most of the grasses were remarkably tolerant of the prevailing conditions, including a spartan regime of maintenance that included little in the way of irrigation, fertilizer, or other care.

I gathered a good team of evaluators to lend authority and objectivity to the trial. The team represented a range of individuals with varying demands for ornamental plants. The "Grass Gallery," as I fondly refer to them, consisted of Fred Hoyt, site supervisor at CUH; Eric Nelson, local grass gardener and aficianado; Susanne Foster, proprietor of Tissues and Liners, a Woodinville, Washington, nursery specializing in ground covers and vines; Scott Pascoe, landscape architect and principal of SMP Design, Seattle; and myself. I enjoyed our stints evaluating the "grass plot," as it became known. We learned a few things to share with you about some interesting grasses.

Based on trial evaluations, and in consideration of the prevailing growing conditions, here is an account of the plot's premiere performers:

Briza media: For Early Show

We were so impressed with the early, dense flowering habit of this small grass that it had to be entered on this list. The tufted, clump-forming mounds of deep-green foliage make neat little pincushions 12 inches tall. Unexpectedly, flower stalks begin to burst out of this nest of foliage as early as the third week in May. The inflorescences shoot up to 24 inches or more in a dense, maroon-tinted green mass of inflated, oat-like spikelets. The curious flowers dangle cloud-like above the foliage, each spikelet shivering in the breeze—hence the common name, quaking grass.

Glossary

Awn is a slender (usually terminal) bristle.

Culm is an aerial stem of a grass or sedge.

Inflorescence is the flower cluster of a plant.

Monocot (monocotyledon) is a plant whose embryo has one cotyledon, literally "with one [seed] leaf."

Eric Nelson

Timothy Hobn

Far left, *Helictotrichon sempervirens*. *Calamagrostis* species, left. Bottom, *Pennisetum orientale*. This page, *Miscanthus sinensis* 'Arabesque'.

As the flowers age, they take on a light straw color and remain perched atop stiff stems throughout the summer. By the beginning of September, the show is over and the inflorescences are beginning to shatter. This grass is best, then, for early and mid-summer displays and should be grown in full sun. It is particularly useful in rock and cutting gardens—the dried inflorescences are long-lasting and can be dyed for an unusual effect.

Calamagrostis species: Garden Pillars

Here's a screaming exclamation point in the garden! Plants of this genus are the most strictly upright of all the ornamental grasses. We grew two selections and there is some question about the correct name for the second of them: *Calamagrostis* x *acutiflora* 'Stricta' and *C. arundinacea* 'Karl Foerster'. The two selections were virtually indistinguishable to the committee; both were excellent. It is the flowers and the stamina of their rigid, vertical orientation that impressed the committee.

Flowering begins in early June with the rise of succulent stems from a leafy base that has been preparing for these fireworks since mid March. The stems begin to form a skyward column of vegetation revealing loose, open, and feathery inflorescences. Upon reaching six feet or more in height, the inflorescence becomes tawny with a purplish cast, then fades to light buff and finally toasty tan by late summer. From early summer through fall and into the winter the entire plant looks like a majestic, feather-tipped column of closely packed reeds. Hence, the common name, feather reed grass. These plants can be counted on to "stand up" through Seattle-area winters, leaving only a brief period in early spring when they must be humbled by a severe trimming just above the newly emerging shoots. As one of the most versatile grasses for the garden, feather reed grass makes a striking accent, lovely small groups, and impressive masses of swaying stems in full sun or partial shade.

Cortaderia selloana 'Pumila': Prominent Plumes and Dwarf Size

This pampas grass can nestle cozily into the smallest garden and feel right at home. The evergreen foliage and prominent plumes of spikelets are desirable traits of the standard pampas grass, *Cortaderia selloana*, but it's just too big for some landscapes.

'Pumila' is a natural dwarf in all respects. The rich-colored green foliage rises to about 30 inches at maturity with a dozen or more flower spikes adding another 14 inches when they appear in September. This grass, much like the standard, looks manufactured—it's stout and rigid in many respects with the foliage arching out from the center in predetermined perfection. The flower stalks are thick and straight, topped by dense, bleached inflorescences of a gauzy, cotton candy-like nature. The plant in the test plot was frozen back to the ground in December 1990, but it came back nicely with a fully developed tuft of foliage by the first of August 1991. Its stature and outstanding flowers were most impressive to the committee. These plants make good small specimens for the border or can be grouped for an exotic effect.

Helictotrichon sempervirens: Evergreen Blue Oat Grass

Our recommendation here is based more on extrapolation than real trial evidence. The trial plants were slow in developing and we attributed this to the poorly drained soil conditions. Nevertheless, the committee concurred that blue oat grass is usually an outstanding performer in this area if established on average to well-drained soil.

Helictotrichon sempervirens is one of the best blue foliage grasses, particularly in this area of the country where it thrives during cool summers with low humidity. It is essentially evergreen in the Puget Sound region although it does require "combing" in the spring to remove old foliage. Unlike some of the other blue grasses, such as *Elymus* and *Festuca* species, blue oat grass does not need frequent division to remain thrifty and it

is not invasive. Grown as a foliage plant in an attractive 2-3′ globe, the interesting straw-colored inflorescences wave casually in the breeze 4-5 feet above the ground. Imagine in a sunny spot clumps of *Helictotrichon sempervirens* with the complementary color, but coarse texture, of *Crambe maritima* and the filigreed texture and light-yellow flat flower clusters of *Achillea* 'Moonshine'.

Miscanthus sinensis 'Arabesque': The Copper-to-Buff Work Horse

This genus is the work horse of ornamental grasses for continental gardens. Unfortunately for us, it is usually just a foliage plant, albeit a nice one, and does not reliably produce its spectacular flowering shoots in our cool summers. Within the trial we actually had two selections of *Miscanthus* that produced flowers the first year and then produced them earlier and in greater abundance the second year—an exceptionally cool summer.

Although flowering just a bit later in August than *Miscanthus oligostachyus*, *M.* 'Arabesque' had much more refined foliage; hence, it receives the nod over the latter. *Miscanthus sinensis* 'Arabesque', which is slightly coarser of foliage texture than *M. sinensis* 'Gracillimus', has a very prominent white mid-rib that lends a distinctive character. It makes an upright-arching column of handsome foliage to nearly four-feet high and wide, shaped like a traditional haystack. The inflorescences appear in mid-August as coppery-brown nodding whisks 18-24 inches above the foliage and then eventually dry to a light buff color with a chaffy appearance that is best seen with the benefit of backlight. In full sun exposures, these are bold specimens and make dramatic groups in large-scale landscapes. Modest supplemental irrigation is beneficial during the driest part of the growing season.

Panicum virgatum 'Heavy Metal': A Blue-Green Gem with Pink Blush

'Heavy Metal' conjures up all sorts of loud, brash, and brazen botanical images, but none would befit this interesting clone. The cultivar name, I assume, is derived from the metallic coloring of the culms, blades, and inflorescences of this blue-green gem. All parts of the plant are glaucous blue and tinged or highlighted here and there with pinks and purples—a very delightful, somewhat metallic effect. The inflorescences appear at the beginning of August and also have the metallic coloration. However, they enhance the appeal by having a very light, diffuse overall texture with thin wiry stems attached to the individual spikelets that dangle out in their own distinct spaces. Altogether, the inflorescences are reminiscent of the clouds of bloom from the smoke tree, **Cotinus coggygria*.

In its full glory, 'Heavy Metal' is slightly more than 3′ tall with an erect but very slender profile—slim stems and leaves and light, airy flowers. It benefits from some supplemental watering during the summer in full sun. 'Heavy Metal' received consistently high marks from the committee with one exception: it has little winter interest. As a specimen for the rock garden, in front of the border, or as a mass to accentuate the cloud-like blooms, 'Heavy Metal' is a beautiful grass.

Panicum virgatum 'Rotstrahlbusch': Burgundy-Tinted Leaves

Much like its relative 'Heavy Metal', *Panicum virgatum* 'Rotstrahlbusch' is a medium-size grass with airy puffs of flowers in late summer. What really impressed the committee, though, were the burgundy-tinted leaves. 'Rotstrahlbusch' is a bit coarser than 'Heavy Metal', but otherwise they are nearly interchangeable as color variants of each other.

The burgundy color of this clone develops at the tips of the leaves as they elongate and spread during the season, attaining a rich, burgundy-maroon color in August and September on the outer half of the foliage. Just at the brightest part of the leafy show, the clouds of spikelets emerge from the tallest culms in green and wine colors. One could make use of this grass in much the same way as the highly-touted Japanese blood grass, *Imperata cylindrica* 'Red Baron'. The attractive difference here is the addition of the smoky red clouds of spikelets that glow and smolder in the backlight of a setting sun. 'Rotstrahlbusch', too, benefits from full sun and some supplemental water during the summer.

Pennisetum orientale: Bottlebrushes of Pink, Mauve, and Buff

This plant's inflorescences are the monocot version of the bottlebrush tree, *Callistemon* spp.—fuzzy, dense, and gauzy bottlebrushes of a pink, mauve, and buff tone. They are very impressive, hence, its inclusion here. Green shoots begin to appear above ground level in mid April and soon form a light green hemisphere about 14 inches above the soil. Soon after, in mid to late June—long before most other species of this genus—the

bottlebrushes begin to shoot out from the sphere in dense profusion. The pink and mauve coloration is most prevalent at first, mixed with the cottony buff of the various awns and hairs associated with each spikelet.

As the flowers age, they become more thoroughly buff colored and eventually, in October–November, begin to shatter, leaving behind stiff and naked stems. New flowers can be seen emerging throughout the summer and, during our extended summer of 1991, long into fall. Of particular note, and coming as a surprise to the committee, this plant didn't suffer any damage during our extremely cold December of 1990; the entire crown filled in with new foliage the next spring. This drought-tolerant, medium-to-small grass does best in full sun. Use it as a specimen or in mass with other red, mauve, or pink companions to bring out the highlights.

As I finish writing this, I see the grass plot illuminated under an early February sun. The calamagrostis, miscanthus, and cortaderia plumes, still evident in mid winter, are aglow in the sun's rays. There were many interesting and showy plants from among the 55 taxa within our beloved plot. There were also some dismal failures. For a complete rundown of all the taxa evaluated, consult "Ornamental Grasses at CUH," available at the Elisabeth C. Miller Library, Center for Urban Horticulture, University of Washington.

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Recommended Grasses

Briza media
Calamagrostis species
Carex muskingumensis (shade)
Chasmanthium latifolium
Cortaderia selloana 'Gold Band'
C. s. 'Carminea Rendadleri' (hardy)
C. s. 'Pumila'
Festuca cinerea 'Blauglut'
F. cinerea 'Blausilber'
F. mairei
Helictotrichon sempervirens
Hystrix patula
Miscanthus oligostachyus
M. sinensis 'Arabesque'
M. s. 'Sarabande'
M. s. 'Strictus'
M. s. 'Variegatus'
Panicum virgatum 'Heavy Metal'
P. v. 'Rotstrahlbusch'
Pennisetum incomptum (spreading ground cover)
P. orientale
Stipa gigantea

Hardy Fuchsias . . .
An Antique Addiction for Your Garden

Fuchsia magellanica

by Mary Robson

Photo by Joy Spurr

Many Northwest home owners hang a showy hybrid fuchsia basket on the front porch before Mother's Day, a rite signaling summer as surely as does the oncoming wave of six-pak marigolds flooding chain stores. The fortunate few also recognize the potential for hardy fuchsias to thrive year-round in shrub borders, emerging from winter dormancy in spring, and offering late summer glories in bloom from July onward.

Like many other genera of plants, fuchsias have been historically more valued in Great Britain than they have in the United States. As in Great Britain, hardy fuchsias in North America are plants of the seaside and more particularly of seaside areas with moderate summer temperatures, such as are experienced in the coastal West from Vancouver, British Columbia, down to San Francisco, California.

Perhaps one reason why the hardy fuchsia has not acquired the omnipresence in American gardens of, say, the forsythia, is that it refuses to thrive in summer heat. But we have, as accompaniments to maritime Northwest summers, the mist and the shade fuchsias love. They are ideal for Coastal Northwest borders, and easier to care for in a garden location than in a hanging basket. These plants with their height, their remarkable variety of bloom shapes, and their tropical colors lend distinctive character to our gardens and will amaze the waves of summer visitors from more torrid climates.

About 100 species of fuchsias are recorded, all but five occurring from the Magellan Strait north to Mexico, Cuba, Trinidad and Haiti. Odd species in New Zealand and Tahiti would seem to present evidence of continental drift. The species range in stature from creepers to those soaring 30 feet tall, though the tallest in common cultivation seems to grow 8 to 10 feet (the size reached by the cultivar *Fuchsia magellanica* 'Riccartonii' when growing where well adapted).

The genus (pronounced "few-sha") was named by Father Caróle Plumier in 1703 from a specimen he found in Haiti, called *Fuchsia triphylla flore coccinea*. Plumier's name (though not pronunciation) for it honors Leonhart Fuchs (1501-1566), the German physician and botanist whose herbal reference work must have been of importance to Plumier even 140 years after Fuchs's death. The species *Fuchsia magellanica*, native to Peru and Chile, is reliably hardy throughout the Northwest and is the species most often seen in neglected gardens, waving small drooping flowers with crimson petals and purple sepals even where no gardener has worked for years. For garden purposes, the species and cul-

Glossary

Calyx consists of the outermost whorl of flower parts; a collective term for the sepals. Sometimes it is green like the pedicel to which it is joined; sometimes it is very enlarged and may be the color of the flower petals.

Corolla is the whorl of flower parts (petals) inside the calyx; usually a bright color.

Pedicel is the stalk of a single flower.

Sepal is one unit of the calyx, often green.

tivars forming shrubby upright shapes can be the most useful for design in borders, though hundreds of cultivars out of the over 2,000 developed are probably hardy in gardens through maritime Northwest winters, including such familiar basket cases as *Fuchsia* 'Jack Shahan' and *F.* 'Swingtime'.

Sacheverell Sitwell— poet, critic, and gardener among his attributes—spoke of adding hardy fuchsias to gardens as "the easiest and cheapest form of antique collecting" (Sitwell 1939). He reported hedgerows in the west of Ireland, Cornwall and Wales where the "hillsides are red with slow and drooping fires." There, *Fuchsia magellanica* and some of its relatives escaped greenhouses and gardens to establish their own landscapes. Antiques indeed, since the nineteenth century obsession with hybridizing fuchsias produced thousands of cultivars; it's possible to trace the dates of introduction of many available shrubby garden fuchsias back into the early and mid 1800s. These shrubs are thus ideal for accompanying restorations of older gardens.

Other variants on *Fuchsia magellanica* include *F. magellanica* var. *molinae* (= 'Alba'), a graceful bush to nearly four feet. It is laden with soft lilac-pink corolla surrounding a lavender/white tube, resembling the "lady's eardrops" of the Victorian nickname, introduced to England in 1931 from a garden in Chile (Wood 1958). Striking in August and September gardens, *F. magellanica* var. *molinae* blooms tirelessly and stands out against a background of quiescent rhododendrons. *Fuchsia magellanica* 'Riccartonii' (1830), bred in Scotland, has larger leaves and flowers than its parent, with the same familiar crimson-purple color (Wood 1958). Another one to try is *F. magellanica* 'Gracilis', with red tube and sepals, corolla mauve, arching to five feet.

Variations in leaf form and habit also can be found. **Fuchsia procumbens* trails in a lax way, with small creamy yellow flowers that form large, edible—though somewhat tasteless—fruit, with leaves rounded. New Zealand gardeners are reported to produce fuchsia jam (Wilson 1965), lending credence to the idea of a specifically Northwest delicacy, blackberry-fuchsia laid up for holiday gifts. *Fuchsia splendens* has a scarlet tube, green-tipped sepals, a yellow-green corolla, and large oval leaves. Although it may need to be taken in for the winter, *F. splendens* reaches nearly eight feet high when established, the perfect plant for a pretend tropical patio corner.

Hybrids for the Northwest Garden

Dozens of other hardy fuchsias can be found to grace our gardens; hybrids with an upright habit can be effective additions to mixed perennial borders. *Fuchsia* 'Madame Cornelissen' (introduced in Belgium, 1860), shows vividly with bright crimson sepals surrounded by a soft white corolla veined cerise, growing to about two feet.

Fuchsia 'Island Sunset', introduced in the 1980s, has variegated cream, pink, and chartreuse foliage with crimson flowers, grows to about two feet, and suits a shady border with ferns.

Fuchsia 'Joan Leach' presents a rosy corolla and deep lavender sepals on flowers nearly two inches in length. Growing to about two feet, the arching habit accentuates the dramatic colors. This was still blooming on Christmas Day in Seattle during the mild December of 1991. And for those who view the colors of fuchsias as garish—this flower precisely resembles winter sunrise, cerise flaring against dark-shadowed blue clouds.

Another worthy upright is *Fuchsia* 'Winston Churchill' (1942 introduction), redoubtable indeed, lavender blue corolla and pink sepals, and seen forming a 2½′ hedge against a home in Redmond, Washington, striking in August.

Fuchsia 'Lottie Hobby' (Britain, 1839) is a species hybrid, having small single flowers with dark red sepals, corolla scarlet, and tiny serrated stiff leaves on a 1′ shrub with real charm (Wood 1958).

All hardy fuchsias require a deep, well-prepared and compost-laden soil; the better their root establishment, the better their hardiness. They'll bloom in sun or partial shade, and prefer some summer watering and a moisture-retentive soil. Although George Schenk in his shade garden book (1984) specifies *Fuchsia magellanica* for dry gardens, fuchsias are not the plants to depend on in the drought-tolerant landscape.

Contributing to the profusion of fuchsia hybrids is their ease of propagation. Softwood or hardwood cuttings strike with alacrity. If you see a blooming shrub you like while viewing a friend's garden in August, ask for a cutting. Your rooted slip will be ready before frost in a sheltered location or cold frame.

The plants mentioned here all survived the below 10° F cold of winter 1990 in Seattle, and bloomed vigorously in 1991. When tidying the fall garden, hide your pruning shears from the hardy fuchsias. They should be pruned in spring after growth commences; any top growth killed by winter will be replaced by vigorous shoots

around the crown. In milder winters, the woody structure remains and leafs out in spring; though usually deciduous, many hardy fuchsias retained their leaves through the mild December-January of 1991-1992 and were vigorously growing in early February 1992. Thus, these plants alternate between behaving as herbaceous perennials and woody shrubs, depending on winter's severity.

Exploring hardy fuchsias for the home garden is easier, thanks to the tremendous support of local fuchsia societies, which maintain records and plant test gardens. View them at: Carl English gardens near Seattle's Chittenden Locks (Greater Seattle Fuchsia Society); Jennings Park, in Marysville (Pilchuck Fuchsia Society); and Church Creek Park in Stanwood (North Cascades Fuchsia Society). Nurseries and specialty plant sales increasingly offer hardy fuchsias; an unspectacular 4″ pot set out in May will grow vigorously and bloom in its first year.

Hardy fuchsias attract hummingbirds (a glance at the flower shape shows affinity for that long, sharp beak). They bloom freshly when gardens are fading from summer heat and offer multitudes of color choices and possibilities. They also exhibit flair—a late summer kinetic sculpture set to Cole Porter—or castanets. If you're looking for a new plant addiction, start making room for hardy fuchsias.

Mary Robson is a member of The Arboretum Foundation Board of Directors and the editorial board of the *Washington Park Arboretum Bulletin*. She works for Washington State University/King County Cooperative Extension as Master Gardener Coordinator. Mary has collected hardy fuchsias for seven years.

Photographer Joy Spurr is a member of Unit 81 of The Arboretum Foundation. Her plant photos are published internationally.

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SOME HARDY FUCHSIAS FOR NORTHWEST GARDENS

A few species. . . and variants. . .

Fuchsia magellanica: graceful bush to 6 feet, deep crimson/purple flowers.

F. magellanica var. *molinae*: carries soft pink-lavender flowers, prominent white anthers; rock hardy; to 5 feet.

F. magellanica var. *macrostema*: another shrub-sized beauty; slender flowers and leaves; vigorous red/purple.

F. splendens: shrub to 8 feet, leaves rounded, sepals green-tipped, corolla yellow-green.

Some cultivars. . . of many available. . .

Fuchsia 'Lottie Hobby': minute serrated leaves, tiny single flowers red/scarlet; to 12 inches; a fuchsia for the dollhouse garden.

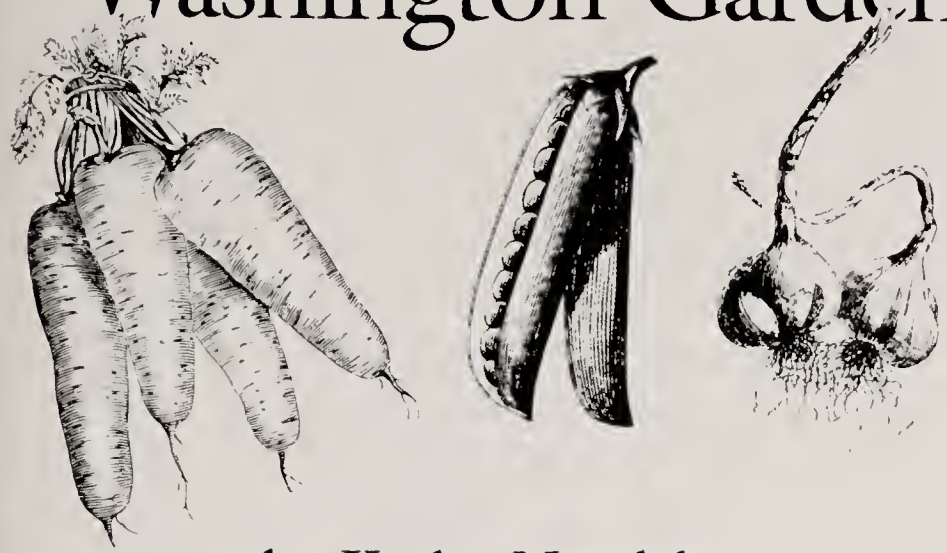
F. 'Madame Cornelissen': color contrast in crimson/white; may be semi-doubled flowers; upright to 2 feet.

F. 'Winston Churchill': upright to 2 to 2½ feet; deep pink sepals, corolla purplish; handsome hedge or accent in border.

F. 'Joan Leach': flowers nearly 2″ long, corolla in purple with peachy-pink sepals; a beauty to 18 inches; slightly trailing.

F. 'Island Sunset': tri-colored leaves in green, cream and pink; small bush to 18 inches; rosy flowers.

The First Washington Garden



by Kathy Mendelson

The first garden and the first exotic trees in what would become the State of Washington were planted not far from the water's edge by an open bay at the tip of the Olympic Peninsula. The year was 1792, exactly 300 years after the first Spanish expedition to the New World.

Here on the blustery Northwest coast, the first gardeners were Spaniards. They were part of Spain's efforts to occupy the region, a venture that began across the water on Vancouver Island in present-day British Columbia. Neither farmers nor gourmets, the Spaniards took up vegetable gardening for practical reasons: they needed fresh vegetables to supplement their provisions and to stave off scurvy. The stories of this and other early gardens on the Northwest coast are recorded in diaries and ships' logs of the time. Rich in detail, these first-person accounts tell of agriculturists and plant explorers, of indigenous peoples and native plants, and of familiar crops, as well as those that have been long forgotten.

The Europeans were, of course, not the first to know this region. For thousands of years before the Europeans, native peoples lived along the Pacific coast. For food, water, shelter, energy, and other basic needs, they found a cornucopia of resources. Jose Mariano Moziño, a Spanish botanist and physician who visited Vancouver Island in 1792, recorded some of the plants the Native Americans used. Although he identified some plants incorrectly, his writings describe a wide variety:

> . . . they do not fail to eat the vegetables that grow wild during the summer. For them the juicy berries of the andromeda are the most delicate fruit. They also consume with pleasure the three species of blackberries that grow among their forests; the vaccinium [huckleberry or blueberry], crab apples and wild pears, madrone berries, currants, and strawberries. The flowers and fruit of the wild rose haw, the silver weed, the tender stalks of the angelica, the leaves of the lithosperm, the roots of the trailing clover, and the scaly onionlike bulb of the Kamchatka lily are the vegetables which providence appears to have provided them . . . . [brackets in original][1]

The Native Americans gathered plants and even burned open fields from time to time to prevent trees and shrubs from invading meadows where the indispensable camas grew. Typically, however, they did not till the soil. Joseph Whidbey, who visited the area with George Vancouver in 1792, reported only one crop in cultivation. He took it to be tobacco.[2] Later botanists doubt that tobacco would tolerate this climate, but have yet to identify the plant Whidbey saw in cultivation.

Although the Native Americans on the Northwest coast were not gardeners, the Europeans were. Even though the first outposts here sometimes only lasted a summer, there typically was a garden. Food from these gardens supplemented provisions. Perhaps more importantly, fresh produce prevented scurvy, a disease that had long ravaged crews. Men with this vitamin C deficiency suffered a host of symptoms and grew so weak they became bedridden. Some crews were so stricken that there were not enough able-bodied men left to set the sail.[3] On extended voyages, scurvy might claim more than two-thirds of a crew.[4]

Though theories abounded on how to prevent scurvy, it was British naval officer Captain James Cook who finally began solving this riddle. He knew that fresh fruits and vegetables prevented scurvy and advocated acquiring fresh foods wherever possible. Though European and American explorers traded with local peoples for fresh food, cultivated gardens became a reliable source of vegetables. Alessandro Malaspina, an Italian explorer sailing for Spain (as was Columbus three centuries before), recognized the importance of these gardens. He wrote:

> If the vegetables had not taken hold so quickly, circumstances would have been disagreeable and possibly fatal; but the facility with which cabbage, lettuce, onions, garlic, chard, radishes, turnips, carrots, parsley, and artichokes began to take on vigour certainly led many more to the useful occupation of cultivation, but also placed a great obstacle to the relentless inroads of scurvy.[5]

One of the Spanish subsistence gardens was planted at present-day Neah Bay by Spanish troopers under the command of Salvador Fidalgo. They named this outpost Puerto de Nuñez Gaona, after a commodore in the Spanish navy. Fidalgo arrived at Nuñez Gaona on May 29, 1792, after a two-month voyage from San Blas, a Spanish naval base in Mexico.

On board, Salvador Fidalgo carried supplies and tools with which to build his settlement and seeds for the garden. Because it was so late in the growing season, he also carried starts ready to transplant from San Blas.[6] Fidalgo built his settlement not far from the beach, near a creek that supplied fresh water. He and his men cleared trees and brush, built rough shelters, and planted a garden. By turning the soil and sowing seeds, Fidalgo made gardening history. He planted the first garden in what would become the State of Washington.

Only a few people ever saw the garden established by Fidalgo's crew. One of them, American Joseph Ingraham, reported that the garrison "... consisted only of a few huts and tolerably good garden."[7] Two Spanish schooners, the *Sutil* and the *Mexicana* also called at Nuñez Gaona in 1792. An account of that voyage includes the following description:

> Fidalgo had selected and caused to be cleared a site fit for a garden, and the mastic trees which the commander had brought from San Blas were already being planted in it."[8]

What were these mastic trees? No one knows for sure. Perhaps they were one of three species known commonly today as mastic trees: *Mastichodendron foetidissimum*, *Pistacia lentiscus*, and *Schinus molle*. Representatives of the *Pistacia* and *Schinus* genera can be seen in the Washington Park Arboretum. *Pistacia chinensis* is located on the east side of the Hillside Trail near the rock roses. *Schinus patagonicus*, near the bottom of Loderi Valley, is located near the flame azaleas.

Mastichodendron foetidissimum was valued for its wood,[9] a commodity little needed on the Northwest coast. The *Pistacia lentiscus* is a Mediterranean shrub. The ancient Greeks knew this mastic, and prized its fragrant resins. So did Christopher Columbus, and other Europeans at the time of the voyages of discovery. Still, it typically did not produce its valuable resins when planted outside the native range.[10] Therefore, it is unlikely that *P. lentiscus* was an early introduction to the New World. The third mastic, *Schinus molle*, may be the one that was planted at Nuñez Gaona. Native to the Andes, this mastic was valued for at least three reasons: good berries for wine, medicinal bark, and the production of a useful gum known as American mastic.[11] The Spanish planted it throughout Mexico and the American Southwest; they may have sent it to the Northwest Coast, as well. No matter which mastic was introduced, it was not destined to survive. The tiny settlement at Nuñez Gaona was abandoned by the end of September. The bay offered inadequate shelter from winter storms, and Spain's interest in the port had waned.

There are few other descriptions of Nuñez Gaona, but the gardens may have been similar to those at an older and larger Spanish outpost on Vancouver Island. Located on the west side of the island at Nootka Sound, this outpost was the center of the sea otter trade. In 1790, Pedro Alberni assumed command of the garrison there and planted an extensive garden. He tested varieties to see what would grow in the cool, maritime climate. To find the best time to sow, he planted crops at one-month intervals.

Alberni kept detailed records. He found that "... cabbage, garlic, and onions grew best in summer. Lettuce and radishes grew into late fall. Potatoes, beans, and peas grew in abundance as did carrots and artichokes. Garbanzos, corn, wheat, tomatoes, and squash did not seem to develop as well..."[12] In all, Alberni tried at least nineteen different crops. Most, like beets and spinach, are familiar. Others, like barley, are well-known but now are grown elsewhere. Still others, like saltwort, are little known.

Alberni's garden drew the attention of visitors to Nootka Sound. Malaspina reported some extraordinary crops, like "turnips three spans [27 inches] in circumference and lettuces of nine spans [81 inches] in the upper parts of the leaves."[13] Like Malaspina, Archibald Menzies toured the gardens. Menzies was a member of George Vancouver's 1791-1795 expedition and reported that the "European garden stuffs ... grew here very luxuriantly."[14] During this time, he gathered plants, including salal, big-leaf maple, arbutus, and Douglas-fir branches.

Despite their success, these first gardens would soon be abandoned, as changing times drew their caretakers elsewhere. Today, there are few traces of them on the Northwest coast. The original sites

have been converted to modern uses or reclaimed by the forest or the sea. Although the gardens are gone, a potato thought to have been introduced by the early explorers survives. Named Anna Cheeka's Ozette Potato, this variety has been grown by the Makah at Neah Bay for generations, and is now available in the horticultural trade.[15] The Ozette is a reminder of where gardening began some 200 years ago here in the Northwest.

Notes

[1] Jose Mariano Moziño. *Noticias De Nutka, An Account of Nootka Sound in 1792*, University of Washington Press, Seattle, 1970, p. 20. Further details on native plants, including both 18th and 20th century names, are included in Alexander Walker's *An Account of a Voyage to the North West Coast of America in 1785 & 1786*. Seattle: University of Washington Press, 1982.

[2] Archibald Menzies. *Menzies' Journal of Vancouver's Voyage, April to October, 1792*. Victoria, B.C.: Printed by W. H. Cullin, 1923, p. 141.

[3] Warren L. Cook. *Flood Tide of Empire, Spain and the Pacific Northwest, 1543-1819*. New Haven: Yale University Press, 1973, p. 77.

[4] Warren L. Cook, p. 397.

[5] Donald C. Cutter. *Malaspina and Galiano, Spanish Voyages to the Northwest Coast 1791 and 1792*. Seattle: University of Washington Press, 1991, p. 78.

[6] Warren L. Cook, p. 350

[7] Joseph Ingraham. *Journal of the* Brigantine Hope *on a Voyage to the Northwest Coast of North America, 1790-1792*. Barre, MA: Imprint Society, 1971, p. 203.

[8] Henry R. Wagner. *Spanish Explorations in the Strait of Juan De Fuca*. Santa Ana, CA: Fine Arts Press, 1933, p. 233.

[9] George Usher. *A Dictionary of Plants Used by Man*. London: Constable & Co., Ltd., 1974, p. 539.

[10] U.P. Hedrick, editor. *Sturtevant's Edible Plants of the World*. New York: Dover Press, 1972, p. 440.

[11] George Usher, p. 529.

[12] Joseph P. Sanchez. *The Catalonian Volunteers in Northwestern New Spain, 1767-1810*. Albuquerque: University of New Mexico Press, 1990, p. 95.

[13] Alessandro Malaspina. *Politico-Scientific Voyages Around the World by the Corvettes Descubierta and Atrevida: Under the command of the naval captains Don Alexandro Malaspina and Don Jose de Bustamente y Guerra from 1789-1794*. (translated by Carl Robinson, 1934). Madrid: no publisher, 1885, p. 235.

[14] Archibald Menzies, p. 111.

[15] Ozettes are offered by Ronniger's Seed Potatoes, Star Route, Moyie Springs, ID, 83845. Catalog, $2.

Kathy Mendelson is a Kirkland-based horticulturist. She is studying the people and plants that shaped the history of gardening here in the Northwest.

In the Washington Park Arboretum

by Lynda J. Ransley

Something new and different has been planted in the Washington Park Arboretum recently. We have proudly "accessioned" six of these special clones into our collection. Visitors are welcoming them with comments like "What a nice addition" and "It's about time!" These latest additions are not rare magnolias, nor are they the "perfect" ground cover for dry shade. Rather, they are a series of orientation panels that have been installed to aid you in using and understanding the Arboretum.

The orientation panels display "You-are-here" maps, information about the extent and organization of the collections, how to find your way, Arboretum history and mission, use policies, regulations, visitor services, and collection highlights. Find them at key visitor access points: the Graham Visitors Center, the Lookout parking lot, the Japanese Garden parking lot, along Azalea Way near the Boyer Avenue entrance, near the historic Lynn Street pedestrian bridge, and adjacent to the Lagoon parking area.

You also may have noticed the close relatives of the orientation panels: interpretive signs. These signs have sprung up around the grounds since 1990 to help you better understand and use the Arboretum and its plant collections. They offer explanations and illustrations that elaborate upon concepts relating to the plant collections. Interpretive projects include:

The Joseph A. Witt Winter Garden: Entrance signs commemorate former curator Joe Witt and describe the garden's design and function. Story labels explain about the plants and how to create winter gardens.

The Herschel Roman Rhododendron Genetics Display: Midway along Azalea Way,

Lynda J. Ransley

south of the Woodland Garden, find a large illustrated panel that describes rhododendron hybridizing and explains the plants in the display.

The Brian O. Mulligan *Sorbus* Collection: Entrance panels to the *Sorbus* collection will be installed in the early spring. They will honor Brian Mulligan and contain descriptive information and an orientation map. In addition, story labels highlight interesting facts about the genus *Sorbus* and the collection.

Native Plants: This interpretive project is nearing completion and includes signs and an accompanying interpretive booklet. The signs and booklet will contain information on specific native plants and their potential for use in home landscapes, as well as an explanation of how natives are used in the Arboretum.

These visitor services are made possible through the generous support of The Arboretum Foundation, the Chevron Companies, and private donations. We are excited about such endeavors because they enhance the user friendliness of the Arboretum and add greater interest to our plant collections, while making them useful to a wider audience.

Saplings

We are preparing for a busy spring for children in the Arboretum. In 1991, over 4,000 children participated in our school and family programs. A special facet of our children's program, known as Saplings, continues to be very popular. Initiated by The Arboretum Foundation in 1987, it has continued to grow and change. It is now administered through the Arboretum Education Program, and offers a combination of native plant study walk with thematic hands-on activities. We change the activity themes each season.

This spring we offer school groups three choices: Wildlife Habitats of Foster Island, Plant Propagation, and Nature's Recycling. The recycling program is offered in cooperation with Seattle Tilth, a non-profit group interested in composting, ecological food production, and sustainable forestry. Each program is designed to be engaging and fun, while teaching important environmental concepts. A special gift from the Madison Park Garden Club will help support the Saplings.

Lynda J. Ransley is education coordinator for the Washington Park Arboretum, University of Washington Center for Urban Horticulture.

Book Reviews

The Yew Tree. Hal Hartzell, Jr. Hulogosi, Eugene, Oregon, 1991. 319 pages. ISBN 0-93849373-2. $19.95.

What a wonderful surprise this book turned out to be. I expected a ''quick-and-dirty'' account of the yew, capitalizing on its current notoriety. Instead, I find a remarkable blend of scholarship, sensitivity, and love; this is truly a monograph in the best sense of the word.

The book's subtitle, *Biography of the Yew*, could just as well have been ''The Natural and Cultural History of the Yew.'' The yew has been a part of the human drama for centuries; the old world species, *Taxus baccata* and *T. cuspidata*, have played a major role in the development of European and Asian civilizations. And now, in the 1990s, our native yew (*T. brevifolia*) comes out of its obscure niche in the forests of the Pacific Northwest to claim high status in human affairs for its remarkable capacity in arresting cancer. In short, western yew's potent chemical—taxol—is now the buzz word in forestry, pharmacology, and conservation circles.

Hartzell's sensitive and thorough coverage of yews ranges worldwide, but with major focus on *Taxus baccata* (English yew) and western yew (*T. brevifolia*). Part I deals with the cultural attributes of old world yews: mythological qualities, sacred contexts, and historical impact.

Part II gives the reader a thorough account of the genus *Taxus*: its botany and biogeography. Most is known about *Taxus baccata*, which gets the lion's share of attention in Hartzell's book. Its many cultivars are briefly reviewed, along with the traditional garden uses—hedges and topiary. Part III (Living Witness to Human History) gives a rich account of ancient living yews and their close affinity to English church yards. Parts IV and V take on North American yews, of which the western yew is the most critical—for its own survival's sake and for its yield of taxol. In these chapters, Hartzell takes the reader from the natural history of western yew through its role in native American cultures to the ''Modern Dilemma.'' That dilemma—Will the harvest of yew bark be the death of the species?—has yet to be resolved. The sections on taxol, yew bark harvesting, and alternatives to decimating the native stands are covered in thorough, readable style.

The epilogue of the book reveals the poetic image of yew in literature, and indeed, the poetic sense of the author. No denying, I am enamoured of this book, a true ''life-history'' of an important group of plants. May others like it come along to treat in scholarly and reverential fashion other plants so notably intertwined with humanity and wild nature.

For gardeners and horticulturists, the many parts of the book dealing with the botany and traditional garden uses of yew make it worth the purchase alone. But its big message is the issue of preservation of yews—worldwide and here in the Pacific Northwest.—*Reviewed by Arthur R. Kruckeberg*

Arthur R. Kruckeberg is professor emeritus and former chair of the Department of Botany, University of Washington, Seattle, where he has been since 1950. His areas of research are plant ecology and genetics of species differences. Kruckeberg was one of the founders of the Washington Native Plant Society and consults on environmental impacts, plants and vegetation. His most recent book is *The Natural History of Puget Sound Country*.

Hardy Heather Species. Dorothy M. Metheny. Frontier Publishing, Seaside, Oregon. 1991. 186 pages. ISBN 0-939116-29-4. $39.95 ($24.95, softcover).

Pacific Northwest gardeners enjoy a climate well suited to growing heathers. However,

most of the available books about heathers and heather culture were written by Europeans. Dorothy Metheny's new book, *Hardy Heather Species*, is one of the first books written by Americans about American-grown heaths and heathers. It enables gardeners to identify the plants they are growing and thus be able to learn more about them.

Mrs. Metheny has traveled extensively and is a recognized and respected member of the British Heather Society; a cultivar she discovered in the United Kingdom was named in her honor. She is also an active member of the North American Heather Society which she helped organize in 1977 as the Pacific Northwest Heather Society.

Approximately 30 hardy heather species and hybrids being grown in North American gardens are described in the book. Each species description includes line drawings by the author of foliage and flower form in considerable detail—sufficient to identify the species from specimens in hand. Also included is a discussion of historic background, etymology of names and world distribution, both natural and cultivated.

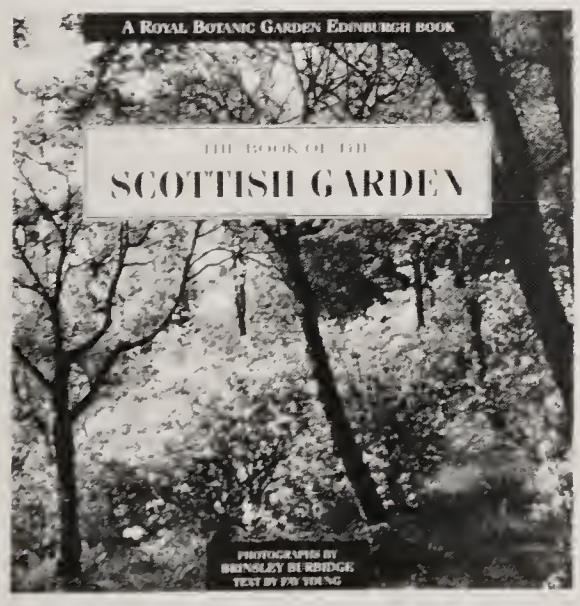
What really brings the book to life are the anecdotal notes and bits of information included. Comments are made about the growth habits, color display, and idiosyncrasies of a few cultivars in each species. Sources are the author's own 55 years of experience in growing heathers and information shared by other heather growers, both experts and amateurs, from all over the world. A list of over 350 cultivars available from North American nurseries in 1990 promotes correct nomenclature.

Included are chapters on culture, propagation, and maintenance by prominent heather growers in North America. Several knowledgeable contributors are Alice and Bob Knight, Art Dome, Donald A.M. Mackay and Judy Young, who lend their expertise in several chapters. As a result, this book will advance heather culture in North America and provide information not previously available to most gardeners.—*Reviewed by Lloyd Eighme*

Lloyd Eighme, a retired professor of biology, currently lives in Skagit County, Washington. Dr. Eighme has written before about heathers and taught classes such as "Plant Materials for Landscaping" and "Home Greenhouse Gardening." He is immediate past president of the North American Heather Society and has been collecting and growing heathers for over 30 years.

The Book of the Scottish Garden—A Royal Botanic Garden Edinburgh Book. Fay Young and Brinsley Burbidge (photographer). Timber Press, Portland, Oregon. 1991. 167 pages. 236 color photos. ISBN 0-88192-213-7. $29.95.

Primarily, this book is a photographic recording of 52 public and private Scottish gardens by Brinsley Burbidge, a photographer of the first rank. For many years Burbidge was Principal Scientific Officer at the Royal Botanic Garden, Edinburgh, and is now head of the Information and Exhibitions Division at the Royal Botanic Garden, Kew, London. Many of the book's illustrations show unusual plants growing at the Royal Botanic Garden, Edinburgh, both outdoors and in the large greenhouses.



Mrs. Young is responsible for the text, organized under five principal divisions: Gardens in the Landscape (with Drummond Castle as the prime Scottish example); Wild, Woodland and Water Gardens (Benmore, Keir, and Crarae); and House and Garden (Falkland Palace, Kellie Castle, and Pitmedden). The introduction reviews some of the notable plant explorers of Scottish origin over the past 200 years who are responsible in varying degrees for so many plants that are now grown and enjoyed in gardens throughout the world.

This beautiful and informative work concludes with a map showing the locations of the gardens discussed and opening dates, as well as an index.—*Reviewed by Brian O. Mulligan*

Brian O. Mulligan is director emeritus of the Washington Park Arboretum and lifetime member of the *Washington Park Arboretum* editorial board.

New on the Shelves
of the Elisabeth C. Miller Library

by Valerie Easton

Brookes, John. *The Book of Garden Design*. New York: Macmillan, 1991. ISBN 0-02516-695-6.

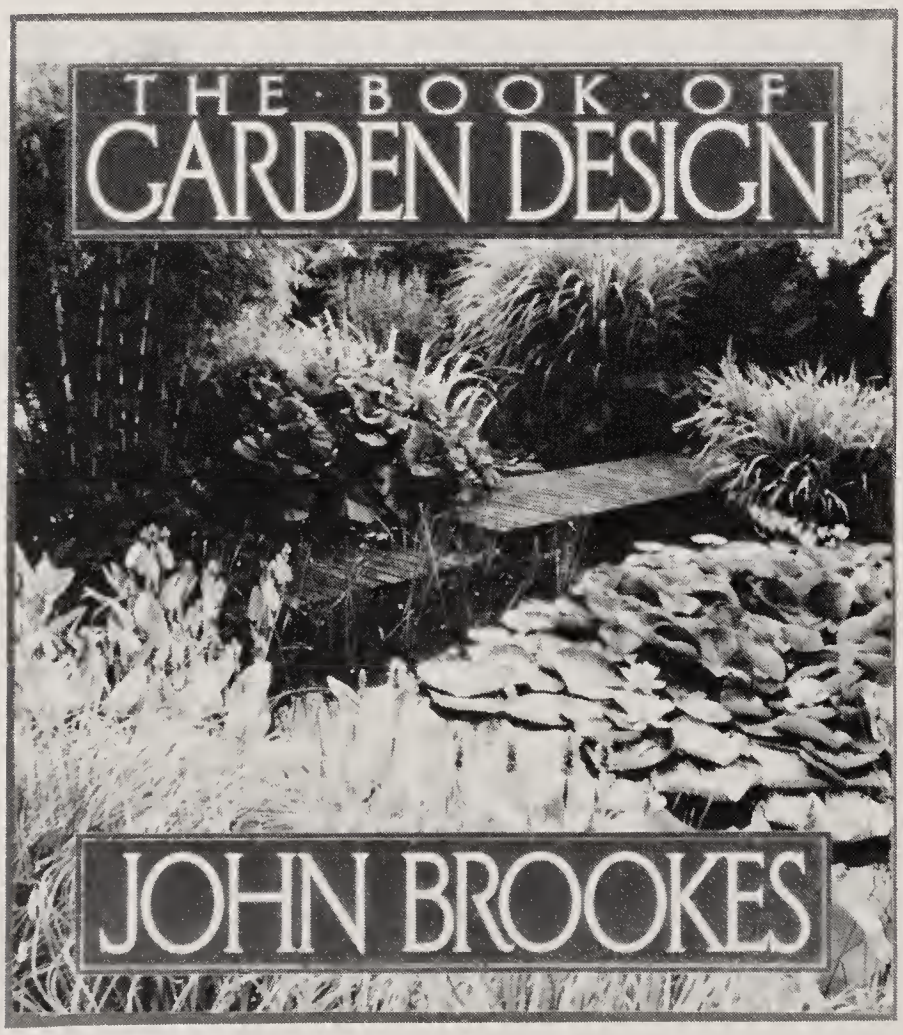
Creasy, Rosalind. *Cooking from the Garden*. San Francisco: Sierra Club Books, 1988. ISBN 0-87156-731-8.

Elias, Thomas S., and Peter A. Dykeman. *Edible Wild Plants: A North American Field Guide*. New York: Sterling Publishing, 1990. ISBN 0-8069-7488-5.

Falk, Donald A., and Kent E. Holsinger, eds. *Genetics and Conservation of Rare Plants*. New York: Oxford University Press, 1991. ISBN 0-19-506429-1.

Grenfell, Diana, and Roger Grounds. *The White Garden*. North Pomfret, VT: Trafalgar Square Publishing, 1991. ISBN 0-943955-36-X.

Hart, Rhonda Massingham. *Bugs, Slugs, & Other Thugs: Controlling Garden Pests Organically*. Pownal, VT: Storey Communications, 1991. ISBN 0-671-72253-0.



Horinaka, Akira. *The Pictorial Book of* Iris laevigata. Japan: Abocsha, 1990. ISBN 4-900358-24-X.

Jones, Pamela. *Just Weeds: History, Myths, and Uses*. New York: Prentice Hall Press, 1991. ISBN 0-13-514118-3.

Lacey, Stephen. *Scent in Your Garden*. Boston: Little, Brown and Company, 1991. ISBN 0-316-51169-2.

Lanier-Graham, Susan D. *The Nature Directory: A Guide to Environmental Organizations*. New York: Walker and Co., 1991. ISBN 0-8027-7348-6.

Packer, Jane. *Flowers for all Seasons: Winter*. New York: Fawcett Columbine, 1989. ISBN 0-449-90414-8.

Flowers for All Seasons: Spring. ISBN 0-449-90363-X.

Flowers for All Seasons: Summer. ISBN 0-449-90412-1.

Flowers for All Seasons: Fall. ISBN 0-449-90413-X.

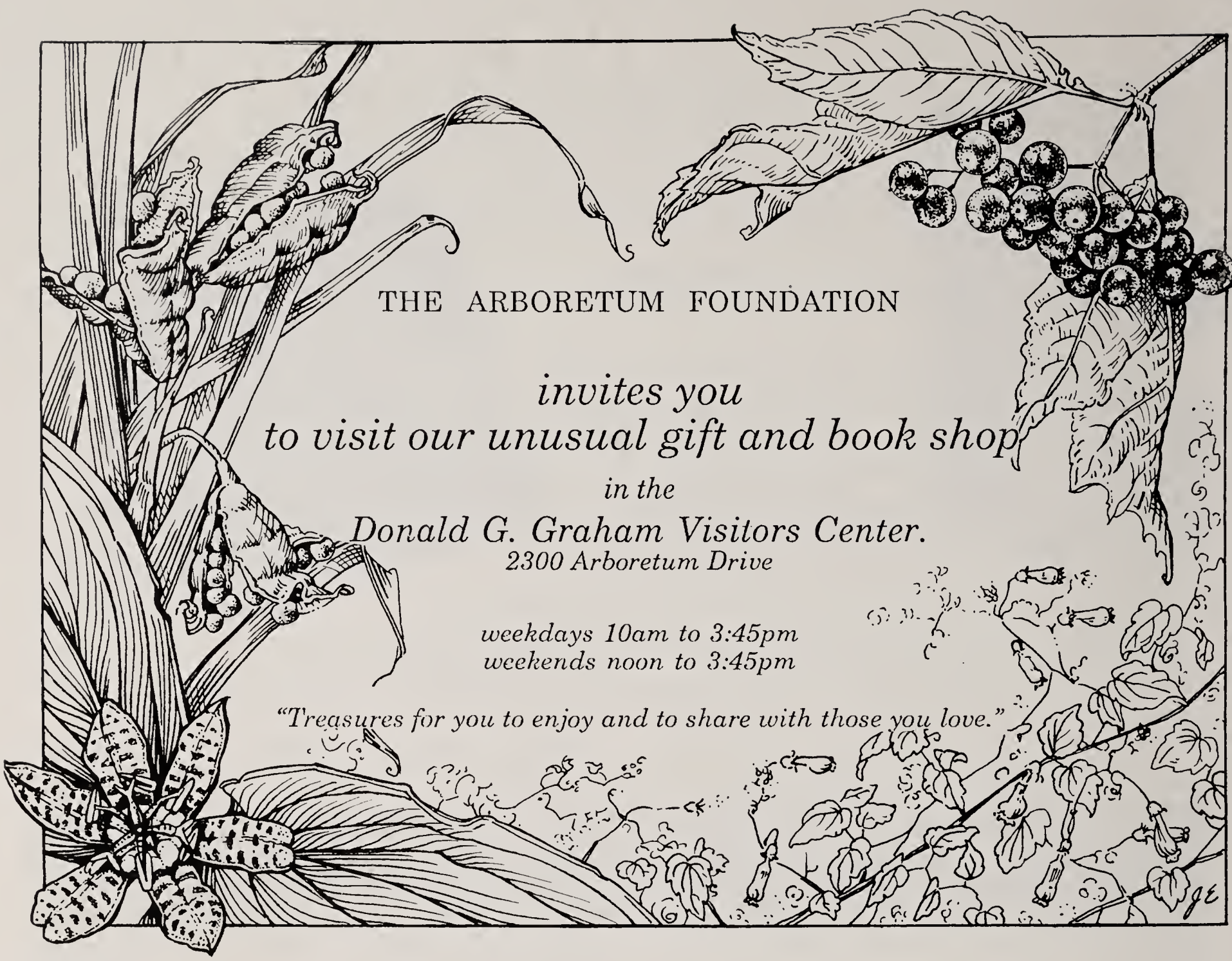
Proctor, Rob, and Rob Gray. *Annuals: Yearly Classics for the Contemporary Garden*. New York: Harper Collins, 1991. ISBN 0-06-01634-3.

Van Zuylen, Gabrielle, and Marina Schinz. *The Gardens of Russell Page*. New York: Stewart, Tabori & Chang, 1991. ISBN 1-55670-170-5.

Welch, Humphrey J. *The Conifer Manual*. Vol. 1. London: Kluwer Academic Publishers, 1991. ISBN 0-7923-0616-3.

All of these books can be found in the Elisabeth C. Miller Library, Center for Urban Horticulture, University of Washington. Call the library at (206) 543-8616 for current hours.

Valerie Easton is a librarian at the Elisabeth C. Miller Library, University of Washington Center for Urban Horticulture, Seattle. She is a member of the editorial board of *The Washington Park Arboretum Bulletin*.



WASHINGTON PARK
ARBORETUM

The Bulletin is published by
The Arboretum Foundation
Washington Park Arboretum
University of Washington XD-10
Seattle, Washington 98195

Nonprofit Org.
U.S. Postage
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Permit No. 126

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