Washington Park Arboretum

The Arboretum is a 230-acre dynamic garden of trees and shrubs, displaying internationally renowned collections of oaks, conifers, camellias, Japanese and other maples, Hollies and a profusion of woody plants from the Pacific Northwest and around the world. Aesthetic enjoyment gracefully co-exists with science in this spectacular urban green space on the shores of Lake Washington. Visitors come to learn, explore, relax or reflect in Seattle’s largest public garden.

The Washington Park Arboretum is managed cooperatively by the University of Washington Botanic Gardens and Seattle Parks and Recreation; the Arboretum Foundation is its major support organization.

Graham Visitors Center

Open 10 AM—4 PM daily; holidays, Noon—4 PM. Closed University of Washington holidays. The Arboretum is accessible by Metro Transit buses #11, #43 and #48. For more information: www.metrokc.gov

Arboretum Foundation

The Arboretum Foundation’s mission is to create and strengthen an engaged community of donors, volunteers and advocates who will promote, protect and enhance the Washington Park Arboretum for current and future generations.

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ABOVE: Evergreen leaves and summer-blooming flowers make *Magnolia grandiflora* (left) a tree with year round attractions for Pacific Northwest gardeners; read about the Arboretum’s magnolia collection beginning on page 17. *Symplocos* (right) is a small tree with evergreen leaves and sweet-smelling, translucent blooms that is native to Sichuan Province in China; read about plant-hunting in Sichuan Province beginning on page 12. (Photograph of *Symplocos*: Rizaniño H. Reyes)

ON THE COVER: *Pleione formosana* ‘Blush of Dawn’ is an East Asian terrestrial orchid that makes a shy appearance each spring at Bloedel Reserve’s Woodland Glen. For a tour of four Washington State public gardens that put on spectacular spring shows, turn to page 20. (Photograph: Richard A. Brown)
Have you ever noticed how many people of Chinese heritage have phone numbers like 888-8888 or car tabs like WA8-8888? Why? Eight is their lucky number. In Chinese, the word for eight, "ba," is a homophone for wealth or prosperity. And so it is quite fitting that 2008 promises to be a particularly fortunate year for three Pacific Rim gardens here in Seattle.

This spring, after many years of dreaming and planning, our friends at the Seattle Chinese Garden are building their first courtyard, named "Knowing the Spring." Designed by the Park Bureau of our sister city of Chongqing, in partnership with the famed Seattle design firm of Jones and Jones, this 4.5-acre classical garden is situated high on a plateau in West Seattle at South Seattle Community College. The first garden built in the ancient Sichuan style outside of China, it is expected to be substantially completed and dedicated on a most auspicious day in August—8/8/08! Congratulations to our sister public garden.

If the campaign to build the Chinese Garden has been a longstanding one, the fundraising effort for the new Entry Gatehouse at the Arboretum's own Japanese Garden has been brief, intense and successful beyond anyone's hopes. After four months of work last summer and fall, the project's campaign team more than reached its goal. With the generous support of a lead gift of $200 thousand from the Tateuchi Foundation, we have raised more than $1 million in private contributions to match the $450 thousand in Pro Parks Levy money promised to the project. The City of Seattle will begin construction of the Gatehouse by early summer and expects to complete the project by year's end. Congratulations to the Japanese Garden Advisory Council, the Friends of the Japanese Garden, and all of the donors who worked with the Department of Parks and Recreation and the Arboretum Foundation to realize the dream for an entrance worthy of our gem of a Japanese Garden.

And finally, we have been hard at work this winter and spring on the Arboretum's Pacific Connections Garden. The upper drive has been closed for months, as piles of rock, gravel, earth and compost have been brought to the site. The area for the Cascadia focal forest has been graded, new paths and retaining walls are being installed, the meadow planted, and the new interpretive shelter constructed. Soon the five Pacific Rim entry gardens representing China, Chile, Australia, New Zealand and Cascadia will be planted. Please look for the announcement of their dedication and come help us celebrate the opening of these five new gardens next summer or early fall.

Spring is the season of rebirth and renewal in the garden. This spring I feel especially fortunate to be celebrating the completion of my first year with the Foundation, to be awaiting the birth of my first grandchild, and to be here in the Washington Park Arboretum as we begin to realize the dreams of so many who have worked so hard to renew and enhance this great place. It is a lucky year indeed.

Paige Miller, Executive Director, Arboretum Foundation
The author writes a sweeping account of mulch, giving beginners and experienced gardeners everything they need to know about a material that is crucial to any successful bed or border. Part II follows in the Summer 2008 issue of the “Bulletin.”

Mulch, An Epic: Part I

By Cass Turnbull

As a professional gardener, and especially as a professional weeder, I have a lot to say about mulch. And, as always, I specialize in explaining the basics to the newly addicted gardener. Here’s the scoop on mulch:

What is mulch?
Mulch is any material that you spread as if it were a blanket over the top of the ground. It can be made out of many different products, including compost, wood chips, pine needles (pine straw) and even rocks and “scree” for desert or rock gardens. Gardeners usually use products that are easily found in their region of the country. In the timber-producing Pacific Northwest, most of our mulches originally were conifer-based wood products, such as bark. Then we moved to sawdust-based composts like Steerco™, which is a mix of sawdust and steer manure, hot-composted for three months. Since the City of Seattle recently started recycling green waste such as leaves, grass and weeds, we now have many yummy “clean green” products available, too.

Why mulch?
Mulch keeps moisture in the ground and moderates temperature extremes—so, for example, roots don’t freeze in the winter. Mulch protects and sometimes improves the soil, and it suppresses weeds. Incidentally, it makes the landscape look fresh and clean, as if it has had a new coat of paint. But the look of fresh mulch should never be its primary purpose, as that can lead to mulch abuse, which is discussed below.

To me, bare ground is an anathema. It is unthinkable to weed a garden and not follow it up with mulch. What a waste of time. I remember consulting at a nice, elderly lady’s home, where she showed me a flower bed, thick with chickweed, about four inches below the level of the lawn. “It’s just so much work. I weed it thoroughly and in just a month it’s chock full of weeds again!” she exclaimed. I noticed that the soil was ‘impoverished,’ meaning it looked sandy and depleted of nutrients. This situation was the result of years and years of weeding off the top layer of soil and tossing it out with the annual weeds. Keeping a two- to three-inch layer of mulch on top of the bed would have protected the soil—since it would be the mulch particles on the weed roots being removed, not the soil—and would have reduced her weeding chores by about 80 percent.

You should know that the process of weeding and mulching for maximum success and minimum ill effect is more complex than
one would hope. Dang! Although cutting corners may seem to work well at first, it can get you into big trouble later on. So, like following your doctor’s advice, you can’t just pick the parts you want to do and skip the rest. You have to follow all of the advice.

How it works

Mulch cuts down your weeding chores by smothering the billions of invisible weed seeds that already exist in and on your soil. But be aware that mulch will not prevent the germination of new weed seeds that blow into your yard and land on top of the mulch. Annual weeds, such as fireweed, shot weed and chickweed, can grow up, set seed, germinate and turn into new weeds in only one month!

Almost all commercially sold mulches are “sterilized” by the hot compost method. In hot composting, the pile is big enough, and turned often enough, to cook itself as it decomposes. When the mulch is sterile, there are no weed seeds or disease organisms in it. If people complain that the mulch they bought had weed seeds in it and didn’t work as it should, it usually means that they spread it and then abandoned it. In other words, they allowed a nearby patch of weeds—in the lawn, from under the fence, or from dirt they dug up when they planted a new shrub—to go to seed on top of the mulch. During only one year of neglect, generations of seeds will re-colonize the bed.

As a result, the temptation is to weed and mulch everything again yearly. This strategy doesn’t work. Ideally you should not re-mulch until the original layer wears thin, in about three to five years. Simply reapplying mulch every year will submerge the shrubs and the soil, sometimes in multiple layers of hydrophobic (water-repelling) material. This is an all-too-common scenario among lazy landscapers and new homeowners who are trying to evade the hard work of “hand weeding.” And it is, I believe, why some experi-

enced horticulturists hate Steerco, which is my favorite mulch. They are responding to the effects of years of mis-application of the product, not the product itself. Mulch can reduce, but it cannot eliminate, hand weeding.

Okay, occasionally, there are a few viable seeds in a commercial batch of compost. Generally they are radish, tomato or pot seeds that somehow withstand the hot compost process. But they are easily scuffle-hoed out, which you only need to do once. A nice thing about mulch is that it is fluffy, so that any new weeds that do germinate are relatively easy to pull up. This is unlike the agony of weeding in clay, where no matter how diligently you dig and pry, some tiny bit of morning glory root or dandelion remains to rise again, like every movie villain since Carrie.

Bed Preparation

As the first step, you need to do the proper bed preparation. The beds must be thoroughly weeded. All annual weeds, such as the shot weed, fireweed and chickweed mentioned above, are easy to scratch, tickle or scuffle-hoe loose. The carcasses of annual weeds can just be left in the beds and buried by mulch, if you want to save some time. And don’t miss the weeds hiding inside the crowns of perennials and shrubs. They are the fifth column of new weeds, because they will quickly seed on top of your mulch, thereby negating its beneficial effect. Such weeds spread like a contagious disease.

On the other hand, perennial weeds, such as grass, dandelions and buttercups, need to be carefully dug up with the pokey tool and tossed out. If their roots are not removed before you mulch, they will grow back and be harder (and perhaps even impossible) to get out. They just stretch their necks to reach the sunlit surface, while their roots are so far down that you can’t get to them with your pokey tool! Arghgh. You can try to weed out a dandelion for the next hundred years, but it
will always grow back, since that last little bit of root remains too deep to access. For this reason I recommend that when you weed a virgin bed, you do it twice. Wait one month from your first weed session to see who escaped! It is usually the dandeli-ions. Dig, dig, dig. If you decide to skip the re-weed, you might resort to a tiny-spritz of glyphosate (Roundup™) to stop that eternal, infernal dandelion.

Another overlooked detail regarding bed preparation is the addition of a “reveal.” This is a one- to two-inch trench, dug with a half-moon edger or spade, all around the edges of the bed. Its purpose is to keep the mulch in place, so it won’t spill out in an unattractive manner onto the lawn or walkway. Edging all of your beds at least once a year in this way will also help stop the march of grass and weeds into the beds—and it really makes things look sharp! The first time my boyfriend—now my husband—edged all my beds like this, I squealed in delight. He said, “All the old ladies like how it looks,” quickly adding that he didn’t mean to imply that I was an old lady.

It is especially important to dig a fairly deep “reveal” at the bottom of a mulched slope where it adjoins a pathway or lawn, since it works especially well to keep the mulch from sliding or floating in the rain runoff onto your path. The steeper the slope’s grade, the deeper the reveal should be. Heavier mulches are less likely to migrate on a slope.

Ordering mulch

When I mulch, I like to have three yards of mulch (each yard is three cubic feet of material) delivered to the job site around noon. This timing allows me to re-weed section A (which had been weeded for the first time a month earlier), dig the reveal, weed section B for the first time (to be re-weeded and mulched in a month) and spread the mulch—all in a single day. Of course small loads of mulch cost more per yard than larger loads. If you choose to get a large pile delivered and then chip away at it over a longer period of time, be sure to keep it covered by a tarp or plastic, because dry mulch remains much lighter in weight than mulch that has been moistened by rain. A tarp will also prevent a weed seed infestation.

I’ve been gardening so long I can just look at a landscape and know how much it will take to cover the beds. Beginners will need to use math. First make a rough estimate of how much square footage you will need to cover. Just blur your eyes and sort of squish your shrub beds into rectangles. Pace them off; my pace, for instance, is roughly three feet long. Multiply their length times their width in feet for the square footage of each bed. Add the sums of the beds’ square footage together, and divide the total number of square feet by 108. Now you will have the number of yards of material required to cover your beds to a depth of three inches.

Hauling mulch

When the mulch is delivered, I have it dropped as close as possible to the beds that are to be mulched. Every foot closer to the bed that you put the pile will save you a significant amount of time and energy. Sometimes this even means driving on the lawn. (Really, it’s okay. I became adept at driving on grass when I worked for the Seattle Parks Department, and my crew leader once bragged that there was no rut left in a lawn that she could not repair). Don’t forget to take gravity into account. If you are using a wheelbarrow, it may be better to use a longer, level route to your bed, rather than a shorter one that goes uphill. When mulching a large area, or two widely separated areas—say at the front and the back of a house—I use all my powers of persuasion to get the truck driver to do a “split load.” That also saves my back and my budget. You will need to help him/her by hollering when the first half just starts to
slide out of the uplifted bed. This is so the driver can begin lowering the bed, as it will take only three short seconds for the mulch to hit the ground. If you wait even a second later to shout, all of it slides out! Be appreciative of your truck driver’s skill, because successfully splitting a load is difficult to do. A thoughtful gardener also assists the driver by clearing the area of tools, garbage cans and other items ahead of time. You should also check for overhead branches that the dump bed might hit when it lifts up.

If the mulch is to be dropped on concrete or a lawn, I lay out a big tarp as a target for the truck driver. Using a tarp this way makes the cleanup easier, too. Toward the end of the job, you lift up the tarp’s corners to pile into its center the remaining bits of mulch that can be shoveled. At the very end, you just sort of “burrito” what’s left in the tarp directly into the bed.

Getting your pile of mulch to the beds can be done in several ways. They are, from the most cost-effective to the least: drive and dump it into the bed; fling it from the pile, using a wide “square-point” shovel; wheelbarrow it in a plastic contractor’s wheelbarrow, which carries five cubic feet of mulch—far more than the dopey little homeowner models carry; or slide it down the steep grass hill on a tarp. If there is no wheelbarrow access, you can carry mulch in two five-gallon plastic buckets, one in each hand.

Once you have bucketed 15 yards of any material into a backyard, you develop a profound appreciation for what it means to design a garden with maintenance in mind. On average it will take you one man-hour to spread one yard of mulch. It will take less time if access is easy, and more if it is difficult.

Before you start hauling mulch from one point to another, take some time to clear the way. In order to gain wheelbarrow access, I have removed gates, taken down parts of fences, moved birdbaths, had the neighbors move their cars, wheel-barrowed through the...
garage, tied back plants, pruned plants, put down wood ramps on stairs, temporarily leveled stairs with soil, temporarily filled in reveals, and any number of other activities to ease the way. Then you have to put it all back when you are done. Most people prefer to adjust to the difficulties rather than take the trouble to get rid of them. But you should learn from the professionals: Don’t work hard, work smart. Your back will thank you.

For those of you with difficult access to the area being mulched, I’ve got good news. There now is the option of having your mulch “blown in.” In the Seattle area, Pacific Topsoils or Sawdust Supply will show up with a giant truck and up to 300 feet of plastic tubing through which two workers will blow into place twenty yards of material in two hours or less! Almost no additional work is needed to complete the job—just a half-hour to remove any mulch from the crowns of shrubs and trees and blow down or wash off any overspray on the sides of the house or walkways. This option will not, however, save you any money. The price of this service is equal to the amount it would take to hire someone to hand spread the mulch. Locally that price is about $50 per yard of mulch and includes the cost of the mulch, delivery and spreading. But I assure you that the cost of mulching, no matter how it is done, is recouped in the first year, due to reduced labor hours needed for weeding. And the garden stays looking great! Remember, if you are doing it right, you only need to “spot mulch” in small areas and the bed edges where it has worn thin over the next several years.

EDUCATION AND ARTISTRY:

The New Pacific Connections Garden Interpretive Shelter

BY ELIZABETH LOUDON

When the first phase of the Pacific Connections Garden (PCG) is completed in spring of 2008, it will feature an interpretive shelter surrounded by entry gardens representing the plants of five regions or countries—Cascadia, New Zealand, Australia, Chile and China. The interpretive shelter's design and construction were funded by a generous donation of the Pigott Family and, once opened, will provide Arboretum visitors with a fresh new destination and a place for respite from the weather. And since a key feature of the shelter is extensive interpretive signage, this area will become the best-interpreted section of the Arboretum and provide visitors with opportunities for education on plant-related topics.

The Pomegranate Center—a nonprofit community design and development organization based in Seattle—was retained to design and build the PCG shelter. The Pomegranate Center's core mission is to design and build neighborhood gathering places, and its trademark approach includes community involvement and sustainable design.

According to Duncan Chalmers, Pomegranate’s project director, the shelter concept began as “just a [dot] on a plan.” Pomegranate met with the project’s partners—the City of Seattle, University of Washington Botanic Gardens and the Arboretum Foundation—and started working on a design that would reflect the project’s major interpretive theme: the interactions between plants and peoples in each of the five regions or countries represented in the PCG’s entry gardens.

The design evolved through several stages, from a structure featuring five small roofs that

ABOVE: Designs of indigenous peoples inhabiting the five regions represented in the Pacific Connections Garden’s plant collections are carved on the cedar columns that support the Garden’s interpretive shelter. (Designs: The Pomegranate Center)
symbolized each of the five entry gardens, to one with a single roof and five pairs of supporting columns, to the final plan, in which a single roof is supported by 12 columns, with three columns located in each corner. The columns are carved with patterns inspired by indigenous cultures living in each of the five regions or countries represented in the entry gardens. In each corner, the main supporting column is carved with patterns representing Cascadia, while the two remaining columns are carved with patterns from one of the other geographical areas.

Cedar trees salvaged from the Arboretum were used for the columns, and volunteers carved them during a series of eight public workshops held in the summer and fall of 2007. The Seattle Times published an article on the carving project (see below), and a carved column also was featured prominently in the Pacific Connections Garden groundbreaking procession and ceremony last October.

Interpretive signage will be integrated into the design of the shelter on a series of eight panels affixed to metal screens between the carved columns; a terrazzo and brass map embedded in the floor will display the Pacific Ocean and the PCG’s represented regions or

ABOVE: The Pacific Connections Garden interpretive shelter features a “green” roof, carved cedar columns and educative signage. (Model and photograph: The Portico Group)
countries. In addition, the shelter will feature a “green” roof.

Design for the interpretation is based on the Arboretum’s “Interpretive and Way-Finding Plan,” a document that provides guidance to develop consistent signage and messages throughout the Arboretum. Although the main signage will be at the shelter, several additional signs on the site that surrounds the shelter will orient visitors and interpret the individual entry gardens. The Portico Group, the Seattle-based consulting firm that is designing the gardens, developed the interpretive signage through consultation with staff from the UW Botanic Gardens, and with additional input from the City of Seattle and the Arboretum Foundation’s Arboretum Botanical Garden Committee. The signs will explore connections between geography, climate, sustainability and culture.

Because there will be such a wide array of plants in the entry gardens, “iconic plants” have been chosen to represent each country: Western red cedar (*Thuja plicata*) for Cascadia; monkey puzzle tree (*Araucaria araucana*) for Chile; snow gum (*Eucalyptus pauciflora*) for Australia; ginkgo (*Ginkgo biloba*) for China; and New Zealand flax (*Phormium tenax*) for New Zealand. Each of these iconic plants has special significance in its native region because of its role in the ecosystem, its traditional uses and its unique beauty. Each also tells a story about the importance of plants in its culture and will be depicted in the signage and grown in the entry gardens near the shelter.

The 300-square foot shelter will be located at the northwest corner of the new PCG entry gardens area, at the top of a ridge that faces northwest toward Lake Washington Boulevard. In a subsequent phase of the Pacific Connections Garden project, this site also will be the starting point of a stairway and path that lead visitors through the future
China collection. The path, which eventually will feature a view to the west, references the Pilgrim’s Path, a well-known trail on China’s celebrated Mount Omei—the source of many plants in the China collection.

The Arboretum has been called a “well-kept secret,” and the purpose of the new interpretive program is to tell visitors its story as a destination point and as a resource for information on plants. The Arboretum’s “Interpretive and Way-Finding Plan” calls for a design principle of unobtrusive signage in keeping with the public’s expressed desire to keep the Arboretum looking natural and uncluttered.

According to the Plan, “Interpretation can help accomplish the Arboretum’s mission, build a knowledgeable constituency for supporting the Arboretum’s goals, encourage a sense of stewardship within regular visitors, and help make a difference in how we conserve the natural world. Interpretation encourages curiosity and provokes thought.”

The Arboretum’s goal is to have interpretive shelter visitors come away with a new sense of connection to the plants they encounter in our community, the Arboretum and the Pacific Connections Garden. This goal will be achieved in large part through the educative function of the shelter’s interpretive signage and the artistry of the shelter’s design.

Elizabeth Loudon is education and outreach manager at the University of Washington Botanic Gardens. She acts as lead for interpretation and communications for the Pacific Connections Garden.

For further information:
China's Sichuan Province has long been regarded as one of the world's richest sources of ornamental garden plants. It features dense lowland forests, higher-elevation woodlands, open alpine meadows and a wide range of climates—conditions that lead to an astonishing degree of plant diversity. The Chinese collection in Washington Park Arboretum's Pacific Connections Garden will showcase this diversity and, perhaps, play a role in introducing new species of Chinese origin into cultivation.

In the fall of 2004, I participated in a student exchange program between the University of Washington (UW) and Sichuan University in Chengdu, the provincial capital. With a strong interest in botanical exploration of Chinese flora, I was fortunate to take part in several plant-hunting expeditions during the following school year. In the company of both students and experienced plant collectors, I was privileged to encounter rare plants.
growing in their natural habitats and collect material to bring back to the United States.

My first journey was to the Wolong Nature Reserve, a 2000-square kilometer preserve approximately 70 miles northwest of Chengdu. In recent years it has yielded several new plant introductions made by Pacific Northwesterners. In 1986, plant hunter Reuben Hatch found the charming *Corydalis flexuosa* ‘Blue Panda,’ a spring ephemeral that now dazzles shade gardens with its electric-blue, tadpole-like flowers. During the same period, our own Dan Hinkley introduced a white-variegated selection of the evergreen *Euonymus fortunei*, dubbed ‘Wolong Ghost.’ Both plants have become commercially successful introductions that are grown throughout the world.

The reserve’s landscape is picturesque, with seas of waving bamboo among endless forests, the surging Minjiang River and its oulying tributaries, and cultivated mountain-side fields covered in cabbage. Since the journey took place in fall, the warm tones of the foliage of deciduous trees and shrubs added a most dramatic effect to the scenery.

Yaks, Pandas and a Plant Addiction

On winding roads and through drastic changes in elevation, my companions and I headed upwards and west to the Balang Shan pass, nearing some of the highest peaks of Sichuan Province. I started becoming light-headed and was barely able to walk as we reached a viewing point 3000 meters in elevation, where I gazed through a cloudy haze of fog at yaks grazing in the distance. Once I found my footing in the rugged terrain of this cold and desolate landscape, I looked down to encounter an extraordinary alpine flora which included *Primula, Aconitum, Ranunculus, Meconopsis* and *Gentiana*, which...
glowed in mesmerizing shades of blue. One has to marvel at how nature could create plants so ethereally beautiful in such a ruthless environment.

Wolong is famous for plants, but to the thousands of travelers who come and visit Sichuan each year, it is most famous for the endangered giant panda. There are small, wild populations of this iconic symbol of the World Wildlife Fund at Wolong, and a research and breeding station there is home to approximately 130 adults and cubs. As we visited these adorable mammals at the station, we realized that, like them, entire plant species in this area are at risk due to habitat destruction and poachers. Not having been granted permission from Sichuan University to do any collecting at the time, I left Wolong with no more than a digital folder of photos and a notebook of my observations.

My second trip was the expedition of a lifetime that took four colleagues and me to a small, developing township called Tao Yuan, nestled in the far northeastern region of Sichuan Province. This expedition was lead by Dan Hinkley; the rest of our team consisted of two nurserymen from Georgia, Scott McMahan and Ozzie Johnson, and Dave Demers, a horticulturist based in Vancouver B.C. Tao Yuan is rich in plant diversity, with hundreds of recognizable species growing in their natural habitats. Seeds were plentiful for collecting as we trekked from one location to another, with our guides often driving roads in bad condition. But these difficulties did not daunt us. Dan said it best as he described his previous plant-hunting experiences: “You’ll be surprised at what you find,” he said. “It’s pretty addicting.”

Treasures in a Chinese Township

What we did find was beyond astonishing. Just outside our accommodations in Tao Yuan, the streets were lined with the glowing fall foliage of Ginkgo biloba and Osmanthus fragrans var. aurantiacus, which was in full bloom. Though the latter plant is not fully hardy for many Pacific Northwest gardens, its sweet apricot smell on a warm fall day was tantalizing. Just across the street was a lush grove of deciduous and broadleaf evergreen trees and shrubs mixed with herbaceous plants that whetted our botanical appetites. Climbing up a rocky bank, I encountered a small tree and called on my colleagues to help identify it.

It had deep-green, glossy, seemingly evergreen foliage and remarkable fruit that Dan described as almost jewel-like, glistening blue in the filtered sun like lapis lazuli. We collected a small sprig to press for a herbarium specimen and gathered a handful of seeds. Subsequently, Professor Zhao Zuocheng, our expedition guide from the Chengdu Institute of Biology, keyed out the plant as Viburnum propinquum.

Viburnum is a genus already familiar to many avid gardeners, who plant them widely. Along with the overused foundation plant Viburnum davidii and the deciduous varieties that have graced western gardens for centuries with their exquisite, often fragrant, flowers, there has been a considerable amount of interest in other evergreen species that possess striking foliage and ornamental fruit. Our new find certainly fit the bill.

We also encountered and collected is Viburnum henryi. I spotted this small, multi-stemmed tree with bright red fruit ripening to black drupes growing along a stream. There were plenty available for the taking, not only for us, but for the native wildlife as well. Our encounters with these various Viburnum truly were addicting—and it is only one genus! Other highlights of the trip included finding the winter-flowering favorite Edgeworthia chrysantha growing in its natural habitat deep within a woodland. While it had no fruit for us to gather, we carefully dug up small seedlings that had sprouted nearby.

The camaraderie was outstanding within this group of avid plantmen, who worked as a team to collect and process seeds, exchange notes and learn from one another. With
everyone's keen eyes on the lookout, we encountered new, potentially garden-worthy plants at every outing. We often asked our drivers to pull off highways so that we could observe a plant or collect seeds. They must have thought we were out of our minds to risk our lives by climbing steep slopes or crossing treacherous rivers and ravines on unstable bamboo footbridges, merely to observe a plant.

While most of our seed collections were gathered from woody plants, we did not overlook the multitude of herbaceous species in our paths. I was just in the early stages of my obsession with the delicately beautiful but vigorously hardy genus *Epimedium*. While no flowers of this plant were in sight in fall, I easily recognized its leaf and carefully collected a few small divisions. Other herbaceous plants of interest were the rare and bizarrely beautiful *Paris*, a science-fiction, alien-looking relative of *Trillium*, and a hardy *Begonia grandis* var. *chinensis* with silver mottled foliage and shell-pink, fragrant flowers that Dave spotted along the edge of a stream. While collecting the large seed heads of *Lilium*, we remembered the eminent plant hunter E.H. Wilson, who discovered the Regal Lily (*Z. regale*) in Sichuan in the early 1900s. After about two weeks in the field, it was back to Chengdu to ship the seeds and plants to the U.S., and to say goodbye to my new friends for the time being.

**Spring Blooms on Qingcheng Hou Shan**

The following spring I took a weekend trip up to a mountain called Qingcheng Hou Shan, approximately 45 miles northwest of Chengdu. My Chinese tutor had recommended this secluded mountain resort area for its diversity of native spring flowers. Accompanied by a fellow UW student, I was able to revel in an assortment of herbaceous plants that would enchant any perennial gardener. We saw streamsides covered in *Disporum, Beesia, Anemone, Begonia, Polygonatum, Disporopsis, Arisaema, Podophyllum*, numerous varieties of ferns and, finally, blooming *Epimedium*, which I saw in the wild for the very first time. However, the most mesmerizing sight was a shallow valley sheltering several stands of the giant Himalayan lily (*Cardiocrinum giganteum*). Their bold stems and trumpet flowers rocketed to the sky, bursting into a crescendo of sequential blooms scenting the entire valley with a seductively rich perfume.

Qingcheng Hou Shan is also home to a number of woody species presently grown at Washington Park Arboretum. We tramped over massive branchlets of *Cunninghamia lanceolata*, the Chinese Fir—which, despite its common name, is not a fir—carpeting the forest floor, and viewed *Magnolia officinalis* as it was just starting to set fruit. (We also spotted the same plant being cultivated on a farm for use in traditional Chinese medicine.) *Rhododendron* was in bloom in early April, as was *Stachyurus praecox* with its short pendulous racemes. I was introduced, during this expedition, to the genus *Symplocos*—a small tree with evergreen foliage smothered in clouds of translucent flowers that filled the air with a pleasing fragrance.

**A Sacred Mountain**

Later that spring I was awarded a grant from the Mary Gates Endowment, which helped support the last leg of my fieldwork and botanical explorations in China. This included a five-day journey up to the famous Emei Shan (Mount Omei), a mountain sacred to Buddhists and located approximately 120 miles southwest of Chengdu. Emei is renowned as the home of many ornamental Chinese plants that have been introduced into cultivation. I made it a goal to explore this mountain and its botanical treasures before leaving Sichuan.

Below 1000 meters, the mountain's mixed broad-leaf evergreens and deciduous forests create a moist and humid environment reminis-
Magnificent
Elegant, stunning, resplendent—gardeners tend to use superlatives when they mention magnolias. These flowering trees are treasured for their ornamental qualities in the natural landscape and have held honored positions in gardens around the world for many centuries. Because the flowers of the Yulan magnolia (Magnolia denudata) symbolize purity and openness, Chinese Buddhist monks have planted them near their temples since the T'ang Dynasty (618-906 AD). In the United States, the southern magnolia (M. grandiflora) holds title as both the state flower and state tree in Mississippi, the “Magnolia State.”

The genus Magnolia formed one of the Arboretum’s key early plant collections: During the 1940s, director Brian O. Mulligan planted 14 magnolia taxa (species and varieties). By 1960, the number of such taxa had almost doubled. The collection remained essentially static from then until 1999 when, aided by support from the Arboretum Foundation, it received an infusion of cultural care, as well as a selection of new plants grown by other botanic gardens and specialized growers. Today the Arboretum’s magnolia collection represents over 100 taxa, making it the fifth-largest collection in the United States.

FAR LEFT: Magnolia denudata is an early spring bloomer in the Pacific Northwest; the tree grows 35 feet high and almost as wide. The fragrant flowers occasionally repeat in summer.

TOP: The butter-yellow blooms of Magnolia ‘Elizabeth’ cluster along a branch of this 30-foot high tree.

MIDDLE: The evergreen leaves of Magnolia grandiflora will burn during Pacific Northwest cold snaps, making a sheltered spot the best planting site for this large-growing native of the American South.

BOTTOM: The choice Magnolia sargentiana var. robusta offers enormous mauve flowers in mid-spring that open as bowls and relax into dinner plates.
Taxonomy and History

These lovely trees have an ancient lineage, with plants in the Magnoliaceae family tracing back 95 million years; the North American cucumber tree (Magnolia acuminata) has been identified in fossil records dated to 20 million years ago. Magnolias were named in the early 1700s after the French botanist Pierre Magnol, who was associated with the Montpellier Botanic Gardens. During the last 300 years, over 100 distinct species and over 1000 cultivars have been identified and named.

Magnolias occur in many regions in Asia, including the Himalayas, Korea and Japan; eastern North America; Central America; and in parts of South America, where several of the more recent taxa have been discovered. Some magnolias evolved in geographic isolation from other members of the Magnoliaceae family and their classification remains a challenge for modern taxonomists. Early classification had utilized observed morphological features (characteristics of flowers, seeds and other structures). But new plant discoveries and the arrival of DNA analysis are fueling additional study and debate. As a result, today magnolias are classified in the following manner:

The Magnolia Family: Magnoliaceae

Subfamily: Magnolioideae

Genus: Magnolia

The following generic names are listed as sections: Magnolia, Gireliminia, Talauma, Manglietia, Kneria, Rytidospermum, Auricnlata, Macrophylla, Yulana, Michelia and Manglietiastrum.

For more details, see the Magnolia Society webpage: www.magnoliasociety.org

Blossoms, Leaves, Buds and Bark

Magnolias range in form from deciduous trees standing 15-20 feet tall to evergreen trees over 45 feet in height. Their large, simple flowers vary in color from white and creamy yellow through deep rose and purple and are pollinated by beetles, an equally ancient species. The mature fruit of magnolias is reminiscent of a small red cucumber, and some songbirds eat its bright-red seeds. While the fall color of magnolias is subdued, the skeletal remains of some species enchant young Arboretum visitors in late winter and spring. In winter, the large, furry, silver buds of magnolias also provide a bright accent in a gray landscape. Magnolia bark extracts have a long history of medicinal use in Asia. Today, dental researchers are studying their ability to suppress harmful bacteria and enzymes involved in plaque formation.

Conservation

While magnolias maintain a healthy presence in cultivated spaces, wild species are diminishing in their native habitats at an alarming rate. The 2007 Red List of Endangered Species published by the World Conservation Union (formerly the International Union for Conservation of Nature) lists over 50 percent of the world’s Magnolia species at near extinction: 131 of a global total of 245 species are in danger. Over-harvesting, logging and habitat loss are among the pressures contributing to their loss, with North America’s species becoming as endangered as those of other continents. Arboreta and botanical gardens play vital roles in global plant conservation through efforts in public education, research and the preservation of original stock through wild-seed collection programs. Many of the Arboretum’s Magnolia species acquired from wild-collected sources in the 1940s and 1950s, for example, appear on the current Red List.

Culture and Care in the Pacific Northwest

Our regional climate is quite hospitable to a wide variety of magnolias. They thrive in bright sun to the very light shade of a woodland edge when provided with a coarse organic mulch and some summer irrigation. All magnolias have fleshy roots that are damaged by heavy, wet soils and frequent disturbance. They are best planted during the dormant season, just before new growth begins in spring. Their
Magnolia x kewensis 'Wada's Memory' was a chance seedling received in a batch of Magnolia kobus in 1940 from K. Wada at the Kakoneya Nursery in Japan and eventually planted at the top of Rhododendron Glen in 1947. Brian Mulligan, noting its extraordinarily large blooms and strong growth, introduced it as a distinct cultivar. The original specimen continues to thrive at this location and has matured to 40 feet in height.

M. salicifolia 'Else Frye' was introduced to the Arboretum by curator Joseph Witt in 1961; it is more compact in form than M. x kewensis 'Wada's Memory,' but has equally large blossoms.

M. 'Elizabeth' is a Brooklyn Botanic garden introduction with soft yellow flowers; planted in Rhododendron Glen in 1989, it has grown 30 feet tall in a narrow, upright form.

M. 'Vulcan' can be seen in the main magnolia area; introduced by New Zealand breeder Felix Jury, it has deep-red, ruby blooms—a first among magnolia cultivars.

M. x 'Caerhays Bell' was added to the Rhododendron Hybrid Bed along Azalea Way in the early 1990s. Visitors literally beat a path to see it when outrageously large, lush-pink flowers appear in early spring. A hybrid of M. sargentiana var. robusta and M. sprengeri 'Diva,' it has grown into a sturdy medium-sized tree with upright limbs.

Several new evergreen magnolias with laurel-like leaves have been added to the Magnolia collection since 1999: M. (syn. Michelia) maudiae, M. (syn. Michelia) foveolata and M. (syn. Mangletia) insignis all show promise as medium-sized flowering trees for Pacific Northwest gardens.

best landscape companions are shrubs, ferns and spreading perennials and bulbs that do not require routine digging and dividing.

Pest concerns typically are minimal, although leaf spot sometimes appears on evergreen species. Freezing temperatures may damage species of marginal hardiness and cause limbs to break off evergreen species. Frost can harm early blossoms, but it seems to have no further effect on the subsequent growth of the tree.

As a rule, prune lightly to avoid the proliferation of water sprouts; once water sprouts develop, gradually thin them out over several years to diminish their vigor. Careful training of young magnolias reduces long-term pruning problems.

Magnolias in Washington Park Arboretum

The Magnolia collection is concentrated in the area along Arboretum Drive south of Loderi Valley; in addition, a few taller species act as companion plants in Loderi Valley and Rhododendron Glen. Magnolia blooms begin to appear in the Arboretum in mid-March, when Magnolia campbellii, M. sargentiana var. robusta and others open their silky, pink blossoms against bare tree limbs in Rhododendron Glen. In the main magnolia collection, white blooms appearing in April on Magnolia kobus cultivars and hybrids, M. stellata, M. salicifolia and M. obovata provide a dramatic contrast to the evergreens that surround them. Fresh, green leaves provide a backdrop to the elegant, pendulous blooms of M. wilsonii and M. sieboldii in late spring. Several forms bear lovely, white summer blooms, particularly American native species such as the fragrant evergreen southern magnolia (M. grandifloræ), the tropical-looking deciduous bigleaf magnolia (M. macrophylla) and the Fraser magnolia (M. fraseri).

Christina Pfeiffer is a horticulture instructor, writer and consultant, and former Washington Park Arboretum horticulturist. She is co-author with Mary Robson of “Month-by-Month Gardening in Washington & Oregon,” Cool Springs Press, 2005.
The gardeners who know and love them best describe four exceptional gardens to visit this spring.

TOP LEFT: Blooms of *Trillium chloropetalum* glow deep red in woodland areas at the Dunn Gardens in North Seattle. MIDDLE LEFT: Chase Garden in Orting, Washington offers stone benches in forest and meadow settings for restful views of Mount Rainier. BOTTOM LEFT: Flowering groundcovers hug the slopes of Ohme Gardens, located near Wenatchee, Washington.
Gardens in Spring

Bainbridge Island’s Bloedel Reserve is a 150-acre “garden in the forest” that includes woodlands, a bird refuge and a collection of gardens that display native and non-native plants. Visit www.bloedelreserve.org or call (206) 842-7631 for further information.

THREE FAVORITE PLANTS

BY RICHARD A. BROWN

If I were to nominate three plants found at Bloedel Reserve to a list of my all-time favorites, they would be Rhododendron ‘Loderi Pink Diamond,’ Pleione formosana ‘Blush of Dawn’ and Trillium erectum.

Many Pacific Northwest rhododendron fans are likely familiar with R. ‘Loderi King George.’ ‘Loderi Pink Diamond’ is very similar, except it has a deeper, longer-lasting pink color. Considered one of the best of the large-flowered hybrid cultivars, the Loderi cross was made about 1901 by Sir Edmund Loder. To make this cross, Sir Edmund chose an especially sweet-scented and large-flowered form of R. fortunei as his seed parent and used pollen, of an exceptional form of R. griffithianum, provided by his friend Colonel Fred Godman. A number of seedling selections were made from this single cross, including ‘Loderi King George’ (probably the most popular form), ‘Loderi White Diamond,’ ‘Loderi Titan,’ ‘Loderi Pink Coral,’ ‘Loderi Sir Edmund,’ ‘Loderi Venus’ and some 25 other clones.

Our specimen, which stands nearly 20 feet tall, is located just west of the Visitor Center.

ABOVE: The forests at Bloedel Reserve on Bainbridge Island, Washington display spring ephemerals against majestic evergreens and rhododendrons. INSET: The pristine blooms of Rhododendron ‘Loderi Pink Diamond’ glow near the Visitor Center at Bloedel Reserve.
and was a favorite plant of the garden's original owner, Mrs. Bloedel. It is characterized by pale-pink flowers that are six inches across and delightfully fragrant. Other forms of the *grex* grown at Bloedel include: ‘Loderi King George,’ ‘Loderi Pretty Polly,’ ‘Loderi Princess Marina,’ ‘Loderi Titan,’ ‘Loderi Venus,’ ‘Loderi White Diamond,’ ‘Loderi Spearmint,’ ‘Loderi Superlative,’ and ‘Loderi Game Chick.’

Perhaps one of the most exotic plants grown at Bloedel is *Pleione formosana* ‘Blush of Dawn.’ This diminutive terrestrial orchid has flowers that appear huge relative to the overall size of the plant. *Pleione* is a genus of orchids native to the Himalaya foothills, India, Thailand, Laos, Viet Nam and China, where they may be found perched on moss-covered rocks or in other well-drained sites at elevations ranging from 1200 to over 12,000 feet. Called Peacock orchids, Himalayan crocus and even windowsill orchids, *Pleione* produce small, spongy pseudobulbs from which one or two smallish leaves arise. The leaves typically drop off in early winter leaving the bare pseudobulb essentially dormant until a new one is formed. The large flowers arise from shoots that form at the base of the pseudobulbs and are long lasting, sometimes persisting for two or three weeks. Surprisingly hardy, these orchids do well in our cool, partially shaded gardens, provided the plants are sited in very well-drained soils and are left alone by slugs and squirrels. We have a single planting visible within the Woodland Glen, but you'll have to look close to find it. In flower, the plant stands only about six inches tall with a single, three-inch-wide, rosy-pink flower.

My third favorite plant is *Trillium erectum*. We have a number planted along our Camellia Walk near the Reflection Garden. This plant is similar in size, nature and needs to our Pacific Northwest native *Trillium ovatum*, or wake robin. “Stinking Benjamin,” as this northeastern U.S. native is commonly called, differs from our native trillium in having deep-red or maroon, triangular flowers. Some contend the flowers smell like rotting meat, but I have never noticed any offensive odor. The primary reason I like this species of trillium is because of its long-lasting flowers. They open a little later than our native, but stay in bloom considerably longer. There is a white-flowered form, and we grow it adjacent to the regular, red species.

Richard A. Brown is executive director of the Bloedel Reserve.

The Dunn Gardens is a 7½-acre enclave in North Seattle that includes a wildflower glen, a pond garden, shade paths and a moss garden. Visit www.dunngardens.org or call (206) 362-0933 for further information.

SOME WOODLAND BEAUTIES

By Glenn Withey

The Dunn Gardens comes into its own during the spring with an explosion of flowers that is always welcome after a long and dreary winter. While the Dunn family purchased the garden property over 90 years ago, it wasn’t until after World War II that
family member and noted Northwest native plant expert E. B. Dunn (Ed) planted many of the delightful woodland ephemerals still found there today.

By the time Charles Price and I became curators at the garden more than a decade ago, some species of woodland plants had become crowded and congested. Over a period of time we divided them, and they spread into numerous large drifts. While the focus of this article is on plants that perform well from late March through June, our season really begins with *Galanthus nivalis*. This “common” snowdrop puts on a magnificent show in February. The original clump, planted many years ago, now has grown into drifts composed of thousands of bulbs.

As the snowdrops fade, trilliums come into their own. During a period lasting approximately three months, each species takes a turn at center stage as it reaches its flowering peak. Included in this succession are the diminutive blooms of the three-to-four-inches-tall *Trillium rivale*, the bold, deep-reddish flowers of *T. chloropetalum*, and the graceful blossoms of our native *T. ovatum*, among others. Remember that while these plants are breathtakingly beautiful in flower, their foliage becomes tawdry as the year progresses.

We have had various erythronium in the garden over the years, and the most stalwart performer has been *E. revolutum*. Ed most likely first planted this species during the 1950s; we have aided it to naturalize and spread by scattering its seed. The garden soil where this species flourishes is somewhat lean, free-draining and “hungry.” (Perhaps other species have failed in the same areas due to this soil type.) When *E. revolutum* is in flower, the effect is magical. Pale, mauve-lavender flowers nod elegantly above mottled foliage. All this beauty disappears by mid-June, when the plant goes dormant.

And, of course, we treasure the garden’s rhododendrons. While there are still many left from Ed’s time, Charles and I have introduced new ones that were chosen more for their foliage than for their flowers. Yes, we love flowers—but they are fleeting, while foliage lasts year round. The fawn-colored tomentum on the emerging leaves of *R. bureawii* and the silvery sheen on the foliage of *R. ‘Golfer’* last for months. But for flower lovers, the blooms of *R. ‘Loderi King George’* are hard to beat. This plant brings a smile to my face each spring when its wonderfully fragrant blossoms, fading from softest pale-pink to white, first appear. The foliage is good, but sadly our specimen has suffered from a powdery mildew disease and is struggling.

For a Pacific Northwest native, false Solomon’s seal (*Maianthemum racemosum* syn. *Smilacina racemosa*) is a cast iron performer. This plant grows waist high, is incredibly drought tolerant, and has nicely scented flowers. We have noticed that its fruit sets better when there are multiple plants present in the garden. The translucent, reddish fruit lasts for several months and provides food for the birds. We have found that this plant will seed in, and if the seedlings land where you don’t want them, they easily transplant to a new home.

Glenn Withey and his partner Charles Price have been curators at the Dunn Gardens for 11 years. They own Withey Price Landscape & Design, LLC.
ABOVE: The Dunn Gardens display drifts of spring blooms, including *Galanthus nivalis*.

RIGHT: Paths wander through open meadows in the Chase Garden.
The 4½-acre Chase Garden in Orting, Washington, features naturalistic plantings in meadows and woodlands and a sweeping view of Mount Rainier. Visit www.chasegarden.org or call (206) 242-4040 for further information.

A MOUNTAIN AND A MEADOW

By Rosina McIvor

Spring color begins at the Chase Garden in April, when the white flowers of Trillium, Maianthemum (syn. Smilacina), Actaea and Achlys light up the deep shade under a canopy of 100-year-old conifers we call The Woods.

Visitors emerging from The Woods encounter a stand of bear grass (Xerophyllum tenax), which in June displays clusters of white flowers above attractive clumps of evergreen foliage.

A path leads from the shady woodlands into the open area called The Meadow, which slopes gently eastward to a panoramic view across foothills to Mount Rainier. Emmott and Ione Chase, the garden’s original owners, loved the region’s mountain meadows so much that they were inspired to create The Meadow on their own property. Here, drifts of Phlox subulata, Lithodora and Ajuga glow in pastel pinks, blues and lavenders, while gentians provide accents of deep blue. The Meadow is a stunning visual treat from the end of April into early May.

Paths wind through areas planted with trees and shrubs such as Kalmia latifolia, Ginkgo biloba, hydrangea cultivars and dwarf conifers. The presence of moss-covered rocks—collected from logging roads around the near-by town of Electron, where the Chases made their first home—and stepping stones found in the Puyallup River, enhance the garden’s Pacific Northwest character.

Rhododendrons of all colors bloom in succession from April through June. They shelter groundcovers such as Anemone nemerosa (including the cultivar ‘Vestal,’ which features white blooms with double centers), double bloodroot (Sanguinaria canadensis ‘Multiplex’), bergenias, epimediums, species geraniums, pulmonarias and others.

Throughout the garden, groundcover ferns—such as maidenhairs (Adiantum venustum) and Blechnum penna-marina—join colonies of native sword ferns (Polystichum munitum) and deer ferns (Blechnum spicant) to create year-round texture and color variations.

Near the garden patio is a small rock garden that serves as a home to plants whose dwarf and compact growth reward close viewing. Here Armeria, Iris, Dianthus, Helianthemum and other treasures display a rainbow of colors.

The garden of Emmott and Ione Chase showcases Pacific Northwest natives and low-maintenance groundcovers in a serene and special setting.

Rosina McIvor is chairman of the Friends of the Chase Garden and acts as liaison to The Garden Conservancy, which selected the Chase Garden as a preservation project in 1995. She first became acquainted with the Chases over 25 years ago through the Arboretum Foundation.
Nine-acre Ohme Gardens, located just outside Wenatchee, Washington, features a mile-long stone path that winds by craggy outcroppings, forest glens and icy mountain ponds. Visit www.co.chelan.wa.us/og/index.htm or call (509) 662-5785 for further information.

CLOUDS OF COLOR

By Mike Short

When Ohme Gardens opens on April 13 this year, white trillium (Trillium ovatum), false Solomon’s seal (Maianthemum racemosum, syn. Smilicina racemosa), pink and purple wild violets, and lesser periwinkle (Vinca minor) already will be blooming in the shade of tall evergreen trees. And on the garden’s sunny, rocky hillsides, patches of basket-of-gold (Aurinia saxatilis), pink and blue creeping phlox (Phlox subulata), blue-purple bugleweed (Ajuga pyramidalis), creamy Dryas octopetala, white candytuft (Iberis) and pink thrift (Armeria maritima) will be starting to flower, while lady ferns (Athyrium felix-femina) and northern maidenhair ferns (Adiantum pedatum) will begin unfolding their delicate fronds.

The rare Wenatchee Mountains’ native Cistanthe tweedyi (syn. Lewisia tweedyi) will display salmon-pink or pale-yellow blooms in early May and, by the middle of the month, Lewisia cotyledon will bloom in a kaleidoscopic mix of magenta, orange, yellow and pink in the cracks of large outcrops.

From the middle to the end of May, the first wave of color will gradually fade as the garden readies itself for the next period of intense bloom. During the first three weeks of June, mauve creeping thyme (Thymus serpyllum) and numerous varieties of sedums—such as Sedum divergens, Sedum sexangulare, Sedum album ‘Coral Carpet’,
Sedum rupestre, Sedum spurium ‘Dragon’s Blood’ and Sedum spathulifolium—will appear, accompanied by drifts of maiden pinks (Dianthus deltoides), alpine dianthus (Dianthus alwoodii alpinus) and soapwort (Saponaria). During this same period, some of the garden’s steep hillsides look as though they are covered in yellow clouds of creeping jenny (Lysimachia nummularia).

In summer, spruce, cedar, fir and hemlock trees will provide an oasis of shade around deep, blue-green pools with trickling waterfalls. Ground covers will blanket the rocky hillsides, and the native stone paths that wander through many garden levels will lead visitors past dramatic views of the Cascade Mountains and Columbia River Valley.

In fall, the branches of rock cotoneasters (Cotoneaster horizontalis) will be loaded with bright-red berries that provide a beautiful contrast to the green foliage and rocky landscapes that surround them.

This manmade wonder enchants visitors in whichever season they choose to view it.

Mike Short has been the garden administrator at Ohme Gardens for 13 years. The garden was founded in 1929 by Herman and Ruth Ohme and became the property of the Washington State Parks and Recreation Committee in 1992; it is self-supportive and operated by Chelan County.
Plant-Hunting in Sichuan Province
continued from page 15

cent of the tropics. In the understory of Cryptomeria japonica, stands of massive bamboo species can be found mixed in with the bold, leafy clumps of Canna and assorted Zingiberaceae, such as Hedychium and Zingiber. While most of these plants thrive as marginally hardy perennials in the Pacific Northwest, I was intrigued to find common houseplants such as Schefflera and Aspidistra (cast iron plant) growing along the edges of paths, leading me to believe that some of my cohorts in Seattle aren't crazy after all in attempting to plant such genera outside in their gardens.

Hydrangea aspera seemed to be in peak bloom in mid-July, while Actinidia kolomikta scrambled about—its white, paint-dipped foliage with a hint of pink easily detected from a distance. Decaisnea insignis was just beginning to form its chalky-blue fruits on tall canopies of massive, pinnately compound leaves. Along some rocky limestone slopes, I collected two forms of what I believe is Epimedium acuminatum and observed several Asarum species that grew abundantly. Ericaceae is well represented on Emei, with 30 species of Rhododendron, some of them endemic, growing there. Even when out of bloom, the sheer size of these plants was enough to take your breath away; their trunks were the size of those of the mature bigleaf maples, and their canopies were lost in the fog high above us. Specimens of the famous handkerchief or dove tree (Davidia involucrata) towered well over 50 feet high, with their spent, white bracts dropping on the uneven stone flags forming paths up the mountain.

My companions on this expedition were two classmates from Sichuan University, and we struggled to reach the summit of the mountain in pouring rain, carrying our personal supplies, a laptop, a wooden plant press and my collection of live plants. We walked over steep, muddy hillsides on slippery steps that easily could have crumbled and sent us down deep crevices and cliffs. (And some pesky monkeys nabbed the shiny red pair of No. 2 Felco pruners I had brought with me from the States!)

This trek became the ultimate test for me both physically and mentally, as we were pressed for time and it was becoming dark. At one point, I realized I had become separated from my companions and, soaked and too exhausted to continue further, sought shelter in a small pavilion, where my aching knees gave out as I dropped to the ground. Thanks to China Mobile, cell phones still operate in remote forests that are 2200 meters in elevation, and we were able to send text messages to one another. Eventually we reunited at one of Emei Shan's many temples, where I ate possibly the most delicious and fulfilling meal of my entire life.

Our final day we decided to save precious time by riding a cable car to the summit of the mountain. Abies fabri dominated the landscape below, interspersed with Rosa and Hydrangea species. In the summit's dense understory, which was covered in Rubus, Polygonum, Persicaria and Arisaema, I made my final plant collection: an icy-blue and richly scented Corydalis species that later was identified as the endemic C. omeiana—a recently described species that I brought back to evaluate.

Transporting Specimens

Transporting plants from one country to another is no easy feat. Regulations for live plant materials are extremely tight, and collecting in the wild is closely monitored. In order to collect plants in China, a foreign researcher always has to be accompanied in the field by a representative from an academic or governmental institution. This ensures that habitats are not destroyed and scarce populations of protected or endangered species are not disturbed. These representatives are also
valuable in communicating with local people, who often inquire about foreigners trudging through their native landscapes.

At the end of each day, we clean and process the seeds and plants we have collected. For these to pass inspection for import to the United States, all pulp must be removed from the seeds, and—if we are bringing back small divisions of plants or seedlings—they must be bare rooted, with all soil completely washed off. Moistened paper towels temporarily keep the roots viable.

Plant material has to be labeled by genus and species and is given a final cleaning and inspection before being packed to be shipped abroad. A phytosanitary certificate must accompany a list of the plants being shipped, along with a stamp stating that the plants include no restricted species and have been properly cleaned, packed and treated.

At this stage, the plants and seeds are mailed and arrive at their destination in a matter of days. Alternatively, collectors can bring their material back to the U.S. on board airplanes. The collections are declared upon arrival at the first port of entry in the States, where they are given one last inspection before being released to their final destination. When done in a timely manner, virtually all plants survive this ordeal. Occasionally, however, shipments can be delayed, or they sit in a customs office awaiting inspection. It is incredibly discouraging to open a shipment of mush, but plants are resilient for the most part, and they will resume growth if potted up and coddled in a nursery before being planted out. Upon their receipt stateside, seeds are tested for viability and sown immediately, with excess seed either stored in a seed vault or donated to other botanical institutions.

Discoveries in the Pacific Connections Garden

I first learned of the Pacific Connections Garden when I returned from Sichuan Province to Seattle and the UW in the summer of 2005. UW Botanic Gardens Plant Propagator Barbara Selemon had already acquired my first shipment of seeds from Tao Yuan and sown a small batch. To my surprise, several species had germinated and were ready for the exciting process of trialing and evaluation that might lead to their inclusion in the China plants collection for the garden.

While it’s too soon to tell if any of the accessions have commercial merit, they remain botanical treasures that we traveled many miles to discover, and each plant carries its own story, including how it came to be considered for cultivation. For now, they will reside in my garden, and in the grounds of the living museum of Washington Park Arboretum, for anyone to visit. I hope that visitors to the Pacific Connections Garden’s Chinese plant collection will experience the same thrill of the hunt and discovery that I did as they stroll through the Garden’s recreated forest—one that is filled with the diverse flora of China’s Sichuan Province.

RIZANISNO “RIZ” REYES is a graduate from the College of Forest Resources at the University of Washington. He currently works as the Soest Gardener for the UW Botanic Gardens and operates his own enterprise, RHR Horticulture.


For more information, please visit the following websites:

Flora of China
www.efloras.org
http://hua.huh.harvard.edu/china//mss/intindex.htm
United Nations Environmental Programme—World Conversation Monitoring Centre.
Chinese Plants and Gardens

By Rebecca Alexander

The next time you stroll through the Washington Park Arboretum, imagine subtracting from the landscape the many plants that came to our region from China: At once, the magnitude of the influence of Chinese flora on Pacific Northwest horticulture is apparent. While our local gardens rely heavily on native Chinese plants such as Rhododendron, Camellia, Viburnum and Magnolia, the Chinese plant collection in the Arboretum's new Pacific Connections Garden (PCG) will open our eyes to some new and unusual Chinese plants of great beauty that can be grown here. The PCG planting scheme, which includes a range of deciduous and evergreen broadleaf plants and conifers from Sichuan Province, emulates the botanically diverse forest environment of Emei Shan (Mount Omei), one of China's four mountains sacred to Buddhism.

To whet your appetite for Chinese plants and gardens, dip into any of the books reviewed below and you will be reminded of the Chinese origins of so many of our own garden plants, and the centuries of Western plant exploration that brought them here. Botanists and plant seekers from Ernest 'Chinese' Wilson to Dan Hinkley have been captivated by China's astounding plant diversity, which is a product of both its geography and geological history. According to the "Flora of China" (Harvard University), China's native plant species number approximately 31,000, while plants native to the United States and Canada total about 20,000 combined. China encompasses tropical, subtropical, temperate and boreal forest zones, and a great number of its plants are adaptable to the Pacific Northwest climate. It is no wonder, then, why we are interested in creating Chinese-style gardens in our region—gardens such as the Chinese Garden currently being constructed adjacent to South Seattle Community College, Portland's Classical Chinese Garden, Vancouver, B.C.'s Sun Yat Sen Classical Chinese Garden, and (although it features no Chinese garden architecture) the University of British Columbia's David C. Lam Asian Garden, which offers an outstanding collection of plants of Asian origin.

"The Jade Garden: New & Notable Plants from Asia" was co-authored by Peter Wharton, Brent Hine and Douglas Justice, who each serve as curators at the University of British Columbia Botanical Garden & Centre for Plant Research. With its focus on the new and notable, this title will appeal immensely to horticulturists, botanists, everyone concerned with plant conservation and biodiversity, and those who may wish to enrich their gardens with unusual and beautiful Asian plants. Although the authors include plants from other parts of Asia, China is the primary subject here. An introductory chapter discusses the distinctive geographic and geological regions of China as they pertain to plant life. The authors also address the
issue of potentially invasive species, which was for them an important consideration when selecting plants for inclusion in the book. Of course, as the authors point out, it is not always possible to predict how a plant will behave outside its native range, so we should use our powers of observation to alert us to any thuggish garden behavior on the part of newly introduced species.

The body of the book is divided into three sections: perennials, shrubs and trees. Within each section there is an alphabetical listing of the plants, interspersed with stunning color photographs. For each plant, the authors provide the common name, plant family, distribution, regional hardiness, guidelines for cultivation and propagation, and a considerable amount of information about the genus. The physical description of each plant is replete with botanical terminology and will send the uninitiated scurrying for the helpful glossary in the back of the book. The book also includes a list of notable 19th and 20th century collectors of Asian plants, and a bibliography and index, in addition to the aforementioned glossary.

“The Jade Garden” is both informative and tantalizing: Who could resist the charms of *Alangium platanifolium* or *Staphylea holocarpa* var. *rosea* (Pink Chinese bladdernut)? Because of the relative unfamiliarity of some of these plants in the West, readers seeking to acquire them may need to wait quite some time to find them—or else befriend a local plant explorer. However, if you keep an eye out for new additions to the Chinese plant collection in Pacific Connections Gardens, you will have the opportunity to get to know some of the plants that are depicted in “The Jade Garden.”

Valder’s book delves into the long history and rich cultural associations of cultivated and wild plants in China and groups them thematically, with chapters on conifers, bamboo, orchids, peonies, fruit, vines, aquatic plants, and so on. The plentiful illustrations include photographs, botanical illustrations, paintings and manuscripts. Rather than offering guidance on how to grow these plants, Valder describes them in the context of Chinese horticulture, art, literature and philosophy and has created a scholarly and accessible entree to the subject, written in an engaging style.

Readers of all levels of expertise will find “The Jade Garden” a fascinating window into the plants themselves, as well as Chinese culture in general. While many of the plants will be familiar to readers in the Pacific Northwest, Valder offers up surprising facts and lore about some familiar plants: a grouping of Narcissus, Nandina and peach symbolize longevity, as their names are a rebus for “the blessing of longevity by immortals.” Every part of the flowering plum (Prunus mume) holds symbolic meaning: The blossoms represent heaven (the Yang principle), the trunk and branches are of the earth (Yin), the peduncle from which the flower emerges is symbolic of the Tai Chi (the Ridgepole of the Universe), each flower represents the Wu Hsing (Five Elements), and even the stamens, roots and the positioning of the branches in the image are rich with meanings not apparent to the unschooled Western eye.

In describing China’s geographical/geological continuum, Valder shows how China’s cultural continuity (which escaped disruptions similar to the Dark Ages in the West) is reflected in its conservative, cultivated-plant palette. Prunus mume, with its many symbolic layers, was widely found in cultivated Chinese landscapes, whereas many wild plants, like Rhododendron, Primula and Lilium, were not part of the garden repertoire: “These were unknown to the literati, who lived in the centres of wealth and culture in the East. There was no opportunity, then, for them to be praised in poems, depicted in paintings or considered suitable for gardens.” (p.40)

Despite centuries of cultural conservatism and stability, the past 150 years of industrialization, communism, burgeoning capitalism and urbanization have taken their toll on horticulture and the environment. For example, during the Cultural Revolution, Mao Zedong demanded the destruction of every orange tree in China because he deemed the trees tainted by their association with the missionary-run Canton Christian College, which had engaged in citrus cultivation in Guangzhou. The groves were turned over to rice production and citrus scientists sent to work the rice fields, while peasants went to teach in the college. Botanical and private gardens were appropriated for agricultural use, commercial floriculture came to a halt, and it wasn’t until the late 20th century that ornamental horticulture experienced a revival. Happily, this revival, and an atmosphere of increased openness to the outside world, enabled Valder to do the research for his more recent book, “Gardens in China.”

Unlike most other titles on this subject, this generously illustrated book casts a wide net and covers hundreds of gardens, including public parks, temples and cemeteries, arboretum, and imperial and classical gardens. Styles span the traditional and the Western-influenced and range from the serene and spare (particularly the temple and cemetery gardens like the Confucian Forest in Qufu, a walled burial
ground dotted with pavilions, animal statuary, cultivated trees and flowers, and native oaks) to the visually jarring and bewildering, such as Kunming’s World Horti-Expo Garden, with its giant artificial tree and enormous pansy-covered Chinese junk in full sail.

Valder provides a brief history of Chinese gardens “through Western eyes,” from Marco Polo in the 14th century to the present. Chinese gardens themselves have an ancient history, and some of their key features embody the Daoist principles of disengaging from earthly cares and attaining harmony with nature and the universe. The garden serves as a place of retreat and contemplation: Walls, paths and streams curve and undulate to encourage a contemplative mood and confuse bad spirits, who, according to the principles of feng shui, can only move in straight lines. Garden buildings, moon gates and other openings with unusual forms (like the pomegranate-shaped windows and gourd-shaped doorway at Canglangting, the Blue Wave Pavilion in Suzhou) similarly invite us to slow down and appreciate the view. Rocks, water and asymmetry are meant to evoke a natural setting.

The rest of the book is organized by geographical region, which is especially useful for the garden traveler. Though there are ancient trees in some of the gardens featured here (a 2000-year-old Thuja at Songyang Academy, Henan; a 1400-year-old Ginkgo at Shaolin Temple, Song Shan; a 1300-year-old banyan near Yangshuo), many of the gardens are not as old as they might appear to be, having been restored following the ravages of the Cultural Revolution (1966-76).

All the books reviewed here are essential reading, whether you are seeking information on Chinese plants, the history of Chinese horticulture or the role of plant exploration in conservation. Readers will come away with a heightened awareness of ongoing efforts to conserve the rich diversity of Chinese flora in the face of development and ecological devastation and will undoubtedly be inspired to introduce more Chinese plants and garden features into their Pacific Northwest gardens.

Rebecca Alexander is the Plant Answer Line librarian at the Elisabeth C. Miller Library, University of Washington Botanic Gardens.

BIBLIOGRAPHY


All of the titles listed above may be borrowed from the Elisabeth C. Miller Library.

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