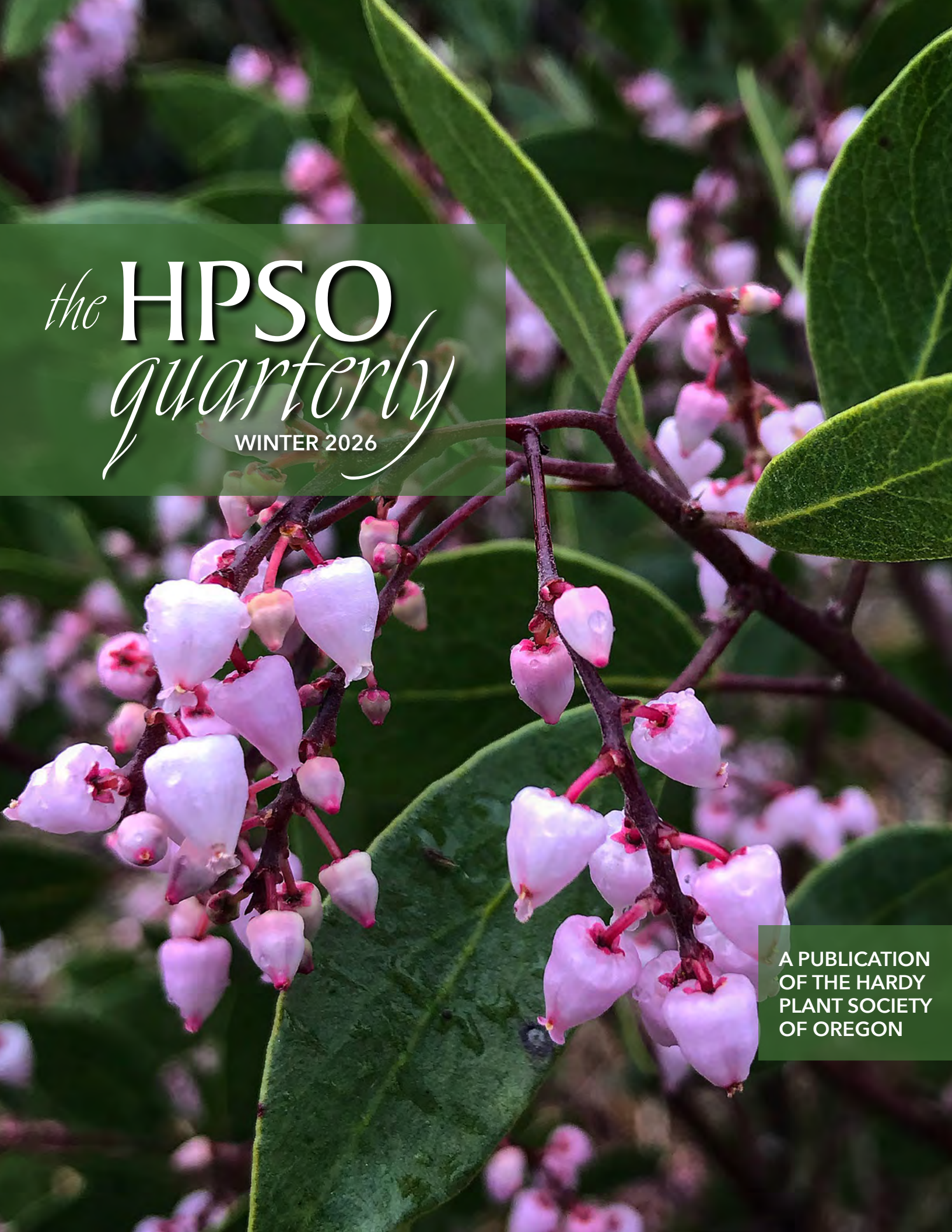

the HPSO quarterly

WINTER 2026

A PUBLICATION OF THE HARDY PLANT SOCIETY OF OREGON

WINTER 2026
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front cover photo: *Arctostaphylos stanfordiana*. Photo by Sean Hogan.
this page: Stone mulch is not only fireproof, it can also add interest and a graphic element to a garden design, page 20. Photo by Adria Sparhawk.

THE HARDY PLANT SOCIETY OF OREGON

MESSAGE FROM THE NEW PRESIDENT

I begin my term as President of the Hardy Plant Society of Oregon with gratitude and humility. I see myself entering this position on the shoulders of giants who came before me. We all especially owe gratitude to Zoe Nielsen for her steady hand in leading us through some organizational transitions.

Two board members are leaving us this year. Harry Landers has completed his third term as a director. We appreciate his many years of service and his sunny disposition. Eloise Morgan has completed her second term as Vice President and is leaving the area. Eloise has been indispensable as Editor of the *Quarterly* (a role she will continue for a few more issues), and we will miss her acute attention to detail in all matters.

This past year was full of many activities: Plant Nerd Afternoon, Hortlandia, PlantFest, After Hours events, Open Gardens, speaker programs, *Quarterly* publications, the Reading Room at Elk Rock, and tours. Lest we forget, Study Weekend also occurred this year, which was no small feat itself. All of these required many volunteers, who are what keep this organization thriving.

Work has been going on behind the scenes to transition our website to a new platform and an updated look. Our current platform has served us well for many years but has become a bit glitchy (a "technical" term). Board member Kim Campbell and our Executive Director Amy Coulter have been working on the transition—stay tuned for that unveiling. Having worked in the computer software industry, I never expect a flawless rollout of a new product, so I ask that you please have patience if you run into a problem.

The board undertook a project, led by Vice President Marcia Sparling, to refine HPSO's mission, vision, and values, and then based on those values, develop a set of strategic goals with deliverables and timelines. This work was labor intensive and sometimes tedious, but it was time for a mission overhaul.

Looking forward to next year, our favorite events are already in the early planning stage, and great speakers are being lined up. I am also happy to say that we are resuming our travel program by offering a few trips in 2026. We have worked through the unrelated business tax issues, which required a tremendous amount of work by Amy Coulter and our accountant. While reviewing and approving the IRS return, one of our board members said something to the effect "this is amazing work, and I'm glad I didn't have to do it." As Treasurer, I can also say I was glad we had a good accountant and a determined Executive Director. As an HPSO traveler myself, I am very pleased we will be able to continue the travel program. As of this writing, we have one last issue to resolve before we can press the final "go" button, so watch for updates.

HPSO is a growing organization and full of wonderful volunteers. No leader can be successful without a team behind her, and I know I have a good team. Our continuing board members are dedicated and resourceful. We have an excellent set of incoming board members, and I look forward to working with them. I must say they significantly bring down the average age of the board, and that's a good thing! In addition to our volunteers, we have a talented part-time office team with Amy Coulter as our Executive Director, Aubrey Horner as our Programming Manager, and Nandy Mason as our Membership Services Specialist. They are a joy to work with.

I don't consider myself a plant expert, but I do like to put many in the ground and watch them grow (or die). I probably developed my love of plants as a child working beside my mother in the farm vegetable garden. We didn't have a lot of ornamentals since all effort was used to raise food for the family or cattle. However, my mother did grow a few of the basics, and I still love having them in my garden today—lilac, forsythia, tiger lilies, and marigolds. Probably not on every plant nerd's list, but they bring me joy.

Thank you for being a member and volunteering.

Karen Palmer

Blueberry blossoms, page 10.
Photo by John Moore.

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LETTER FROM THE EDITOR

As I write this, rain is pelting down, drenching the autumn garden. The bird baths, just recently bone dry, are filled to overflowing with water from the sky.

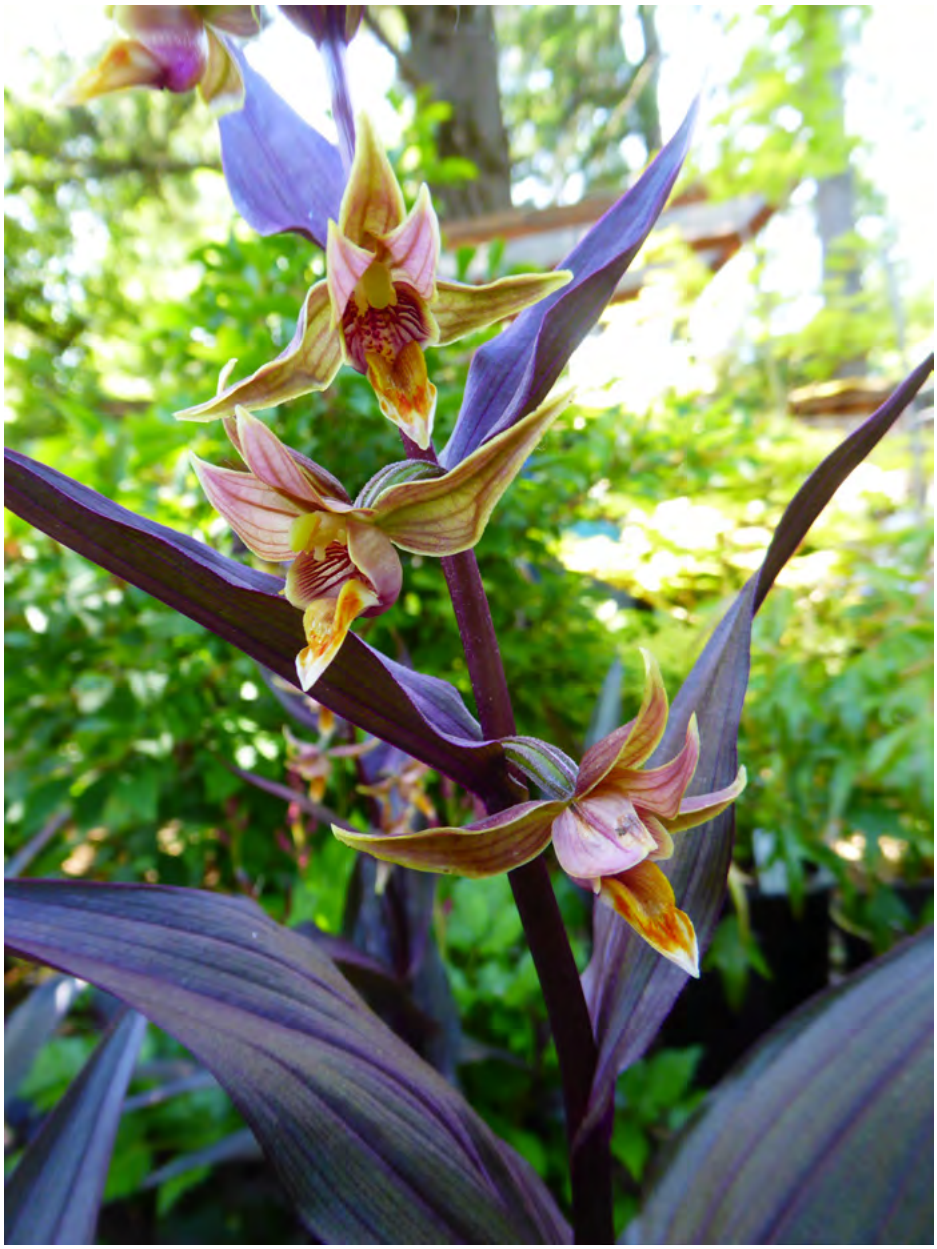
A typical Pacific Northwest scene? Yes, it could be. But I have relocated to the San Diego, California, area, which (coincidently) is enjoying one of the wettest Novembers in memory.

I'm pleased to report another change. HPSO member Eileen Haas, an experienced magazine editor, has volunteered to assume the editorship of the Quarterly, after learning the ropes as my assistant editor over the next few issues. Welcome, Eileen!

As new HPSO President Karen Palmer writes in her Message in this issue, volunteers are "what keep this organization thriving." Eileen and the entire volunteer staff of the *Quarterly*, currently numbering nearly 20 people, demonstrate that in spades. I hope that you will enjoy reading this issue as much as we did producing it.

Wishing everyone the best for a bright, new, better 2026.

Eloise Morgan



Epipactis gigantea 'Serpentine Night' in Norm Jacob's display garden.

My Hardy Orchid Adventure

text and photography by Norm Jacobs

Cypripedium 'Anna' grown by Peter Korn and Julia Andersson in their garden, Klinta Trädgård, Sweden.

I often feel as if my gardening approach is best characterized as a series of obsessions. Every so often a particular plant family or even genus will attract my interest, and if it is varied or perhaps challenging, I can hardly help collecting and planting.

Orchids—just the name brings up images of exotic flowers large and small, in a spectrum of colors, with forms from blousy to bizarre. Originally I dodged this family of plants thinking that they demanded a regimen of specialized care, best left to experts. Also I value gardening as an outdoor activity and mistakenly presumed that orchids were all tropical. So I was content to admire them at arm's length.

Then a fellow HPSO Hortlandia vendor gifted me a hardy ground orchid that my wife, Deb Zaveson, and I could grow in our woodland garden. "Just pick a cool shady spot that will stay somewhat moist. It's not too fussy, and you'll enjoy the flowers," he said.

That specimen of *Epipactis gigantea* 'Serpentine Night' (photo previous page) was duly planted in a low-lying part of our woodland, near the potting bench where it would be watered along with the nursery stock and, despite its attractive dark purple foliage, was promptly forgotten.

Bletilla ochracea growing in author's Arbutus Garden Arts nursery display garden.

The next spring, however, its single stalk had become three and displayed a stack of exotic multi-colored blooms. Wow! Discovering that it is a plant native to western North America was a totally unexpected dividend. I should have known that I was gazing into a horticultural rabbit hole.

So naturally I began noticing and paying attention in nurseries to the Chinese ground orchid, *Bletilla striata*, which promised either pale pink or white flowers. Bolstered by our *Epipactis* experience, we nonetheless proceeded to kill several, until a friend acquainted me with a fundamental fact: *Bletilla* emerges from a "pseudobulb," accent on "pseudo," and if you bury it, as you would a true bulb, it will die. On the other hand, plant the pseudobulb so it protrudes from the soil and cover it with mulch, bark, or (as we do) arborists' chips to protect it from hot sun and hungry squirrels (thankfully only an occasional nuisance), and voila—you have a thriving plant.

Since then, the availability of *Bletilla species*, hybrids, and bloom color variants has expanded the palate of flower form and color; and, irresistibly, the array of orchids in our woodland environment has expanded in lockstep. And there is a bonus—the variety of species and hybrids' ancestors have apparently different enough bloom schedules that we have an overlapping procession of flowers over a longer season than expected.

continues on next page

Pleione formosanum and 'Golden Gate' growing together at author's display garden.

Pseudobulbs of *Pleione formosanum*, partially above ground..

continued from previous page

With my "orchid trepidation" banished, we added *Spiranthes cernua*, both in a part-shade woodland foreground and as an accent in containers. Though the foliage is diminutive, its fall bloom of foot-tall stacks of white flower stalks demands a closer look. A cluster of a half-dozen flower stalks is a tiny wonderland.

Cautious of the reputed 25°F tenderness of *Pleione formosana*, we planted several of this aptly named "windowsill orchid," in a shallow bonsai tray, which spent the winter dry in the garage. These original plants impressed us with pale purple and white flowers and were joined by a yellow flowered cultivar named 'Golden Gate'. We've since planted some of the increasing number of offset pseudobulbs of the former in the garden's sharp-draining sunny foreground and will also test their hardiness in our crevice rockery. To our dismay, though, a squirrel found 'Golden Gate' an irresistible snack, carefully removing it while leaving the abundant species pseudobulbs undisturbed. Not one to surrender to rodents, the one tiny pseudobulb left behind has now re-established a colony of 'Golden Gate' in its own bonsai tray—under a wire cage!

I'd read about lady slipper *Cypripedium* orchids; but given their rarity and strictly protected status in the wild, I again expected them to be outside our gardening ambitions. Then "nursery grown" *Cypripedium formosanum* was offered at Hortlandia, and initial trepidation turned to relief and glee as a single stem emerged the following spring. We'd been warned that it might not bloom, and it didn't. But the next year in the ground it began adding more stems and breathtaking flowers. *Cypripedium* plant structure and cultivation has much in common with tropical orchids. Rather than a pseudobulb, its stems emerge from a bud at a nexus of fleshy roots, which do best when planted fanned out with the bud perhaps an inch below grade, and the roots only somewhat deeper. A substantial layer of mulch is essential to retain moisture and to cool the roots in summer. In our garden, it's difficult to cater to the needs of a fussy plant. So we sited the *Cypripedium formosanum* in bright/dappled shade and watered it as with any of our new plantings—weekly for the dry season with an extra cycle for heat-wave events. This seems to suit them, as they're becoming respectable clumps.

Once more, I thought we'd reached an orchid stopping point.

Then, while on an HPSO tour in 2022 at Sweden's Klinta Trädgård (garden) owned by Peter Korn and Julia Andersson, I was utterly gobsmacked by a mass of lady slipper orchids in full bloom nestled in their sunny perennial border. It was a huge surprise to find lady slipper orchids growing happily among other familiar perennials at 55 degrees north latitude with no evidence of special care. However, I was mindful that Peter's endeavor in this garden is largely

Cypripedium flavum, growing vigorously at Gothenburg Botanical Garden, Sweden.

experimental, as he tests plants' adaptability to extreme conditions. This research has yielded lovely urban plant walls and green roofs, as well as a dramatic showplace of a garden. However I remained skeptical since Peter's techniques of cultivation call for soil alteration beyond what we'd try to imitate at home.

But a few days later in a woodland section of the Gothenburg Botanical Garden, we saw lady slipper orchids again. Only this time they were thriving in apparently native soil, in a naturalistic mix of woodland perennials, mid-story shrubs, and the dappled shade of trees. Could these really thrive in our own similar garden environment? The site and population of familiar plants suggested yes. Who and what nursery was propagating these orchids, and where? I morphed into a bloodhound on a scent.

A trail of correspondence led me to Frosch Exclusive Perennials, a nursery in south central Germany (near Salzburg, Austria, 48 degrees north latitude). That was followed by an act of madness—I ordered a box of selected bare-root orchids, which arrived through customs in October, 2024. Although general guidance was provided, there was scant information about the species ancestry of these newly arrived hybrids or what specific cultivation conditions each might prefer.

I'd read *Cypripedium* species grow wild in diverse environments, from wetlands to dry alpine lava flows. So with patient advice from Michael at Frosch nursery, we chose diversity for our experiment, selecting two species (*alaskanum* and *ventricosum*) and five hybrids of varied parentage. All were planted here in Portland in identical circumstances and cultivated alike through their first summer. All appear in good health, except for one of the hybrids that has struggled. Since it appears to "damp off" new foliage, it apparently needs something dramatically different that we may not easily provide. We're weighing one possible failure against six surviving varieties as a qualified success.

I sent photos of the plants' late summer foliage to Michael at Frosch and got a "Looks good so far . . .perhaps some supplementary nitrogen" reply. It appears that *Cypripedium* resemble conifers in their reliance on soil fungi to take up nitrogen, so a mycorrhizal boost at planting would have been beneficial. By next season the fungal colony should be established, thanks to our mulch. Then, as with the *Cypripedium formosanum* lady slippers, we should see additional stems and our first flowers.

And then? Could it be that my orchid obsession will be satisfied? Unlikely.

Spiranthes cernua, in author's display garden.

Long-time HPSO members Norm Jacobs and his wife, Deb Zaveson, have been nurturing rare plants as Arbutus Garden Arts for more than 35 years, first in Oregon's Yamhill County and now on an island in Portland's Johnson Creek.

welcome! TO THESE NEW MEMBERS

September 1, 2025 to November 30, 2025

We're pleased that you have recently joined our ranks, which currently number just over 3,200 active members. We hope HPSO offers you the same gardening inspiration, guidance, and camaraderie that has sustained so many of our long-time members, and we look forward to meeting you at events like our annual meeting, Hortlandia, PlantFest, After Hours, and open gardens.

Alan Anderson
Jill Asselineau
Mendy Attebury-Miljour
Mary Bailey
Lowry Beall
Jennifer Bennett
Ralph Biesemeyer
Dan Blanchard
Holly Bradley
Karen Brandenburger
Mike Brenner
Paula M. Clancy
Stacy Britos Cook
Stephanie Bunyard
Milli Chennell
CeeAnn Callahan
Jeanine Carlton
Dean Cochran
Carolyn Cosgriff
Bonny Cushman
Molly Cutler
Alexa Dellinger
Shamsundar Dileep
Sabrina Duk
Rachel Dumont
Ryan Faherty
Julie Fiedler
Nancy Fine
Janice Flynn
Joan Frederiksen
Timothy Fulmer
Barb Gibbs
Charlotte Goldman
Carl Halvorson
Kathleen Hammond
Sandra Harrison
Carol Hazzard
Jacob Hendrickson
Patricia Hill
Mary Hoffmann
Heidi Houchen
Josh Howton
Lori Imel
Debbie Judy
Monette Kaplan
Keith Karoly
Mary J King
Tammy Lai
Craig Laughin
Stacee Lawrence
Sarah Laxton
Virginia Lowery
Christina Luther
Kate Lyons
Cordelia Main
Morgen McLaughlin
Kenton McSween
Douglas Meltzer
Mike Miljour
Lindsey Murray
Carolyn Neighbor
Timothy Nichols
Joann Oaks
Kari Oaks
Jenny O'Connor
Breanna O Donnell
Annie Olson
Justin Olson
Nick O'Neil
Rebecca O'Neil
Mary Oxford
Jeff Park
Sandy Parker
Dominic Perreira Mills
Christina Perron
Stacey Philipps
Kailla Platt
Catherine Portlock
Benjamin Prescott
Meredith Reifschneider
Michele Reveneau
Rhea Roat
Melinda Rogers
Rachel Ross
Laura Ruggles
Marywynn Ryan
Arnold Samreth
Liz Savage
Rita Sawyer
Patricia Shangraw
Robert Shangraw
Linda Silber
Elizabeth Snyder
Carol Song
Carol Sullivan
Karen Suslow
Trevor Suslow
Russ Sweet
Darci Swindells
Maria Sworske
Marie Tompkins
Robert Trotman
Lizabeth Tyler
Julio Valera
Leslee Viehoff
Kim Waites
Barb Ward
Julianne White
Carmen Wiedemann
Julia Williams
Nate Williams
Sheryl Williams
Sharon Wood
Janelle Youngblood

CREATE INSECT HABITAT WITH BAMBOO

text and photography by Amy Campion

A leafcutter bee returns to her nest with a petal piece. (I blocked the entrance to get a better look.)

Winter is a bleak time for this bug-loving gardener. No bumble bees buzzing. No dragonflies darting. No hoverflies hovering. Everyone is tucked away, waiting out the winter. There's not much for me to observe, or photograph, or document. However, there is one thing I can do in winter to support my insects when warm weather returns: I can cut bamboo to create insect habitat.

I discovered the value of bamboo as insect habitat by accident. Several years ago, I stuck some short bamboo stakes around the garden as hose guides. A few years later, I noticed leafcutter bees (*Megachile*) using those stakes as nesting sites. I caught the bees cutting half-moon pieces from my clarkia petals (*Clarkia amoena*) and rose leaves (*Rosa nutkana*) and using them to make nest cells in the bamboo. These bees collect pollen to make a pollen ball for each cell, and then they lay a single egg on each pollen ball. The larvae eat the pollen, mature inside the stake, and emerge as adults the following year to repeat the cycle.

One day, I noticed one of the nests had been broken into. I watched as a leafcutter bee came in for a landing, crawled into the nest, and forced out another leafcutter bee that was already inside. Turns out, these bees will fight over nesting sites if there aren't enough to go around. I realized I needed more bamboo stakes in my garden.

Here's how I do it. First, a caveat: store-bought bamboo is typically imported from China and is treated with fungicides, and fungicides are bad for bees. I don't know of any studies that have specifically shown treated bamboo to be harmful to leafcutter bees; but to be safe, I use fresh, locally sourced canes. I find all I need by monitoring the "Portland Free Stuff" page on Craigslist.

My Craigslist bamboo waits in the garage to be cut.

I store my bamboo in the garage until I'm ready to cut it and put it in the garden. If I leave it outside, the bees may move in before I've put it where it needs to go, and I don't want to disturb them while they're nesting.

Bamboo is solid at the nodes, so I cut the top of the stake just below a node to give the bees the greatest possible nesting area. Pruners or loppers tend to crush the canes and make them splinter, so I use a handsaw. In my garden, leafcutter bees prefer canes with 5/16th-of-an-inch diameter holes (8 mm), so make your upper cut where that occurs to best support these leafcutter mamas.

I cut the bottom to whatever length I want and pound the stake into the ground. Early spring is a good time to do this, as the winter rains have softened the soil, and they slide in easily. You can also affix sections of bamboo horizontally to fences or other structures—the bees don't care about orientation. Some people bundle bamboo canes to make bee hotels, but it's not a good idea to make a large conglomeration of nesting sites. Concentrating a lot of insects in one spot makes it easy for predators and parasites to find them. It's better to scatter lower-density nesting sites all over your garden.

A grass-carrying wasp builds her nest, one blade at a time.

A leafcutter bee puts the finishing touches on her nest.

Mason wasps use mud to cap off their bamboo nests.

Other insects nest in my bamboo stakes, too. In late April of last year, I noticed a small blue-black mason bee (*Osmia*) going in and out of a short stake with a hole only 3/16ths of an inch wide. I sat and watched her. When she pulled out the larva of a tiny wasp, I realized she wasn't provisioning the nest, but evicting its current tenants, so she could use it herself. Yet another reminder that I need more bamboo.

Last July, I got to witness another insect provisioning one of my bamboo stakes: a gentle, nonaggressive grass-carrying wasp (*Isodontia*). She spent the day stocking her nest with tree crickets and katydids (paralyzed with a sting to keep them fresh for her children to eat) and lining the nursery with dried grass, which she brought in one blade at a time. It was fascinating.

A few weeks after the grass-carrying wasp nest was built, it was gone. Whether the inhabitants matured and left home or tragedy struck, I'll never know, but in any case, the nest was soon replaced. The stake now sported a cap of mud, perhaps the work of a mason wasp (*Ancistrocerus*). These yellowjacket lookalikes are a common sight in my garden. Unlike yellowjackets, however, mason wasps lead solitary lives and have no desire to sting humans. They're only dangerous if you're a caterpillar, which is what they feed their kids.

A few years ago, I was lucky to spot one or two leafcutter bee nests in my garden. Last year, I lost count—I probably saw nine or 10. In 2024, I found one grass-carrying wasp nest in my garden. Last year, I had five. Other species are moving in, too. Word is getting out that it's a renter's market at Campion Gardens. If you build it, they will come!

■■■

Freelance writer, editor, photographer, speaker, and former HPSO board member, Amy Campion co-authored the acclaimed Gardening in the Pacific Northwest *and is working on her second book. A Portland resident since 2013, she blogs about gardening at amycampion.com. Amy works at Garden Fever nursery in Northeast Portland and is a regular columnist for the* Quarterly. *She is available to speak about increasing garden biodiversity with native plants.*

photos by Stephen Morgan except as noted

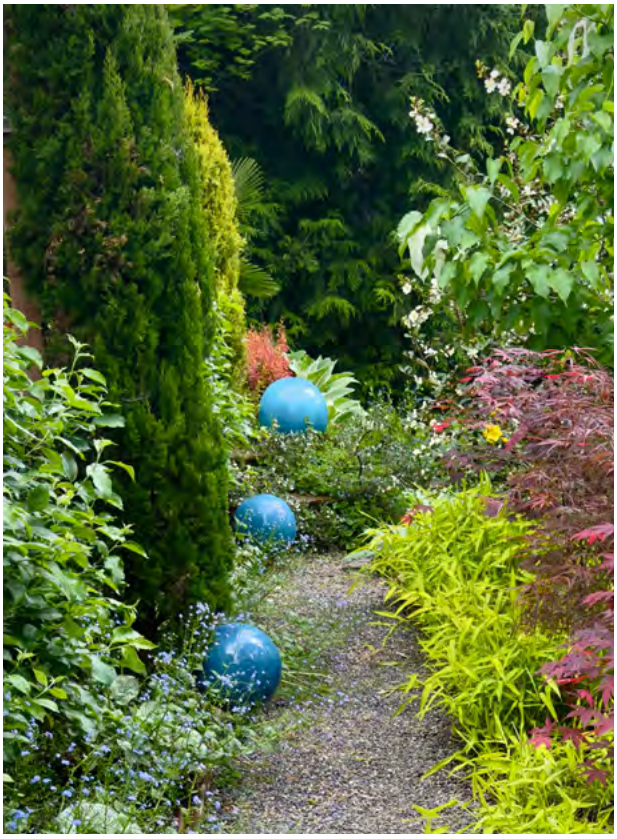
Rooted in Gratitude

by Stephen Morgan

The garden entrance.

The warm, late-afternoon sun shining through the trees in our garden marks my favorite time of day. Living on the edge of a natural area above a creek, we have an abundance of wildlife: deer, coyotes, racoons, and more. A chorus of resident and migratory birds adds its own rhythm; and every April we look forward to the arrival in our garden of western tanagers from Central America. A group of tanagers—fittingly called a "season" of tanagers—symbolizes hope and happiness among Native American cultures. They bring, without doubt, a bright season of hope and happiness to our garden, signaling the start of another spring.

I began gardening here, just down below the Fulton Community Center in Southwest Portland, in the fall of 2008. I was very fortunate to have met and married Marilyn Laufenberg, for whom this property had long been home. I had begun my horticultural journey in the early 1970s at the University of California Santa Cruz and continued at Cal Poly in San Luis Obispo. I developed a love of Mediterranean plants and Australian and New Zealand natives, for which the UC Santa Cruz Arboretum is known. Later I was lucky enough to live in northern Greece, managing a large agricultural operation.



The lower terrace.

Then I came to Oregon for a position at Oregon State University. Can you see the need to reorient my horticultural compass? I had a hard time letting go of efforts to reproduce San Marino, California's Huntington Botanical Gardens here in Portland. Like many of you, I maintain a list of the plants in our garden. I also have a list of all the plants that are gone from our garden due to some harsh winters or poor performance—over 300 plants. Some of us are slow learners. That's a couple of trips to Hawaii, right there.

I've always loved palms, even some I had no business growing here. The beautiful Nikau Palm (*Rhopalostylis sapida*) from New Zealand, hardy to 23°F, was hard to resist. So was *Bismarckia nobilis*, from Madagascar (Zone 9b, 25°F). Seeing it growing so beautifully in Mexico and Hawaii, I longed to grow it here. One day I walked into a nursery in Lake Oswego and saw two beautiful six-footers. I had what can only be described as an out-of-body experience. Somehow, they got into my car and appeared on my back deck. I won't tell you how much I paid, because my wife will be reading this. I got a few years of endorphin rushes, moving them in and out of our sunroom, before they began to decline, realizing they were nowhere near Madagascar.

Over the arc of my 50 gardening years, my interests have ranged across palms, aralias, manzanita, agaves, eucalyptus, cycads, citrus, and the banana family. I used to bring a good number of tender plants indoors for winter. But as I've aged, the ritual has been pared down to one: a beloved pygmy date palm, *Phoenix roebelenii*, that I've had for many years. These days I live by a 15°F rule. When I see a tempting plant at the nursery, I check the tag, admire it, then look up its hardiness on my phone. If it's even slightly marginal, I've developed the inner strength to walk away.

Of course, I'm not without accomplices, very supportive and enthusiastic garden enablers. Harry Landers, the former Curator of Portland's International Rose Test Garden, has never met a palm he will not try in his garden. And my friend Mike Darcy, Nerd

photo by Marilyn Laufenberg

In the beginning, there was nothing.

The backyard looking west.

Night founder, keeps me well supplied with "spring plant porn," tempting me with whatever beauty he's just found for his deck. Blocking him only emboldens him.

As I grow older, I've come to feel a deeper seasonal rhythm and a clearer awareness that time is finite. I've learned to accept that our garden is good enough, to let go of the striving, and accept the imperfections. Eventually our garden will evolve to something simpler or pretty much disappear from what's here now. But the landscape has always connected me to something larger than myself and to the cycle of uncertainty of everything around me.

If the garden has taught me anything, it's the lessons of impermanence, humility, and deep gratitude, especially during times of loss and grief. Finding meaning and fulfillment, not in perfection, but in the daily acts of noticing, caring, and attention: thinning a conifer, the seasonal color change in a maple, spring bud swell. The towhees and downy woodpeckers I'm enjoying this morning are probably the fourth or fifth generations since I've been here. There is no arrival or ultimate completion, only the ongoing practice of mindful tending, of noticing, and being present.

Maybe the richest harvest is the treasure of fellowship with other gardeners. And sharing the passion and friendship of gardening with a few other male friends is especially dear. Finding and nurturing emotional connections with other men as we age, and with whom I can be authentic and vulnerable, is a real gift. And to find other men to share the gift of gardening is, well, icing on the cake. And in the end, the garden's most precious moments are the simplest: sitting in the warm, late afternoon light, listening to the towhee's call, watching the quality of the light changing. No agenda. Only presence and gratitude.

Our garden deck.

Prior to being the Horticulturalist at Portland's Hoyt Arboretum, Stephen Morgan was a horticulture extension agent with Oregon State University for 16 years. His responsibilities there included teaching Master Gardeners, field research, educational program development, and working with commercial growers.

Blueberries: Care And Feeding for Best Results

text and photography by John Moore

Northern highbush blossoms in April.

In the spring issue of the HPSO *Quarterly*, I reviewed the selection of proper blueberry species and cultivars to meet your needs in the home garden. Well-adapted to our climate and other environmental conditions, these tasty superfruits are pretty easy to grow—as long as you meet some simple basic needs.

Site Selection

While blueberries will tolerate partial shade, like most fruits they require full sun for best production. Since they don't have root hairs, they don't compete well with other plants, so it's important to keep the area within the drip line free of vegetation.

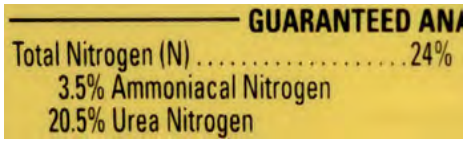
Choose a site with well-drained, fertile soil. Raised beds are a good option to deal with poor drainage. Blueberries require very acidic soil, a pH of 4.5 to 5.5. They will not be able to efficiently take up the nutrients in the soil at a higher pH, which makes it important to perform a soil test and use its instructions to address shortcomings before planting. Be aware that it can take several months to adjust pH, so start well ahead of planting time—adjusting pH after planting is much more difficult.

Give your bushes all the room you can to reduce competition, allow room for you to work, and provide airflow.

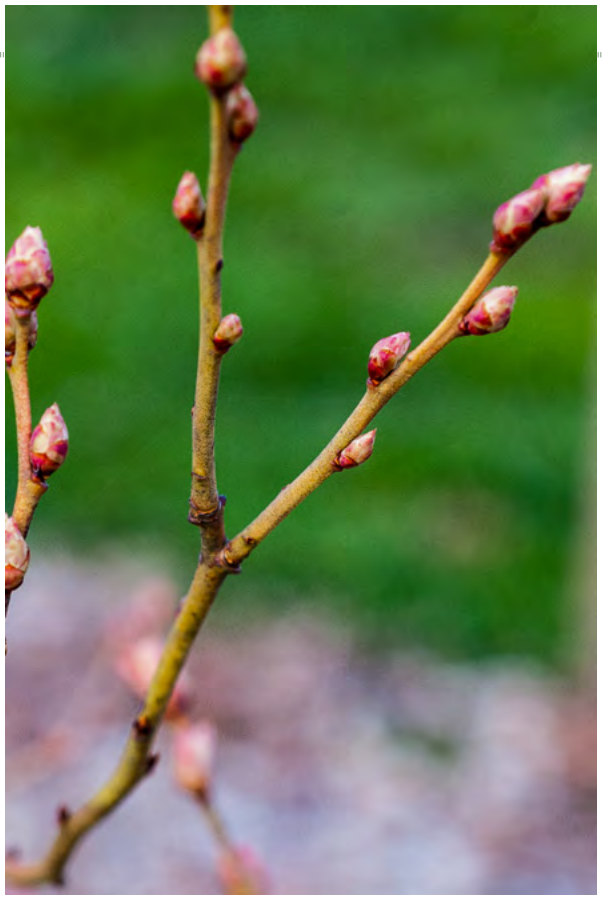
Most plant tags suggest spacing plants two-and-a-half to three feet apart, but experience suggests that at least four feet allows better air flow and room to work around bushes without knocking fruit off the delicate shoots.

Nutrition

After planting, proper fertilization is key. Blueberries need fertilizer containing only the ammonium form of nitrogen: look for words like "urea," "ammonium," "ammoniacal" on the label. Nitrate can't be used by blueberries. Ideally, divide the annual total into three applications during March, April, and May when plants are blossoming and developing fruit. Inorganic



Blueberries require the ammoniacal form of nitrogen. They cannot use the nitrate form.



Buds are at the tip of each shoot. Take care not to tip-prune blueberries.

photo © John Moore with digital optimization by Leah and Kellan Cilia

Clusters of Northern Highbush blueberries approaching harvest time.

fertilizers can be a good choice in this case because our soils tend to be cold in the early spring, significantly slowing the microbial activity necessary to make organic fertilizers available to the plants. One option is ammonium sulfate: it's in a form that's available to plants in cold soil temperatures, and it helps maintain soil acidity. Organic rhododendron and azalea fertilizers will also do the trick, but the slow uptake of organic nutrients due to low soil temperatures must be taken into account.

Start feeding young plants about half an ounce of nitrogen per year and build up to two ounces in year eight (the planting year is year one).

Pests

Pests and diseases can be minimized through proper maintenance: removing dead, damaged, or diseased wood; pruning for proper air circulation; avoiding overhead watering; and picking up fallen fruit.

Birds love blueberries too. You will need to protect your harvest unless you are willing to share a significant portion of your fruit with them. Birds tend to figure out artificial scare tactics quickly, so netting is the best bet. Try a system that doesn't lie directly on the bushes and catch on the tender fruit. Be sure to avoid entrapping birds by attaching the netting securely to the ground—sharing fruit is better than killing our feathered friends.

Pruning

Blueberries need careful pruning during dormancy in order to be the most productive. I don't have enough room to go into detail here, but keep in mind that the fruit is borne on the tips of new shoots, so tip pruning will remove all the fruit. The majority of your pruning should be thinning cuts to maintain eight to 12 canes of varying ages. Don't hesitate to prune out at least 20 percent of old growth every year.

Planting blueberries is a long term investment, but it's worth the effort. With proper care they will provide many pounds of nutritious, delicious berries for decades to come.

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blueberry art on previous page—AdobeStock_351507979

NOTE: This is the second of a two-part series. John's first article, on the selection of blueberries for the home garden, appeared in the 2025 Spring *Quarterly*.

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John Moore is a Washington State University Master Gardener from Clark County, Washington. He developed an interest in blueberries when he discovered how well adapted the plant is to the Pacific Northwest. John helped lead a hard-working team of fellow Master Gardeners renovate a 455-bush field at Heritage Farm, Vancouver, Washington, which had been abandoned for years. After a lot of hard work to clear weeds, renovate bushes, and lower the soil's pH to acceptable levels, the team has the field well on its way back to full production. John teaches blueberry workshops for the public, introduces the principles of growing blueberries to Master Gardener trainees, and has published articles in local media about urban horticulture.

REFERENCES:

"Growing Blueberries in Your Home Garden", Bernadine Strik, et.al., Oregon State University EC1304, Revised December 2020

The Berry Grower's Companion, Barbara L. Bowling, Timber Press, 2000

Clematis beadle, thanks to DNA analysis, has been reestablished as a distinct species.

Clematis vinacea attracts all kinds of pollinators including a Gray Hairstreak Butterfly vying for position with a Yellow-faced Bumblebee.

North America's Newest Clematis Species Arrive at the Rogerson Clematis Garden

text and photography by Linda Beutler

Our story begins in September 2020, with a phone call from Amy Highland, Director of Plant Collections at the Mt. Cuba Center in Hockessin, Delaware. She had hoped to make her exciting offer in person at the Rogerson Clematis Garden (RCG) in West Linn when visiting during the American Public Garden Association's annual conference, which was to have been held in Portland that year. COVID postponed the event, but her offer couldn't wait. Would the Rogerson Clematis Garden like to be the holder of a duplicate collection of newly documented species of North American clematis?

Oh heck, yeah!

The RCG became aware of an exhaustive study of disputed climbing species in the Viorna subsection of *Clematis* in 2014, when we got to hear research leader Dr. Dwayne Estes, Professor of Botany at Austin Peay State University in Clarksville, Tennessee, give a presentation on his work for the International Clematis Society. He had begun visiting locations of anomalous specimens in the university's herbarium to gather new samples, trying to make sense of species found far out of their expected range or with uncharacteristic foliage forms. The study was begun in 2011, and he had already shared seed with local citizen scientists such as Carol Lim, Lyndy Broder, and Richard Ware. A few of these seeds had already been donated to the Rogerson Clematis Collection but were known to us only by their harvest location (Big Piney River in Arkansas, for instance).

Amy reported that the Mt. Cuba Center had been funding the graduate students working with Dr. Estes, and the newly discovered or re-assigned species were having their DNA analyzed. She put us in touch with Jesse Murphy at Colorado State University, so we could provide leaves of clematis species to give Jesse a baseline of DNA for comparison. We sent fresh foliage from 60 species across the breadth of the genus Clematis.

Just as any over-zealous home gardener would do, we said yes first to all these potential new species and wondered where they would go second. But part of the negotiation with Amy Highland included not just conserving these new species in our seed bank but also establishing a garden dedicated to them for public education. Our long-underutilized Test Garden came under scrutiny, and it was decided that with an upgrade of fencing materials it would provide ample space for the task. We applied to HPSO in 2021 and received a monetary gift to exchange the floppy, sagging fencing cloth for taller cement reinforcement panels.

Meanwhile, Mt. Cuba was receiving the new species from Dr. Estes and the grad students. Sometimes they were able to dig or divide plants if the wild population seemed robust. They also took cuttings and collected seeds on return visits. The Mt. Cuba team grew these clematis as the students prepared their dissertations for

The clematis donated by Mt. Cuba Center recovered quickly from transport and aggressive division.

Look at those glorious roots! We are delighted to have a specimen of *C. warei* dug from the wild population on Richard Ware's property.

About four days after first opening, the color of this collection of *C. subreticulata* had deepened to a lively shade of cherry.

publication. Amid this activity on opposite sides of the continent, Amy Highland moved on to become curator of the United States Botanic Garden in Washington, DC. She was replaced by Nora Wildberg, who has meticulously provided the extensive provenance for every specimen sent to us. In some cases, such as *C. arenicola*, we have collections from eight counties in three states. Why? To ensure genetic diversity in our seed bank, and to evaluate which might be most garden worthy.

The clematis began arriving in March 2025, as five shipments of beautifully rooted, brawny plants. We bare rooted them to avoid introducing pests or pathogens from the East, and wherever possible they were divided. The largest plants remained in the greenhouse to produce seed in an environment isolated from those pesky pollinating hummingbirds. The divisions were quick to progress from one-gallon to two-gallon pots, and once roots were out the drainage holes, these vigorous rascals—we began calling them "The Young and the Restless"—were planted outside in their new rows in what we now call the Mt. Cuba Area.

The Mt. Cuba Area includes type species from the southeastern United States (Texas, Oklahoma, Missouri, Arkansas, Louisiana, Mississippi, Alabama, Florida, Georgia, Tennessee, and Kentucky), as well as reestablished species recognized in the late 1800s before being lumped into *C. viorna*, and the species newly documented by Dr. Estes and the graduate students.

The new or reestablished species that have come to us through the study (either by donated wild-collected seed or Mt. Cuba-sourced plants) are:

C. arenicola (Mt. Cuba)
C. beadlei
C. cumberlandensis (Mt. Cuba)
C. flaccida (Mt. Cuba)
C. gattingeri (Mt. Cuba)
C. lobobracteata
C. missouriensis
C. ouachitensis (Mt. Cuba and as "Big Piney" seed)
C. ozarkensis (Mt. Cuba)
C. subcordata
C. subreticulata (Mt. Cuba)
C. teminalis (Mt. Cuba)
C. terranigre (Mt. Cuba)
C. vinacea
C. warei (Mt. Cuba and seed)

Of the clematis from Mt. Cuba, the first to bloom in Oregon soil is *C. subreticulata*, collected in Franklin County, Alabama. We are ensorcelled.

By spring 2026, many of these new species will be planted in their permanent locations. Visitors to the RCG will get to join us as we watch them bloom for the first time. They will be assessed for garden worthiness here, and young plants will be shared with collectors in other climates—putting the species through their paces—so we may confidently advise gardeners everywhere. We are loading our seed bank with the 2025 harvest and keeping the Mt. Cuba Center up to date on our progress. Our goal is to aid in species conservation both by preservation and cultivation. And when it comes to cultivation, the more gardeners growing these species, the merrier!

■ ■ ■

Linda Beutler has been the Curator of the Rogerson Clematis Collection since 2007 and an adjunct instructor of horticulture at Clackamas Community College since 1996. She is the author of Gardening with Clematis *(2004),* Garden to Vase *(2007), and* Plant Lover's Guide to Clematis *(2016), all published by Timber Press. Linda is a past president of the International Clematis Society and is currently a member-at-large on their governing council. In 2018 she was awarded their Golden Clematis Award for her service to the Society and the genus* Clematis.

Shady Characters Reach for the Sky

text and photography by Elizabeth Petersen

A large arbor built on two levels gives hydrangea, clematis, and hop vines support and creates a tunnel of foliage, flower, and wildlife habitat near a big, blank wall.

A good vine can do wonders for design and practical challenges in the garden. Vines have the ability to cover unsightly features like blank walls with minimal support; or they can adorn built structures like fences, arbors, pergolas, and trellises to create privacy screens and block unwanted views. Some vines partner nicely with and reach heights growing up the trunks of large shrubs or trees. Besides their beautiful displays of foliage, flowers, and fall color, vines can also support birds, butterflies, and pollinators; produce shade; and, in some cases, food.

But vines require careful evaluation of both their cultural needs (sun exposure, soil, drought tolerance, etc.) and their need for appropriately sized and located supports. Since an aggressive vine can cause friction between neighbors, and some spread far and wide by underground root networks, careful selection and siting can assure good results and reduce the potential for problems. For me, that means finding choices that will perform well in light to deeply shady sites.

Besides providing food for birds and bees and other pollinators, Virginia creeper lends brilliant fall color growing up the trunk of a large conifer.

A six-foot fence on the north side of my garden in West Linn, Oregon, seemed like a good spot for a vine. Years ago, I found an "excellent and refined" evergreen vine at Xera Plants, then in Portland, Oregon, called *Holboellia angustifolia* 'Large-leaf form'. It grows slowly and has been consistently successful without being overbearing, so last year I got two more to cover even more of the fence.

On a bigger scale, a blank wall and grade drop between my front and backyards presented different challenges and potential for vines. To solve the spatial problem, create beauty, and poise a privacy barrier between us and our nearby neighbor, my husband, Tim, designed and built an arbor. The open, wooden, walk-through structure incorporates slats overhead that connect the two sides and makes a tall tunnel over a garden path. The design visually softens the grade drop between the front and backyards and allows vines to cover both the bare wall and the exposed concrete foundation beneath.

On the sunnier end of the arbor, *Clematis montana rubens*, a vigorous grower (said to reach 20-40 feet) with purple leaves, settled right in and produces a long-lasting show of delicate, single pink flowers in spring.

Golden hop vine (*Humulus lupulus* 'Aureus') was tasked with growing in the darkest, driest section of the arbor beneath an overhang, where it excels at climbing both up and out, then reaching even higher as it winds up wires strung to the overhead roofline. Its foliage screens a window and brightens the corner. In summer, unique, fragrant, greenish-yellow flowers appear and then dry into small, papery ornaments that resemble little pinecones. The robust plant, which can be used to make rustic hop vine wreaths, has been wildly successful in a tough spot.

Perhaps my favorite vine turns out to be the dramatic climbing hydrangea, *Schizophragma hydrangeoides* 'Moonlight'. This wonderful deciduous vine started growing at the base of a tree-size rhododendron near the arbor but gradually wound its way along a sturdy branch and onto the built structure. There it thrives and produces masses of white, lacecap-like

A dwarf form of climbing Japanese hydrangea has a diminutive habit and blooms in spring with a pink *Kalmia latifolia*.

hydrangea flowers in late spring and summer. Luscious yellow fall foliage brightens the late season too.

Now, years later, these three beautiful, easy, drought-tolerant vines, each coming from a different direction, romp together over the arbor in a tapestry of foliage and seasonal flowers. They succeed at once producing beauty, adding vertical interest, and solving several design challenges. All are deciduous, but the woody vines left behind after leaf drop and the structure itself hold the scene in winter when we see used nests that confirm that birds, bees, and other wildlife enjoy it too. Nearby, a smaller version of climbing hydrangea (*S. hydrangeoides* 'Platt's Dwarf') on a smaller wooden trellis built by Tim also does a stellar job. With a more diminutive habit, it is an appropriate alternative for a smaller space.

Trees and shrubs can provide good support for vines if you are without an appropriate structure. In my space, a white-flowered *Clematis montana* happily climbs up through a tree-size rhododendron named 'Cynthia', where its dainty, single blooms create a delicious white frosting in late spring at the same time that bright pink rhododendron trusses appear. The effect is charming, and both clematis and rhododendron seem happy with the partnership.

Evergreen *Holboellia angustifolia* vine takes very shady, dry conditions and stays within bounds.

White *Clematis montana* vines bloom at the same time as their large pink partner, *Rhododendron* 'Cynthia'.

And, finally, I want to mention Virginia creeper (*Parthenocissus quinquefolia*). Native to eastern and central North America, Virginia creeper in my garden pairs with a tall deodar cedar (*Cedrus deodara*) tree in a super challenging, unwatered part of the yard. It has not shown any invasive tendencies in my garden, but people wonder about it. After all, English ivy has been invading our woodlands and public spaces for years. This vine, though, winding up the trunk and out onto the branches, seems content to act as an ornament for the big tree, and in fall, its leaves turn fiery red for a brilliant effect.

Vines can definitely be great additions to gardens, offering a wide range of positive aesthetic and practical elements. As with all plant placement, though, vines require careful consideration, even caution, for best results.

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Plant nut Elizabeth Petersen partners in the garden with husband/hardscape guy Tim. Basalt boulders, patios, and gently crisscrossing cedar-chip paths define the many planting beds with a variety of conditions. A member of HPSO since 2011, and a teacher and garden writer before retiring, she loves living a horticultural experiment.

Yard 'n Garden Land

For the Gardener's Yard and Land

text and photography by Jim Mitchell

An extensive inventory and variety of trees, plants, and shrubs greet visitors.

If you visit Yard 'n Garden Land in Vancouver, Washington, be sure to wear walking shoes. It's big, and you'll want to see it all.

And in this case, big means a depth of inventory. Or more specifically, trees, shrubs, perennials, annuals, and virtually everything else a gardener could need, including those required-but-boring essentials such as gravel and bark dust.

Welcome to the largest retail nursery in Clark County—and among the largest in the Portland metro area. Yard 'n Garden Land may not be well known south of the Columbia River, but to Clark County folks, and other gardeners who need either quality or quantity of garden materials—or both—it's the place to go.

It wasn't always that way. In 2025, Yard 'n Garden Land celebrated its 60th anniversary of business in Clark County. When it started in 1965, the business was quite different, as you might expect. It was a wood waste recycle site, on a property a few miles north of downtown Vancouver, a very rural area back then. Founders and visionaries Roy and Donna Sonney had an acre or so and wisely bought five adjacent acres. As the business prospered, they added a few plants to sell, mostly rhododendrons. That was the start. Soon, they were selling soil mixes, amendments, bark dust, nuggets, and rock. More plant materials were added as the years went by.

Todd and Jessica Flatt are the third generation taking care of business at the nursery.

The business today is still on those five adjacent acres. It was the right place and right business to grow. Along with Vancouver and Southwest Washington, that original rural area has become the suburbs. But Yard 'n Garden Land's growth and current size has never meant a lack of personalized service.

Today if you're looking for trees—fruit, evergreen, deciduous, or anything decorative in ball and burlap or buckets—ask Tim Shull for a tour. He manages the outside areas. If you want shrubs, roses, perennials, berries, herbs, vegetables, annuals, unique containers, or hanging baskets, ask for Kellie Rhodes to show you around the greenhouses. Then if you need anything practical or decorative—indoor plants, pottery, bird houses, windchimes, flags, solar lights, spinners, kids' toys, garden tools, fertilizers, disease and pest products, lawn care supplies, seeds, or bulbs—check with Todd Flatt. He's often found in the 10,000 square foot garden store.

In short, if you're looking for something garden related, chances are good you'll find it at Yard 'n Garden Land. Cue the cliche: "One-Stop Shopping."

It's truly a family business, and the family is large. Third-generation Jessica Flatt, granddaughter of the original owners, manages the paperwork. Her husband, Todd, and veteran employees, Tim and Kellie, manage the rest. Over the years, all eight grandkids and many other family members have worked here. The next generation of great-grandkids are in the mix and may catch the horticulture bug.

Clark County members of the Hardy Plant Society of Oregon know the place well. An HPSO After Hours here last fall was well attended, and the Society's Clark County interest group has met here several times.

"I can tell when experienced gardeners walk in," Tim says during a recent tour of the grounds. "They know what they want—usually a specialty plant. We have those, of course." He notes that novice gardeners seem more interested in edibles—blueberries, vegetables, herbs, and fruit trees.

But it's more than just a warehouse of plants and trees. "Our goal is for our displays and plant materials to inspire," Jessica says.

Inspire? Yes, and the greenhouse tables prove it. The displays are not limited to rows of plants but also include carefully

curated arrangements of colors, textures, and garden art positioned in creative ways. A visitor may find a stone pot, a ceramic bird, and perhaps a metal sculpture nestled with a small western hemlock and a flowering currant. The intent is to "liven up things for the gardener," Jessica says.

New material arrives every week, and most inventory turns over in a year. "Virtually all our materials are sourced within 100 miles," Todd says.

The nursery is open year-round. A visitor who arrives in winter sees rows of heuchera, lines of hellebores and pansies, and a greenhouse full of dwarf evergreens, to name a few. The same visitor in summer will find rows of trees, lines of shrubs, and a greenhouse full of annuals, perennials, and ornamental grasses.

The full-time staff is about 20; in the summer, it reaches over 40. Many folks have worked there for years. In other words, there's always someone around to answer questions and provide advice. "We're big, but we're not a Big Box store," Jessica says. "We offer a lot more than that."

Visitors may find that "a lot more than that" rings true. Yard 'n Garden is just off I-5, a few miles north of the Columbia River. It's no longer small and rural. And don't forget your walking shoes.

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Jim Mitchell is a retired journalist and long-time HPSO member. He lives in Oregon but found the short trip north to Yard 'n Garden a unique experience, and—he admits—inspiring. He regularly contributes to the Quarterly.

1501 NE 102nd Street
Vancouver, Washington 98686
360-573-7172
yardngardenland.com
Check website for seasonal hours.

Greenhouse displays bring inspiration to customers.

Yard manager Tim Shull (right) and Ann Meeuwsen of Hochstein Nursery check out a new shipment of hydrangeas from the Forest Grove, Oregon, wholesaler.

Introspection & Intentionality

An Interview with Marina Wynton

text and photography by Sara L. Sumpter

The abundantly planted perennial beds at Manzanita are framed by permeable gravel and cut, polished river rock.

It's a perfect late summer afternoon when I arrive at Manzanita, the private North Portland garden of landscape designer Marina Wynton, and the plants are running beautifully amok—just as Wynton wants them to.

"I like to let plants do their thing," she tells me as we stand on the entry path leading into the street-facing portion of the Backyard Habitat-certified garden. "I'm not a big-time pruner or a manicurist. I like to see and understand the natural habit of each plant. And knowing that informs my plant compositions and creates less maintenance. The result can be a more naturalistic aesthetic with less effort by the gardener."

Water from gutters attached to an Eco Roof-topped shed pour into a rain garden lush with ferns and grasses.

Wynton is the owner of, and principal designer for, Olivine Land, an interior and landscape design company that offers residential design services including building, interiors, and landscape design in the Pacific Northwest and California. Manzanita garden serves as a testing ground for Wynton to explore spatial, horticultural, and ecological intentions. "The front yard has gone through many evolutions as my understanding about plants and the climate have changed," she explains.

At present, Wynton's front yard incorporates evergreens that provide year-round visual interest; deciduous shrubs for evolving texture through the seasons; and lots of environment-appropriate, drought-tolerant perennials, many of them native to the Pacific Northwest, that serve to create a welcoming habitat for both wildlife and human visitors. The wide expanse of frontage features an array of gardenscapes, with a perennial plant garden in full sun, a shaded native hedgerow, and a creative rain garden solution to manage stormwater. Pathways of permeable gravel and river rock flagstones, handcut and set by Wynton's husband, Mike, accentuate the natural feel of the urban garden space.

The Manzanita of today is a far cry from the largely empty, lawn-covered space that Wynton and her husband acquired nearly two decades ago, and the evolution of the garden in many ways mirrors Wynton's own journey to landscape design. Originally graduating with dual degrees in art history and painting, she later obtained a master's degree in interior architecture from the University of Oregon School of Art, though by that time, the landscape design bug had already bitten. Musing on the experience, Wynton notes that "by the time I finished with my architecture degree, I was feeling very drawn to landscape architecture."

Post-graduation, Wynton taught architecture and interior design while also working

The vegetable garden is planted in this collection of raised, corrugated metal beds, designed by Wynton and fabricated by her husband, Mike.

for commercial and residential architectural firms. Eventually, however, the drive to take up garden design overcame her, and she resolved to spend a couple of years planning her career shift. The first step was more education, something which Wynton advocates passionately. This time, her educational journey came via Portland Community College's Landscape Construction Technology program, where she took courses as needed—augmenting her extensive design experience with numerous classes on plant science, plant identification, and landscape-specific construction techniques.

The result of this prodigious education is a two-pronged approach to landscape design that begins with a dual assessment of site-specific requirements and client-specific needs and desires. Wynton's first step is always to develop conceptual space plans. "Spatial composition is a really fascinating area of study," she notes, "and it's tied to culture, sociology, human psychology. It's one of my favorite things to think about. The way that people *understand the world* is often how they organize *their* world."

For Wynton and her clients, the process of designing a garden is also an introspective process of self-discovery: one in which her clients collaborate in the full realization of a space that fits the shape of, and consequently enhances, their lives. "People know a lot more about their environment, whatever that is, than they realize," she tells me. "We just have to bring it into consciousness, take that information, and build something from it."

In Wynton's case, awareness of her environment guides her approach to the constantly shifting canvas of Manzanita. She is particularly fascinated by the diversity and complexity of perennial flower forms and uses her front yard domain as a means of experimenting with different plants. Asked about her intentions going forward, Wynton cites the importance of creating environmentally conscious habitats that work for everybody ("birds, bees, people") while conserving water, promoting soil health, and—above all—providing continual, but ever-evolving, visual interest. Indeed, with the wildness of the late summer season setting in, Wynton is already thinking ahead to the next evolution of her garden.

"I want it to be a little more simple," she says. "In a week or so, I'll dig up and divide some of the perennials and pass them along to my neighbors. Just reduce the number of flowering plants; make it a little easier to deal with. It's the time of year where things start to look a little overgrown and out of control to me, like there's no thought to it."

That, of course, could not be further from the case. From the walkways and flowerbeds to the water features and garden structures, thoughtful intentionality is the guiding principle behind Manzanita, and—even in the dog days of summer—it shows.

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Marina Wynton is a building, interior, and landscape designer with 36 years of professional experience. Her garden, Manzanita, is open for private tours by appointment. Learn more about her work by visiting olivineland.com.

Sara L. Sumpter is a professional editor and translator living in Northeast Portland. A determined, though still relatively junior, gardener, she is interested in expanding her knowledge of gardening to include methods of seed saving, food preservation, and foraging. She is a regular contributor to the Quarterly.

A shaded area in the front yard boasts bird bath and sheltered feeding stations that encourage winged visitors to rest and roost.

FIRE-WISE GARDENING

by Adria Sparhawk, Lisa Kieraldo, and Karen Palmer

All photos by Adria Sparhawk.

Defensible space can be expanses of hardscape with non-flammable materials such as gravels, pavers, concrete or stone. These areas can be graphically beautiful and serve the additional purpose of areas for play or entertainment.

We now have a wildfire season in the Pacific Northwest that is trending longer each year. By adopting fire-wise strategies that create defensible space around our homes, we can reduce the risk of fire for ourselves and adjacent properties in our neighborhoods.

We can further empower ourselves by participating in local fire-wise community programs, which provide guidance and great resources as well as opportunities to meet neighbors and build connections for resilient cooperation and action. As gardeners, we are uniquely positioned to contribute to these important conversations. Our knowledge of plants, our close observation of weather patterns, and especially our appreciation of the natural world and the ways in which our gardens can have positive impacts are all important pieces of these discussions. Your perspective is valuable as we face this growing crisis.

Most of the guidance on fire-wise landscaping available from state and federal agencies is applicable primarily for larger rural properties located within the wildland-urban interface. There is less information available to urban homeowners.

However, some of these practices can be applied or modified to suit city dwellings.

Create Defensible Space Zones

- Immediate Zone (0-5 feet): Use non-flammable materials in the areas closest to your home such as natural stone, river rock, gravel, pavers, or concrete instead of mulch.
- Intermediate Zone (5-30 feet): Plant fire-resistant plants with spacing between plantings to slow fire spread. Hardscaping like walkways and patios in these areas can act as a fire break.
- Extended Zone (30-100 feet): This is a transition zone where you can have larger planting areas including a mix of fire-resistant plants and trees.

Islands of plantings with defensible space between allow for some density of planting within a fire-wise design.

Use Non-Combustible Materials

- Hardscaping: Use stone, gravel, decomposed granite, cement pavers, tile, or concrete for pathways, patios, and retaining walls to disrupt fire spread.
- Mulch: Use non-combustible alternatives to traditional wood mulch, such as gravel, rocks, or bare soil. Organic mulch has a plethora of benefits within a garden and so a risk/reward analysis is important. Composted wood chips or smaller diameter nuggets are less hazardous options. Where possible, avoid pine needles, cones, straw, and large

Natural stone elements can hold space in a landscape, creating year-round interest and allowing for a sparse planting plan.

nuggets that do not absorb water and thus ignite more easily.

- Outdoor Structures: In areas close to the home, use fire-resistant materials like metal and fire-rated fiber cement for construction of fences and outdoor structures like trellises, pergolas, and sheds.

Design a Fire-Resistant Planting Plan

- Plant selections should be suited to the specifics of your climate. Plants that are heavy in oils, waxes, and resins are often the most drought tolerant, but these are also the qualities that make them flammable, so weighing the costs with the benefits is important. One solution is to site flammable plants far from the home and isolate them away from trees and within hardscaping fire breaks so they do not become ladder fuel. Appropriate fire-wise plant lists are available through your local extension office or Master Gardener program.
- Spacing between plants slows the spread of fire from one plant to another.
- Avoid plantings in front of windows as the heat of a shrub engulfed in flame can crack a window allowing embers into the interior of the home.
- Choosing plants with less dense branching and pruning lower branches of trees can prevent fire from climbing up into the canopy. There should be at least 10 feet between the lowest branches of a tree and the understory plants below.
- While non-woody perennials and grasses can ignite quickly, they also burn fast and exhaust themselves while woody shrubs and trees will burn for much longer and therefore pose the threat of fire spreading to adjacent plants or structures. There is some debate as to the benefit of landscaping with perennials vs. woody plants.

Practice Fire-Wise Maintenance

- Limit the build-up of debris like dead leaves, branches, and other flammable materials like pine needles and cones in areas close to the home. This practice should be weighed against the importance of good soil health and the benefit of leaving fallen organic material over the winter to feed beneficial organisms in the soil. Breaks between mulched areas can also reduce fire spread.
- Dry vegetation is more likely to ignite, so maintaining a healthy well-hydrated garden with plants suited to your climate is essential.
- Keeping roofs and gutters clean and free of debris is key to reducing fire hazard.
- Consider cutting back perennials and tall grasses during the high-risk fire season.
- Irrigation systems with high volume sprinklers that can be turned on remotely during an evacuation are only effective if the power remains on.

Manage Combustible Items

- Store firewood, grills, and other flammable materials away from the house.
- Patio furniture, cushions, door mats, and sun sails are also flammable. Move these items away from the home or in the garage when evacuating.

Go to firewise.org for much more information on reducing your wildfire risks. And please remember to develop a fire safety plan with your family that includes evacuation details for you and your pets.

This Oregon State University publication includes more plant-specific information for fire-resistant plants: https://extension.oregonstate.edu/catalog/pub/pnw-590-fire-resistant-plants-home-landscapes

■■■

The authors are former members of HPSO's Climate-Wise Committee. Adria Sparhawk has lived a life immersed in the natural world with a career in garden design. Born and raised in the Pacific Northwest, she has learned the subtleties of our climate, diversity of plants, and bioregions. Former owner of Thicket Nursery, Adria is a longtime HPSO member and has served on its Board of Directors. Karen Palmer, recently elected as HPSO President, has been a member of the Society and its Clark County interest group since 2006. She was previously HPSO Treasurer, a member of the Executive Committee, and co-chair of the Climate-Wise Committee. Karen also has been a Master Gardener in Clark County, Washington, for 25 years, holding numerous offices and committee assignments. Lisa Kieraldo has been an HPSO member since 2021. She gardens in Bend, Oregon, and is a Deschutes County Master Gardener.

NOTE: Also see the stone mulch photo on the inside front cover.

Pesticides in Garden Spaces and in Garden Plants

by Gail Langellotto

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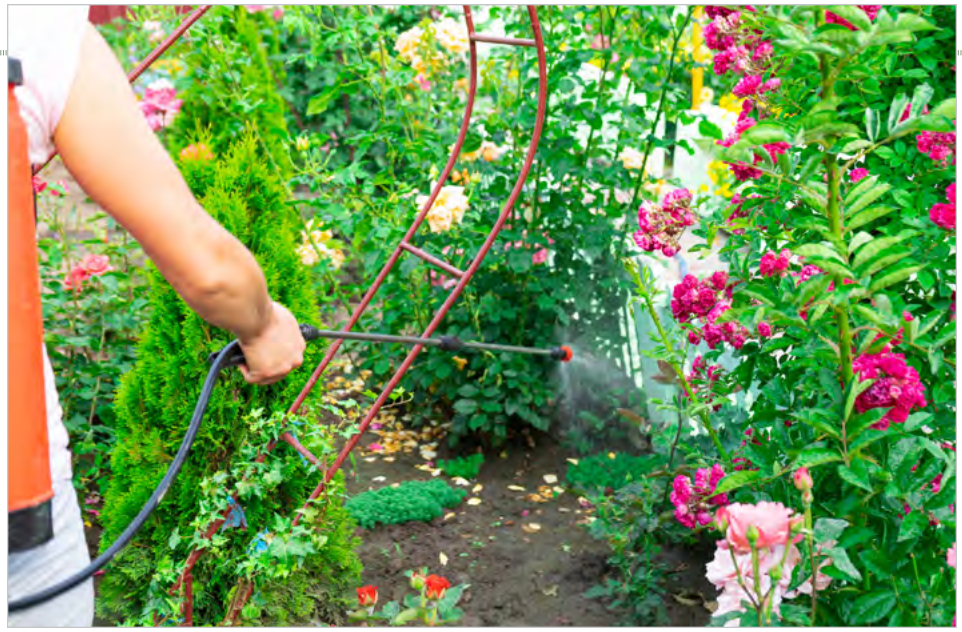

Attempts to quantify pesticide use among home gardeners have yielded unreliable estimates, in part because many gardeners have trouble identifying what types of products are pesticides.

Survey data suggests that 1.1 billion pounds of pesticides are used in US agricultural operations each year.[1] Notably, this estimate drastically underestimates total pesticide use, since US Department of Agriculture surveys do not capture farmers' use of pesticide-treated seed, even though use of neonicotinoid-treated seed now constitutes the majority of corn and soy acreage planted in the United States.[2]

Even without inclusion of treated seed, data suggests that pesticides are a ubiquitous feature of agricultural operations. In Oregon alone, more than 15,500 unique pesticide products are registered for use.[3] In 2008, nearly 20 million pounds of pesticide active ingredient were used in Oregon, with the vast majority of these compounds applied in agricultural settings.[4]

Compared to agricultural areas, information on pesticide use in gardens and urban landscapes is sparse. Attempts to survey gardeners about pesticide use are complicated by the fact that many people do not accurately report and/or cannot accurately identify the pesticides that they are using.[4] Nonetheless, in 2008, the Oregon Department of Agriculture surveyed over 1,500 Oregon households to ask them detailed questions about their pesticide use.[4] They found that yard-applied insecticides were the most common pesticide application type. However, because survey participants were often 1) unable to specify the amount of pesticide that they used, 2) unable to determine which products were pesticides, and 3) unable to provide an EPA registration number of the products that they used, it was impossible to develop a more granular understanding of how Oregonians use pesticides in garden spaces.[4]

Outside of direct applications by gardeners or landscape maintenance companies, pesticides can be introduced into garden spaces via the purchase and planting of nursery plants that were exposed to pesticides during production. US nursery plant producers report using 2.8 million pounds of insecticides each year, representing 46 unique active ingredients, to control mites and insects on ornamental plants.[5] Pacific Northwest bulb growers report using an average of two to six insecticide applications each growing season (often tank mixed with fungicides) to produce market-ready daffodils, tulips, irises, and lilies.[6]

There have been a few studies that have looked at pesticide persistence in ornamental plants. One recent study[7] assayed pesticide compounds in 235 milkweed plants, representing five species (*Asclepias curassavica*, *A. fascicularis, A. incarnata, A. speciosa*, and *A. tuberosa*) purchased from 33 stores across 15 states. They found 60 pesticide compounds across all plants, including 24 insecticides, 26 fungicides, and 10 herbicides. All plants contained at least two pesticide compounds, and some contained as many as 28.

Another study[8] assayed pesticide compounds found on 19 plant genera growing in 24 sites in Sacramento, California and Albuquerque, New Mexico. Within each city, five of the sites were private gardens. Researchers visited each site in May (Sacramento) or June (Albuquerque) of 2022, and collected plant material from 10 individual plants, for each plant genus sampled. Plant genera represented common garden plants that are known or presumed to be important larval host plants for butterflies: *Achillea* (yarrow), *Plantago* (plantain lawn weed), *Sphaeralcea* (globemallow), *Helianthus* (sunflower), *Asclepias* (milkweed), *Quercus* (oak), *Chilopsis* (desert willow), and *Salix* (willow). Across 336 plant samples, 314 (93 percent) tested positive for at least one pesticide. In all, they detected 44 unique pesticide compounds, including 14 insecticides, 10 herbicides, and 20 fungicides.

Although these recent studies may be alarming, it is important to put the results in context. Pesticide compounds were detected on nearly all plants, but the amount detected was almost always extremely low. Across both papers, for example, pesticide compounds are reported in parts per billion (ppb), whereas the EPA reports levels of concern for pollinators in parts per million (ppm). In the survey of garden plants in Sacramento and Albuquerque,[8] many compounds were found in trace amounts, which are levels high enough to be detected, but too low to be accurately measured.

For example, chlorantraniliprole is an insecticide that is highly toxic to butterflies and moths at doses as low as 0.04 parts per million (ppm).[9] In the milkweed study,[7]

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The scale of ornamental nursery plant production makes plants more prone to pest problems that require pesticide application.

this insecticide was found in seven of 235 plants (three percent) at a mean dose of 0.00053 ppm and a maximum dose of 0.00132 ppm. This is one to two orders of magnitude smaller than the lethal doses for caterpillars. This same compound was detected in seven of 32 (22 percent) oak samples in the garden plant study[8] but always in trace amounts.

Pesticides on garden plants are a concern, particularly when many gardeners cultivate plants to support pollinators. Due in part to recent high-profile cases of pesticide poisoning of bumblebees[10] and monarch butterflies,[11] gardeners are seeking ways to protect pollinators. Actively working to reduce or eliminate your pesticide use in the garden is the most direct action that you can take to protect pollinators. If you use a landscape management company, work with them to ensure that they are able and willing to use an integrated pest management program that reduces or eliminates pesticides wherever possible. If you have a garden plant that requires regular pesticide applications to look acceptable, think about searching for a lower-maintenance replacement plant. If you do use pesticides, make sure to read the label before application, and preferably before purchase! It takes effort and knowledge to sustainably manage pests, but that effort will pay off, in the form of a more vibrant and intact ecological community within your garden.

Gail Langellotto is a professor of horticulture at Oregon State University and Principal Investigator of the Oregon State University Garden Ecology Lab. She holds a B.S. in biology and an M.S. and Ph.D. in entomology, all from the University of Maryland. She is a regular contributor to the HPSO Quarterly.

In 2008, nearly 20 million pounds of pesticide active ingredient were used in Oregon.

In 235 milkweed plants across 15 states, 60 pesticide compounds were found across all plants, including 24 insecticides, 26 fungicides, and 10 herbicides. All plants contained at least two pesticide compounds, and some contained as many as 28.

Endnotes

[1]US Geological Survey (USGS). 2024. Estimated annual agricultural pesticide use. https://water.usgs.gov/nawqa/pnsp/usage/maps/ Accessed October 30, 2025.

[2]Hitaj, C., et al. 2020. Sowing uncertainty: what we do and don't know about the planting of pesticide-treated seed. BioScience, 70: 390-403.

[3]Oregon Department of Agriculture (ODA). 2023. Pesticides Program: 2023 Annual Report. 15 pages.

[4]Oregon Department of Agriculture (ODA). 2009. Pesticides Use Reporting System: 2008 Annual Report. 32 pages.

[5]Hudson, W.G., et al. 1996. Pest management in the United States greenhouse and nursery industry: V. Insect and mite control. HortTechnology, 6: 216-221.

[6]Chastagner, G.A. 1997. Pesticide use patterns associated with the production of ornamental bulb crops in the Pacific Northwest. Acta Horticulturae, 430: 661-668.

[7]Halsch, C.A., et al. 2022. Milkweed plants bought at nurseries may expose monarch caterpillars to harmful pesticide residues. Biological Conservation, 273: 109699.

[8]Dittemore, M.I., et al. 2025. Pesticides detected in two urban areas have implications for local butterfly conservation. Environmental Toxicology and Chemistry, vgaf218.

[9]Gervais, J.A., et al. 2022. Chlorantraniliprole Fact Sheet; National Pesticide Information Center, Oregon State University Extension Services. npic.orst.edu/factsheets/chlorantraniliprole.html.

[10]Hatfield, R.G., et al. 2021. Neonicotinoid pesticides cause mass fatalities of native bumble bees: a case study from Wilsonville, Oregon, United States, Environmental Entomology, 50: 1095–1104.

[11]Cibotti, K., et al. 2025. Pyrethroid insecticides implicated in mass mortality of monarch butterflies at an overwintering site in California, Environmental Toxicology and Chemistry, 44: 2716–2724.

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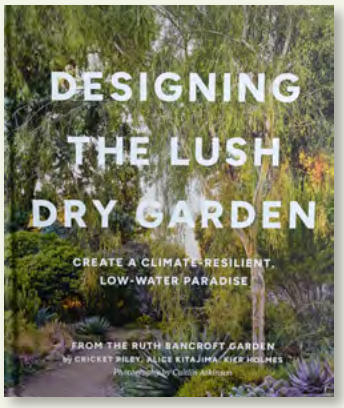
Garden plants with pesticides can harm or kill beneficial insects, such as this monarch butterfly caterpillar.

BOOK REVIEWS

Phillip Oliver, HPSO Garden Literature Committee member, reviews two new books.

Terms like “climate change,” “severe drought,” and “atmospheric river” seem to be far too common these days; and it is obvious that gardeners pay more attention to climate issues than the average person. As our local weather becomes hotter in the summer and drier in the winter, we can't help but be concerned about our gardens. Here are two new books, both beautifully photographed by Caitlin Atkinson, that should inspire and offer hope in these changing times.



Designing the Lush Dry Garden:

Create a Climate-Resilient, Low-Water Paradise

by Cricket Riley, Alice Kitajima, Kier Holmes (Timber Press, 2025)

In 1971, at the age of 63, Ruth Bancroft of Walnut Creek, California, started a new garden for her collection of over 2,000 potted succulents. Her husband had just cut down a three-acre orchard and gave her free reign to do whatever she wanted with the land but with a stipulation—they would not dig a new well, and they would not use city water. Since Ruth mainly needed space for her huge succulent collection, she proceeded unfazed, not realizing that her garden was to be highly unconventional and, in time, highly influential.

The Ruth Bancroft Garden would be the first garden preservation project chosen by the newly formed Garden Conservancy, and it opened to the public in 1992. Ruth was 84 at the time and would continue to work and supervise the garden into her late 90s. She died in 2017 at the ripe old age of 109!

Today, the Bancroft Garden continues to influence and inspire. Authors Riley and Kitajima, who both work there, in 2019 launched the Dry Garden Design Certification Program, which teaches participants how to create a climate-resilient, low-water garden.

This book begins with the program’s principles, such as how to create a design, do a site analysis, select a theme, and work with plant shapes and colors. The second section focuses on individual plants that thrive in these gardens. Further chapters explore using plants in containers, laying a proper foundation, employing hardscape, mulching, and ongoing maintenance.

The last half of the book profiles 17 California gardens whose owners have adopted the Bancroft principles and created their own paradises. The gardens offer a diverse range of styles, with their own individuality, but all adhering to a common goal.

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Gardenista:

The Low-Impact Garden

by Kendra Wilson (Artisan, 2025)

This attractive volume showcases 12 gardens from the United States, Canada, Australia, and the United Kingdom where low-impact, nature-based gardening is practiced with low labor intensity, and biodiversity is a top priority. Prairie gardens, rock gardens, exotic, and the eclectic, they range from acres-spanning rural settings to small city plots. One of the properties featured is Chickadee Gardens, the St. Helens, Oregon, garden created by HPSO member Tamara Paulet and her husband, David Pinson, where they focus on climate-adapted and native plants.

A chapter on particular garden situations, such as front gardens, courtyards, pools, and roof gardens, highlights new ideas for planting and using hardscape elements.

A chapter on “low-impact elements” offers ways to work with grass, meadows, trees and shrubs, native plants, keystone species, soil, and water. Along the way, there are question and answer segments with landscape professionals.

Finally, the Gardenista organization is known for promoting products, and they do so here with a chapter on their favorite garden equipment, tools, clothing, and more, including prices and websites where items are available for purchase. A resource directory lists websites for source information (gardens, museums, schools, etc.) as well as a list of featured landscape architects, designers, and other garden professionals.

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Phillip Oliver is a former HPSO board member. He gardens in Vancouver, Washington, and is a seasonal employee at Yard ‘n Garden Land near his home. He documents happenings in his garden (which is often opened to HPSO members) and elsewhere on his blog Dirt Therapy (phillipoliver.blogspot.com).

Cypripedium ‘Anna’, page 3. Photo by Norm Jacobs.

The Hardy Plant Society of Oregon
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www.hardyplantsociety.org

The Hardy Plant Society of Oregon is a 501(c)(3) non-profit organization whose purpose is educational and whose mission is to nurture the gardening community.

UPCOMING EVENTS

March 22
Plant Nerd Night (Afternoon) at the Lake Oswego High School Auditorium

Friday, April 3, and Saturday, April 4, Hortlandia Spring Plant Sale at the Westside Commons Wingspan Event Center

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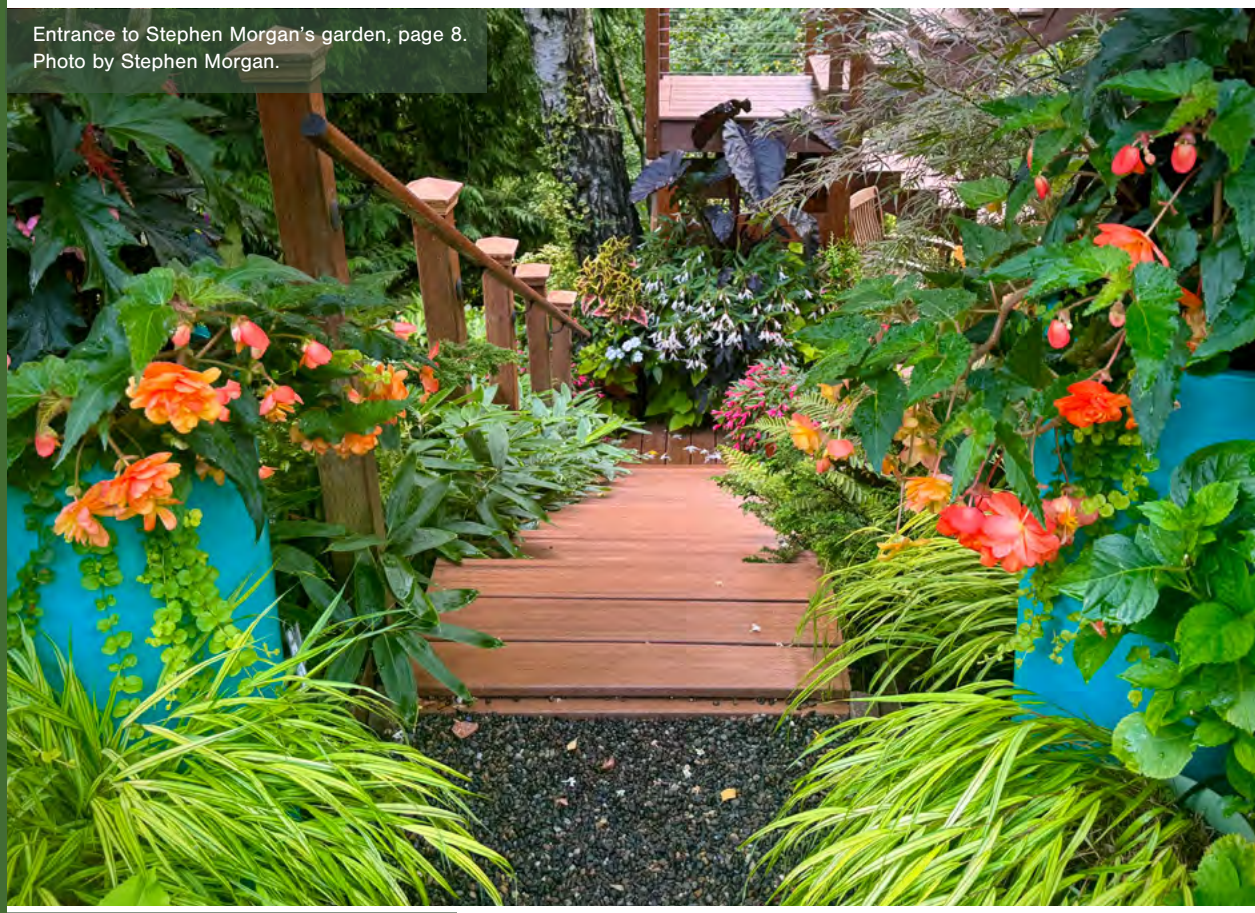
Watch for more program information and open garden information in HPSO emails and at hardyplantsociety.org



Entrance to Stephen Morgan's garden, page 8.
Photo by Stephen Morgan.

Clematis subreticulata four days after opening, page 12.
Photo by Linda Beutler.

A leafcutter bee returns to her nest in bamboo, page 6.
Photo by Amy Campion.