

The American GARDENER

The Magazine of the American Horticultural Society

November/December 2001

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the American Horticultural Society



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Contents

Volume 80, Number 6 • November / December 2001



FEATURES

18 GLORY BOWERS

BY RAND B. LEE

The Victorians loved the genus *Clerodendrum* for the showy flowers that form on tender vining species, but today's gardeners are taking note of its semi-hardy shrubby members.

23 DECIDUOUS CONIFERS

BY CARL HAHN

Descendants of the first trees that clothed the earth, deciduous conifers bring drama, majesty, color, and texture to the garden.

29 ON THE TRAIL OF A FABLED PLANT HUNTER

BY SUSAN DAVIS PRICE

Two modern explorers tracing the route of an early-20th-century English plant hunter meet by chance in a remote Tibetan village.

34 DESIGNING A WINTER GARDEN

BY C. COLSTON BURRELL

Create a tapestry of berries, bark, and flowers for winter effect.

40 DEADHEADING RECONSIDERED

BY LAUREN BROWN

Those seed heads we zealously prune each fall can provide interest in the winter garden and food for wildlife.

44 WHEN GOOD PLANTS GO BAD

BY CAROLE OTTESEN

Most ornamental plants are good garden citizens, but a few quickly wear out their welcome.

ON THE COVER: Showy red-and-ivory flowers and foliage in various shades of green make variegated bleeding heart vine (*Clerodendrum thomsoniae* 'Variegatum') a stellar house plant.

Photograph by Michael S. Thompson

DEPARTMENTS

5 AN INSIDE LOOK

6 MEMBERS' FORUM

7 NEWS FROM AHS

A minority internship fund created at AHS, 2001 Youth Garden Symposium a success.

8 AHS MEMBER IN FOCUS

Terry Crombie, greenhouse manufacturer.

10 SMARTGARDEN™

Using beneficial insects to control pests.

12 GARDENER'S NOTEBOOK

Horticultural businesses filing for bankruptcy, gardening can help women maintain bone density, 2002 Gold Medal plants.

14 OFFSHOOTS

It takes time to develop a garden.

15 GARDENERS INFORMATION SERVICE

Overwintering potted trees and shrubs, planting orchid pseudobulbs, maintaining periwinkle, cutting back perennials.

16 NATURAL CONNECTIONS

Snakes, toads, and bats.

49 POINSETTIAS

Selected new varieties.

50 GIFTS FOR THE GARDENER

Gift ideas, large and small.

52 BOOK REVIEWS

Flowers A to Z, *Sensational Bouquets* by Christian Tortu, *Pioneers of American Landscape Design*, *Armitage's Manual of Annuals, Biennials, and Half-Hardy Perennials*.

56 REGIONAL HAPPENINGS

Garden of Peace in Texas, culinary garden in California.

59 HARDINESS AND HEAT ZONES AND PRONUNCIATIONS

60 2001 MAGAZINE INDEX

62 NOTES FROM RIVER FARM

Finding solace in the garden.





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To receive an application for the Society's Intern Program, write to Janet Walker, director of horticulture, at the address above or e-mail her at jwalker@ahs.org. Intern application forms can be downloaded from the River Farm area of the Society's Web site at www.ahs.org.

RECIPROCAL ADMISSIONS PROGRAM

The AHS Reciprocal Admissions Program offers members free and discounted admission to flower shows and botanical gardens throughout North America. A list of participating shows and gardens can be found in this year's *Directory of Member Benefits* and also in the Membership area of our Web site.

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The AHS Web site is a valuable source of information about the Society's programs and activities. It is also an important resource for getting the answers to gardening questions, finding out about gardening events in your area, and linking to other useful Web sites. AHS members can reach the members-only section of the Web site by typing in this year's password: smartgarden.

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An Inside Look

RADIO REPORTS AND word of mouth were how my family learned of the Japanese attack on Pearl Harbor on Sunday, December 7, 1941. When we returned to our home in Red Springs, North Carolina, from a family outing that day, we had no idea that my father would be away from the family for almost five years. When he went off to war, we moved to Davidson, my dad's family home, where the community and church provided support and resources for us and other fragmented families. During those quiet years, I learned to garden with encouragement from my grandmother, Miss "Nannie," and many local residents. We endured many privations—including being limited to a gallon and a half of gas a week for our Chevy—but nothing dimmed our patriotism.

Because of the astounding evolution of communications technology over the last 60 years, on September 11, my wife and I saw the second plane crashing into the World Trade Center tower live on television. Unlike the Pearl Harbor attack, the experience was in real time. But, as with Pearl Harbor, we knew immediately that our lives and way of life were forever changed.

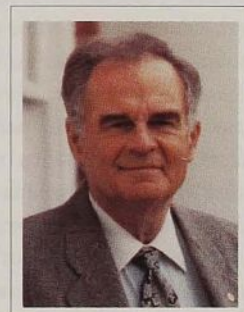
Few of us were able to join bucket brigades, provide medical services, or directly assist the survivors. But there are many other ways we can all help to provide moral support for our country and service men and women. As in previous national emergencies, gardening for food—much like the Victory Gardens of World War II—beauty, and sustainability must be emphasized to ensure that the progress we have made does not get neglected as our nation gears up to contain global terrorism.

Other ways we can all help include sharing our time, the products of our gardens, and our knowledge of plants and gardening traditions. If you know children and adults who could use some brightening time, give them a call, make a surprise visit, take them on a day trip, or drop off a gift of plants or flowers. Share heirloom seeds or the harvest from your own garden with others. Teach friends, neighbors, and relatives how to successfully grow plants for food and beauty. Cultivate a new generation of storytellers by passing along cherished gardening experiences and family traditions.

We must also ensure that our mobilization activities do not have an adverse effect on the health of our environment. And we must not stop gardening and planning new gardens. We have no idea how long the new national emergency will be in force, so it's important not to pass up opportunities to create and plant legacies that will be around for future generations.


Now it's more important than ever to find the "right plants for the right locations" to honor the continuing legacy of the United States of America. I believe, more than ever, that the green of plants is the color of hope.

Ever in green, topped with red, white, and blue banners,



H. Marc Cathey

—H. Marc Cathey, AHS President Emeritus



Members' Forum

PROPAGATING MALLOWS

I thoroughly enjoyed Donald Humphrey's article "All-American MalloWS" in the July/August 2001 issue. I grow some of the mallows mentioned in the article in my garden and would appreciate advice on their propagation. Can they be divided, for example?

Donald R. Ridley
Branchburg, New Jersey

DON HUMPHREY'S RESPONSE: *Multi-stemmed hibiscuses can indeed be divided. A good time to divide them is in spring just as new growth commences. Dig deeply to get a foot or more of the heavy brown roots, which will be attached to the dead growth from the preceding year. Carefully cut or pull the roots apart, making sure there is at least one budding stem attached to each section of root. Replant immediately in rich loamy soil or pot up for later planting.*

A fair percentage of softwood cuttings will root, depending on the method used. Take softwood cuttings in July and dip the base of the cuttings in a rooting hormone before potting. Keeping the cuttings moist with a misting system will probably produce the best results, but if you don't have a misting system, you can keep cuttings from drying out by placing a clear plastic bag over the pot or flat—be sure to keep the plastic away from the cuttings by propping the bag up with sticks or plant labels. Keep

cuttings away from direct sun. Remove any flower buds that form during the first year to promote strong root growth.

MISUNDERSTOOD MOLES

Rosalie Hanson's "Offshoots" piece in the July/August issue was amusing, but her "recurring nightmare" of moles tunneling through her garden beds unfortunately perpetuates a long-standing myth about moles.

Moles don't eat plant roots or bulbs; they subsist on a diet of worms and grubs. It's mice, voles, and other rodents using the mole tunnels that eat the plant parts.

For gardeners who really have moles and can't bear the unsightly bulging their tunnels create in the lawn, scissors or harpoon traps are the only effective method to get rid of moles. If you have the stomach for it, persistent trapping over four to six weeks will clear an area of moles. But even that is a temporary fix; the area will stay clear for several months—until the next generation of moles at your neighbor's sends its young males out to find their own unoccupied territory.

So, if you've got moles, it's easier to rip out the lawn and live with them than to engage in a constant battle that you are doomed to lose. And, if nothing else, the mole tunnels are helpful in aerating soil.

Bob Condon
Clyde Hill, Washington

ONE SMALL WORLD

EDITOR'S NOTE: *This past summer, AHS participated in the International Master Gardener conference at Lake Buena Vista, Florida. The more than 700 conference participants were given AHS memberships as a way of extending horticultural knowledge and inspiration to fellow gardeners both inside and outside North America. The following is a letter from one of these new AHS members, who works at the Ministry of Food and Agriculture Plant Protection and Regulatory Services in Ghana:*

I am so pleased to be a new member of the American Horticultural Society, and on behalf of my fellow Master Gardeners I want to thank you for this generous act. I know your organization is an excellent one and will help me in advancing horticulture in Ghana.

After the Master Gardener conference I spent a few days in New Jersey and had the opportunity to see how American landscapers and gardeners do their work and the tools they used. It was a fantastic experience for me.

I am doing all I can to get people here involved in gardening. People come to my office seeking information, but I also give advice when I visit their homes. It is a great challenge trying to fully establish the Master Gardener's program in Ghana so we can help all the people in need. By sending me *The American Gardener* magazine and other material, the Society will help me provide more information on gardening and landscaping.

Ransome K.M. Kottoh
Accra, Ghana

Have You Gone Green?

Environmental awareness seems to be at an all-time high among gardeners these days. We'd like to know if you've just decided to "go green," or if you've been at it a while. What does going organic mean to you, and why is it important? What kind of organic practices and low-toxicity pesticides have proven most successful in your garden? Reader responses will be included in an upcoming article in *The American Gardener*. Send your comments to *The American Gardener*, 7931 East Boulevard Drive, Alexandria, VA 22308, e-mail editor@ahs.org, or fill out our survey on our Web site at www.ahs.org. Include your name, where you live, and how you can be contacted. **Submissions must be received by December 20, 2001.**

WRITE US! Letters should be addressed to Editor, *The American Gardener*, 7931 East Boulevard Drive, Alexandria, VA 22308, or you can e-mail us at editor@ahs.org. Letters we print may be edited for length and clarity.

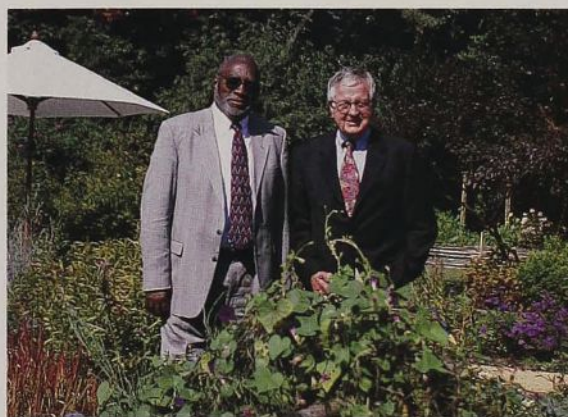
Minority Internship Funded

THROUGH THE GENEROSITY of an AHS member, the Society will be offering a fully funded horticultural internship to a minority candidate next year.

Marion Greene, a resident of St. Helena, California, is providing a \$12,500 grant that will support a five-month internship at River Farm. Because Greene is concerned that minorities are underrepresented in the horticultural field, she stipulated that the grant be awarded to an American minority candidate.

"Our hope is that Mrs. Greene's generosity will, in turn, lend more energy to our ongoing efforts to seek out excellent minority students," says AHS Director of Development Ashby Pamplin. "Ultimately, we hope it will spur gifts from others that will help expand the Society's overall horticultural internship program."

In considering Greene's wishes, Pamplin sought the assistance and advice of Bobby R. Phills, dean and director of land grant programs for the College of Engineering Sciences, Technology, and Agriculture at Florida A&M in Tallahassee. Phills also serves as representative of the historically black colleges—sometimes called "1890" schools—to the National Association of State Universities and Land Grant Colleges (NASULGC).



Bobby R. Phills, left, and AHS Board member Robert D. Volk tour River Farm's gardens during Phills' visit to AHS headquarters to discuss AHS's minority internship fund.

During a planned trip to the Washington, D.C., area in September, Phills visited River Farm and met with Pamplin and members of the Society's Development Committee, chaired by AHS Board member Robert D. Volk. During the meeting, Phills announced his intention to spread word about the internship not only to students at 1890 schools, but to students of American Indian and Hispanic descent.

Before heading back to Tallahassee, Phills toured River Farm's gardens with Director of Horticulture Janet Walker.

"I am very grateful to AHS and Marion Greene for providing this opportunity. Not only is River Farm a prestigious public garden, its intern program is the kind of educational opportunity that has not always been available to our students," says Phills. "What impresses me most is the variety of internship options available, ranging from disciplines such as landscape design and management to entomology, plant pathology, soil science, plant science, and general horticulture. It is truly a gold mine of

professional opportunities for our students. This AHS internship program will open eyes—and it will open doors."

Applications for the minority internship are now available and can be obtained on the River Farm section of the AHS Web site (www.ahs.org) or by e-mailing a request to Janet Walker at jwalker@ahs.org.

Children and Youth Garden Symposium

THE FUTURE OF gardening education and initiatives for children and youths looks stronger than ever in the wake of AHS's successful National Children and Youth Garden Symposium held at Michigan State University in East Lansing this past July. With 300 enthusiastic participants, this was the highest attendance since the 1995 symposium held in Pasadena, California. Among the attendees were teachers, parents, horticulture professionals, and others who involved with children's gardening programs.

Mary Ann Patterson, AHS director of national programs and public relations, credits the success of this year's event to

the restructuring of the program and reduced registration fees. Previous symposia featured an array of broad-based topics, but for this year's program the national advisory panel chose to highlight two key areas: How to integrate technology into children's gardens and gardening programs; and how to best take advantage of regional and national children's gardening resources. The lower registration costs were achieved through generous sponsorship by Los Angeles Flower Mart, Michigan Herb Associates, Michigan State University, National Gardening Association, and Nulife (a division of Waupaca Materials).

The symposium also showcased the Roots & Shoots Intergenerational School Garden—developed by Dirck and Molly Brown of Lexington, Virginia—as a model of a successful school garden program. The Browns are this year's recipients of the Society's Jane L. Taylor award for youth gardening excellence.

The Society's first Children and Youth Garden Symposium was held in 1993, at a time when few organizations were providing information about children and gardening. In the intervening years, programs focusing on gardening and environmental education for young people have sprung up around the country. "We are proud of our leadership role in children's gardening, and it's satisfying to know that our efforts encouraged the



Participants in the 2001 youth garden symposium tour the 4-H Children's Garden at Michigan State University.

development of other programs," says Patterson. "Now we are evaluating what our continuing national role will be in working with all the groups involved in children's gardening."

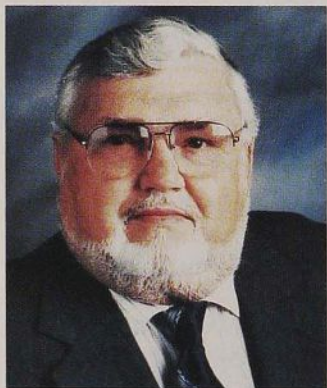
Next year, AHS will celebrate the 10th anniversary of the Children and Youth Garden Symposium with a special focus on environmental education and nutrition as it relates to gardens and gardening. The 2002 symposium will be held at the Holiday Inn Golden Gateway in San Francisco, California, from August 1 to 3. For more information, visit the Events section of the AHS Web site at www.ahs.org.

ahs member IN FOCUS

Terry Crombie

THANKS TO THE generosity of the late Terry Crombie, founder of a company that manufactures greenhouses, River Farm is getting a new greenhouse. "Having a high-quality greenhouse will enable us to showcase a greater variety of plants from around the country," says Janet Walker, AHS's director of horticulture. "We can expand our offerings for AHS's annual plant sale and overwinter our tender stock. Managing the greenhouse also presents another internship possibility."

Sadly, Crombie will not get to see the greenhouse assembled because he passed away in February after battling cancer for just over a year. His wife Colleen and two of his seven children, Michael and Brian, continue to run Poly-Tex, Inc., the business that he founded in Castle Rock, Minnesota, in 1984 after deciding that he wanted to work for himself.



Recalling her husband's decision to start a business, Colleen Crombie says, "We asked ourselves: What do we like to do together? We both liked to garden. He saw the greenhouses on the market and thought, 'I can build a better greenhouse than this.' He wanted to shake things up." Crombie's plan was to develop portable greenhouses that better met growers' needs. According to Colleen, the breakthrough came after Terry met a grower from Indiana at a conference. The two men sat in a bar for some time, and Terry returned home with plans for a greenhouse drawn on a cocktail napkin

The business has grown significantly from that simple sketch on a napkin. In 1991, it was listed by *Inc.* magazine as one of the Top 500 Fast-growing Companies. In 1995, Crombie established China's first commercial greenhouse manufacturing facility, Fat Dragon Greenhouse Engineering Company, Ltd., which has now expanded to having offices in Beijing and Shanghai. "Terry was a hands-on businessman with a head for innovative ideas," says Jim Corfield, chairman of the AHS Board of Directors. "He came up with creative solutions to meet people's needs in a very modest fashion."

The Crombies believe it is important to help others, so every year Poly-Tex gives away two or three greenhouses to deserving organizations and groups. "We want to do all we can to promote the industry, and it feels good to give to others," says Colleen Crombie.

"Terry was very generous with his time, energy, and money. Horticulture had given him and his family a lot, and he turned around and gave back to others to the best of his abilities," says Corfield.

Thank You! Matching funds provided by the following generous donors enabled River Farm to obtain an even larger greenhouse than Poly-Tex typically donates.

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One method of thwarting garden pests is to enlist their natural enemies to work for you. Insects, mites, nematodes, and microbial organisms that feed upon or infect plant pests are known as biological controls, and they are among the most effective ways of dealing with troublemakers in your garden. Because most beneficial organisms are specific with respect to their prey, they pose minimal danger to humans and other non-target animals.

BENEFICIAL ORGANISMS

The organisms gardeners often lump together under the term "insects" are more correctly known as arthropods. Technically, true insects—such as ants, grasshoppers, butterflies, and beetles—are distinguished from other groups of common garden arthropods such as arachnids (spiders and mites) and crustaceans (pillbugs and sowbugs). Many arthropods benefit garden plants by hunting and eating other insects and mites that feed on plants. Others parasitize pests, often by laying their eggs inside the body of the pest, where they eventually hatch and consume their host. Learn to recognize these garden-friendly critters and avoid spraying pesticides when they are present.

Attracting or releasing beneficial insects into your garden will not give you instant results—your pests may still be around for several days—but once the predators or parasites arrive, they will work to control the pest until the pest population is depleted.

INSECTS AND OTHER PREDATORS

Lady beetles—sometimes called lady bugs—control pests both in their larval and adult stage. Their preferred meal is aphids, but they will also consume other small, soft-bodied plant feeders.

Lacewings feed on aphids, many scale insects, small caterpillars, mites, and thrips. These predators can be purchased in the larval stage for release into your garden and are generally considered to be the most useful and effective beneficial insects for use in home gardens.

Spined soldier bugs consume the larvae of a variety of notorious plant pests, including gypsy moth, Colorado potato beetle, and Mexican bean beetle.

Ground beetles are general feeders and will consume nearly any garden pest that spends time beneath ground debris or in the top few inches of soil.

Other common pest-devouring insects include: the larval stage of the *syrphid fly*, which can consume dozens of soft-bodied, plant-feeding insects in a day; the predatory *stink bug*, which eats fairly large insects, including potato beetle larvae and a variety of caterpillars; and *hunting wasps*, which capture a wide range of plant pests.

Many *mites* and *spiders* are predaceous. Predatory mites often feed on plant-feeding spider mites. Web-building spiders feed on whatever prey gets stuck in their webs. Non-web-building spiders seek their prey by hiding in foliage and flowers. Among the pests they help control are leafhoppers, aphids, and caterpillars.

PARASITIC INSECTS

Trichinid flies parasitize a variety of plant pests, including caterpillars and beetles. Adults lay their eggs on the host insect, and after the eggs hatch, the maggots tunnel into the host, feeding on it and eventually killing it.

Several types of wasps—including braconid and trichogramma wasps—help control garden pests by laying their eggs on or inside the bodies of a host. The eggs hatch and the grubs that emerge feed on the body fluid of the host, eventually killing it. Occasionally, you may see a caterpillar covered with small white projections that resemble grains of rice. These are the cocoons of the wasp; if you observe a caterpillar with these telltale signs of parasitism, leave it alone so the wasps can emerge to continue their pest control activities.

ATTRACTING BENEFICIAL ORGANISMS

It is to your advantage to encourage predators and parasites of plant pests to inhabit your garden. They are more likely to visit and stay if you follow a few easy rules:

- Increase the diversity of nectar- and pollen-producing flowers in your garden, and make sure a variety of plants are blooming throughout the growing season. Many beneficial insects feed on nectar and pollen as well as pests.
- Provide water in a shallow pan, birdbath, or pond.
- Learn to recognize beneficial insects so you do not mistake them for pests. A useful Web site to aid in identification is www.ag.ohio-state.edu/~bygl/images.index.html.
- Minimize use of pesticides, particularly those that are non-selective. Even botanical pesticides—such as rotenone and pyrethrum—and low-toxicity insecticidal soaps will kill beneficial insects.
- You can also purchase beneficial insects for release in your garden, but make sure there are pests around for them to munch on, otherwise they will quickly move on to other gardens with a more tempting menu.

An in-depth article on the use of beneficial insects in the garden was published in the March/April 1998 issue of *The American Gardener*. Visit the publications section of the AHS Web site at www.ahs.org to view an electronic version of that article and find sources for purchasing beneficial insects.

Rita Pelczar, Contributing Editor



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Gardener's Notebook

Horticultural News and Research

GREEN BANKRUPTCIES

SINCE THE beginning of the year, several major national nursery businesses have filed for Chapter 11 bankruptcy protection, including, in September, the parent company of the venerable W. Atlee Burpee & Company, which this year celebrated the 125th anniversary of its seed business.

Burpee is best known for its mail-order seed catalog operation, headquartered in Warminster, Pennsylvania. The parent company's financial struggles apparently stemmed in part from a failed venture into retail sales. The company opened four retail outlets in 1999 but was forced to close them this past spring. Last year, Burpee also acquired Heronswood Nursery, a mail-order supplier of rare and unusual ornamental plants in Kingston, Washington.

In February, Frank's Nursery & Crafts, Inc., the nation's largest specialty retail chain of lawn and garden stores filed for bankruptcy protection. Frank's operates 195 stores in 14 states. The company is to be reorganized under new leadership. Then, in July, two other giants, Etera, Inc. and Foster & Gallagher, filed for bankruptcy protection. Etera, a Mt. Vernon, Washington-based company that produces perennials using a patented growing process, was formed in 1998. It had opened a second, state-of-the-art growing facility in Washington in early 2001. Etera will continue to host more than 1,700 garden center Web sites and process plant orders.

Foster & Gallagher—a privately held company begun in 1952 by Tom Foster and Helen Gallagher—encompasses a number of garden mail-order businesses, including Breck's Bulbs, Gurney's, Henry Field's, Michigan Bulb Company, New Holland Bulb Company, Spring Hill Nursery, and Stark Brothers. Two online companies, MySeasons.com and Garden Solutions were also affected.

Gardens Alive!, a mail-order gardening company based in Lawrenceburg, Indiana, was the successful bidder for the catalog

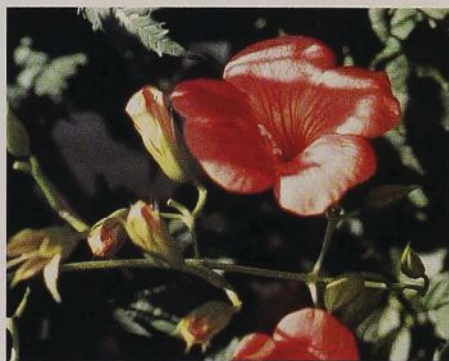
trade names, inventory, catalog operations and real property such as warehouses and nurseries of Foster & Gallagher, according to Randall Schultz, a spokesperson for Gardens Alive!

Although many sectors of the U.S. economy have struggled this past year, analysts say that overall the horticulture and floriculture industries have fared reasonably well. "I don't necessarily see a link between these events," says Warren Quinn, director of operations at the American Nursery and Landscape Association. "These companies had difficulties for different reasons. It takes proactive, professional management to keep any business fiscally sound."

2002 GOLD MEDAL PLANT AWARDS

THE PENNSYLVANIA Horticultural Society (PHS) recently announced four winners of the 2002 Gold Medal Plant Awards. The top choices for best woody ornamental plant went to a boxwood (*Buxus sempervirens* 'Vardar Valley'), a Chinese trumpet vine (*Campsis grandiflora* 'Morning Calm'), a crabapple (*Malus* 'Adirondack'), and a ninebark (*Physocarpus opulifolius* 'Diablo', trademarked Diabolo).

A slow-growing evergreen shrub—to three feet in 15 years—*Buxus sempervirens* 'Vardar Valley' has blue-green foliage and unusual twisted branches. Deer resistant and best suited to alkaline soil, it is hardy in USDA Zones 5 to 8 and heat tolerant in AHS Zones 8 to 1.



Campsis grandiflora 'Morning Calm'.

Ideal for smaller gardens, *Campsis grandiflora* 'Morning Calm' (Zones 6–9, 9–6) is better mannered, less invasive, and more floriferous than its more aggressive kin. It grows to 15 feet tall and produces salmon-orange flowers from mid-July through mid-August.

Malus 'Adirondack' (Zones 4–8, 8–1) is a narrow, upright crabapple that grows to only 18 feet in 20 years. Disease resistant and pollution tolerant, it has white spring flowers and attractive red fruit that appear in autumn and persist into winter.

A deciduous shrub that grows five to 10 feet tall, *Physocarpus opulifolius* 'Dia-



Physocarpus opulifolius 'Diablo'.

blo' (Zones 2–7, 7–1) offers four-season interest, with pink flowers in late spring, purple foliage in summer, red fruit in fall, and decorative exfoliating bark in winter.

Begun in 1978, the Gold Medal Plant Award program is designed to recognize exceptional woody plants for landscaping in growing zones between New York and Washington, D.C. A committee of the area's most knowledgeable horticulturists evaluates plants considered for the award. Winners must be adaptable, useful, and attractive in the home landscape and have year-round structure for good garden design. They also must be readily available to consumers. To date, 77 plants have been awarded the PHS Gold Medal. For more information about the award program, visit the PHS Web site www.libertynet.org/phs.

GARDENING HELPS PREVENT OSTEOPOROSIS

WOMEN OVER 50 who work in the garden at least once a week are less likely to suffer from low bone density related to osteoporosis, according to a study last year. This finding was revealed by Lori Turner, assistant professor of health sciences at the University of Arkansas in Fayetteville, after she conducted a study on which types of weight-bearing activities have the strongest influence on maintaining bone density.

Examining a pool of 3,310 women, aged 50 and older, Turner found that 57 percent showed low bone density. When she compared the subjects' exercise activities—including yard work, calisthenics, bicycling, dancing, aerobics, swimming, jogging, walking, and weight training—to bone mass, she found two activities to be significant for maintaining healthy bone mass. One, weight training, was not unanticipated; the other, yard work, was unexpected because it had not been considered vigorous enough to be significant.

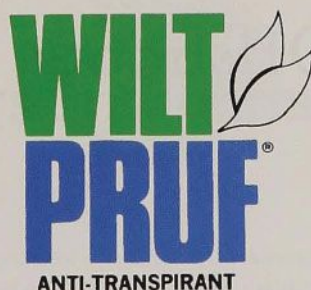
Unlike many other forms of exercise, yard work is more likely to be undertaken regularly, and it carries a low risk of injury. And, because it is done outdoors, where sunlight boosts vitamin D production, it may aid the body in calcium absorption.

For a complete copy of the study, visit the university's Web site at pigtrail.uark.edu/news/2000/aprool/weeds.html.

GRAFTING ON THE NET

IF YOU'VE always wanted to learn how to graft plants, you can now take a 10-week, online, noncredit course, "The How, When, and Why of Grafting for Gardeners," being offered by Cornell University's Department of Horticulture. One class started November 5, and a second will begin January 18, 2002. The course includes Web-based lectures, video demonstrations, hands-on grafting with live plants, and interactive discussions.

Limited to 50 students, the course costs \$215. The fee covers access to the Web site, several hibiscus plants, a grafting knife, a CD of videos of grafting techniques, shipping of supplies, and a certificate of completion. For more information, write to NRAES, 152 Riley-Robb Hall, Ithaca, NY 14853-5701; phone (607) 255-7654; or email: nraes@cornell.edu.



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View of the Potomac River from River Farm



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To learn more about how you can support AHS, contact Ashby Pamplin, Director of Development, at 7931 East Boulevard Drive, Alexandria, VA 22308-1300, (703) 768-5700, Ext. 128.

We urge you to consult with your legal and financial advisors to assist you in arranging the best method of contributing. The American Horticultural Society is tax exempt under Section 501(c)(3) of the Internal Revenue Service Code. Contributions to AHS are tax-deductible to the fullest extent allowed by law. AHS is also a registered charitable organization under Section 57-49 of the Virginia Solicitation of Contributions Law; a financial statement is available upon written request from the State Division of Consumer Affairs.

Offshoots

Waiting on a Garden

by Patricia Acton

MY GARDEN wasn't built in a day. Not that I'm complaining. In this world of instant oatmeal, fax machines, and liposuction, gardening is, refreshingly, not about quick results. It's more like raising kids. You won't really know how everything turns out for a while, so you might as well enjoy the ride.

It's not that I haven't tried to hurry the process. When we initially moved to our new home, I knew that the first step toward turning the scruffy yard into my dream landscape was a PLAN. Once I had that, my idea was to implement the plan as rapidly as possible and presto, we could sit back and take it easy in our elegant garden paradise.

As I've always fancied myself creative, I wanted to design the landscape myself. Besides, like most gardeners, I wanted all the glory from my beautiful garden-to-be to reflect on me, not some hired gun.

My previous attempts at landscaping consisted mainly of buying a plant that caught my eye at the nursery and plunking it in a convenient bare spot in the yard. But we planned to be at our new home for many years, and this time I wanted to do things right. Except for a couple of oaks at the property's edge, several American hollies, and a vigorous patch of daylilies, I had the luxury—and challenge—of a clear slate to work with.

Before attempting a landscape plan, I wanted to beef up my gardening know-how; the mortality rate of my plants had been alarmingly high. I enrolled in horticulture and landscaping courses at the local college, where one of my projects was to design a landscape plan for our property. I sweated over that plan, trying to make it perfect (in fact, I got an A on it). With my plan in hand, I thought the hard part was over. If I faithfully executed my design, my ugly-duckling yard would be transformed in no time.

Well, no time has turned into seven years, but who's counting? The backbone of my garden—the trees, shrubs, raised beds, mixed borders and cutting gardens—is firmly in place. Somehow,

though, I haven't achieved my ideal. It's dawned on me that it will always be just out of grasp.

At times, the slow pace of the landscaping process has been frustrating. A major factor, of course, is that nature runs according to its clock, not mine. Most of my plants are still young and small. My favorite tree, a lovely *Magnolia virginiana*, is taking its sweet time to grow up, as are the boxwoods.



And, as much as I wanted to do, there were always constraints, especially money and time. Landscaping even a small property is expensive, and it's hard work, too. I planted 10 shrubs one Saturday and promised my back not to repeat that experience.

Now I realize even if I'd won the lottery and could have immediately installed the garden precisely according to my plan, adjustments would have been desirable over time. For instance, the children have already outgrown the sandbox; despite my intentions, a hedge of Canadian hemlock refused to thrive; my mother sent over boxes of unplanned-for hostas and sedums. I also decided a stewardia would be happier in the moist soil

of one part of the garden than the weeping crabapple in the design. My husband kept pleading for a crape myrtle at the nursery, so we now have four. *Ilex verticillata* went in where summersweet (*Clethra* sp.) had been, and the summersweets were moved next to the porch where I could smell their flowers.

On the other hand, many parts of my original design have proven successful, especially the raised beds for vegetables and the placement of the trees, shrubs, and flower beds. I'm glad I stuck with my intent to rely heavily on native plants, and one of these days—soon, I hope—we'll get around to putting in that deck. All in all, I think my design deserved that A! Well, a B-plus, anyway.

No matter how good the plan, however, I've found that making a garden isn't like sewing a quilt or cooking a great dinner; there seems to be no end in sight. There will always be a plant dying or an unusual perennial that simply must be squeezed in somewhere. Perhaps another raised bed is needed. What about growing a vine up the side of the oak tree? Wouldn't a fish pond be lovely....

In retrospect, I'm glad I didn't have the money—and a strong enough back—to install my garden exactly as I'd originally envisioned it. I've found it much more interesting and satisfying to slowly shape the garden over many seasons.

In that time, I've learned about some new plants and ideas that I like better. The unhurried pace has made it easier for me to exercise our prerogative as gardeners: the right to change our minds. My garden, I think, is better for it.

Patricia Acton is a free-lance writer living in Deale, Maryland.



Gardeners Information Service

OVERWINTERING TREES AND SHRUBS

I have several potted trees and shrubs that I haven't been able to plant because the space isn't prepared. Now that it's too late to plant, will they stay alive through the winter if I keep them in a dimly lit, unheated garage? Or would it be better to bury them as deeply as possible in a mulch pile outside?

—M.M., COLUMBUS, OHIO

Assuming all these plants are winter hardy in your region, the mulch pile would be a much better choice than the garage. The best solution, however, would be to temporarily plant—"heel-in," as horticulturists term it—the trees and shrubs for the winter. To do this, select a protected site and dig a hole just deep enough for each potted root ball—avoid low-lying areas where water might collect. Fill soil back in firmly around the pot. After the ground freezes, add a two- to three-inch-deep layer of mulch to the top of the soil around the base of each plant to reduce the chance of frost heave. In spring, move the plants to their permanent location as soon as you can work the soil.

ORCHID PSEUDOBULBS

I am repotting a *Stanhopea* orchid that has a number of older, leafless pseudobulbs. If I divide and repot the pseudobulbs, will they grow new pseudobulbs with leaves?

—L.A., SEATTLE, WASHINGTON

One factor that influences whether or not pseudobulbs—the thickened, bulblike, fleshy stems of certain orchids—will grow is age; the older they are, the less likely they are to produce new growth. And if they have been buried in soil for a long period of time, they may have started to rot. The only way to find out if they are still viable is to plant them.

"I recommend keeping the pseudobulbs in pairs and placing them in pots just big enough in diameter to hold them," says Andy Easton,

director of education at the American Orchid Society. "Then fill the pots with sphagnum moss or coconut fiber and move them to a shaded, warm location." Easton advises waiting until mid-February to remove pseudobulbs from the parent plant.

The genus *Stanhopea* is known for the unusual growth characteristics of its pseudobulbs. The ovoid, dark green pseudobulb sends out a single, heavily veined leaf that produces a flower stalk from the underside and grows downward. For this reason, *Stanhopea* orchids are usually grown in hanging wire baskets.

MAINTAINING VINCA

We have a 30-year-old, south-facing bank of periwinkle (*Vinca minor*). It's generally in good shape, but after flowering has stopped the leaves seem to show evidence of disease. There is some browning of edges—actually, a silverish tinge as well. Could this be related to the layer of oak leaves that lands on it each fall?

—L.C., MADISON, WISCONSIN

Periwinkle (*Vinca minor*) thrives in shade but in the north will tolerate full sun. In this situation, however, the foliage may discolor. Though unattractive, the discoloration will not kill the plant. Cutting periwinkle back hard in the early spring will rid plants of the foliage from the previous year and promote new growth. One simple way to do this is to run a lawn mower set at the highest cutting level over the bed each spring just before new growth normally starts to develop.

If the oak leaves you mention fall thickly enough to form a dense mat over the periwinkle, they may be holding in too much moisture, thus providing optimal conditions for fungal diseases to flourish. Removing the majority of the oak leaves promptly once they fall may help reduce your foliage problems. But don't be too fastidious in cleaning them up, because they are probably providing a

regular source of slowly decomposing organic matter for the periwinkle.

CUTTING BACK PERENNIALS

I have always wondered: Exactly when should I cut back herbaceous perennials? I know I can cut back plants that turn brown, but last year, my heucheras, geraniums, and some others never turned brown. In early spring, when I finally trimmed back bedraggled foliage, these plants were still green. I couldn't help but feel I was removing leaves that had waited all winter and were ready to grow.

—E.M., ARLINGTON, VIRGINIA

Most horticulturists suggest pruning herbaceous perennials back in late fall or early winter to reduce the chance of cutting off new growth in early spring and to remove old plant tissue that could harbor pests and diseases. This is especially important if your plants have excessive pest damage or have diseased flowers or foliage. In general, you should wait until the plants have died back before pruning them. If the fall and winter are mild, many semi-evergreen plants stay green. Wait until after several hard frosts and then remove only damaged, dry foliage. Unless the plants were diseased or pest-ridden, compost the plant debris.

But seed heads of some perennials are very attractive and add interest to the garden during winter, when there's not much else to look at. They also provide food and nesting materials for wildlife. Some gardeners like to leave some seed heads standing through the winter (see "Deadheading Reconsidered," page 40). If the plants are healthy, leaving the seed heads over winter will not significantly affect future performance. Just remove last year's dead stems before new shoots begin to emerge.

William May, Gardeners Information Service, and Marianne Polito, Gardeners Information Service Manager.

WE'RE READY TO HELP: For answers to your gardening questions, call Gardeners Information Service at (800) 777-7931, extension 131, between 10 a.m. and 4 p.m. Eastern time, or e-mail us anytime at gis@ahs.org.

Natural Connections

Friend or Phobia?

by Cynthia Eichengreen

TOADS, BATS, and snakes may sound like the ingredients for a witch's potion, but many of these creatures that spook us in the brush pile or swoop past us at dusk are actually valuable predators of garden pests. Yet some of us have deeply seated phobias about these animals that are hard to overcome.

We can rethink our attitudes toward these animals by analyzing exactly what we're afraid of. My son once avoided the garden because, he said, "there were spiders out there." After talking about it, we realized it wasn't the spiders themselves that scared him; it was the creepy feeling of getting a web across the face as he ran down the path first thing in the morning. I placed a supply of small garden stakes near the back door and from then on he would fearlessly explore the backyard, waving his "spidey stick" in front of him like a magician's wand.

Sara Stein, author of *Noah's Garden*, notes that "children who handle frogs, toads, and such rarely grow up to be afraid of them." Learning more about these animals and their habits increases our comfort level with them. Once we understand why they behave in a particular manner, it becomes fun to anticipate their comings and goings.

SNAKES

Perhaps the creatures with the most serious image problem are snakes. They blend in well with their environment and move so quickly that we tend to see them darting out of hiding spots when we least expect them. Although I love snakes, I still jump when they race out of the shrubbery. Ask yourself: "Am I afraid of snakes, or am I just uncomfortable about being startled?"

The main reason large snakes such as milk snakes and black rat snakes venture into gardens is to eat rodents that have taken up residence, often beneath a protective ground cover. Removing ground



Amphibians and snakes are usually friendly garden inhabitants that need not to be feared. Top: A child learns to gently handle a garden toad. Above: This shy green snake is well camouflaged on a conifer bough.

covers might temporarily get rid of the rats and snakes, but the rats are more adaptable. They will simply move into the attic or the shed or under the porch. Snakes are more easily displaced. "Smaller snakes," says Richard Farinato, director of Captive Wildlife Protection in Gaithersburg, Mary-

land, "are predators of damaging pests," such as grubs, slugs, and soft-bellied insects.

One of the biggest factors in overcoming fear is to learn what kinds of snakes are common in your area. Unless you live in a rural area or in places in the West or Southwest surrounded by undisturbed habitat, you will probably not come across any poisonous snakes in your garden.

To prevent being startled by snakes, anticipate their appearance in prime snake habi-

tat sites; these include large flat rocks in the sun, gravel paths, dense foliage, tall grass, rock or brush piles, and compost pits. Snakes are generally shy, so if you make enough noise, they will do their best to get out of the way. If you do see a snake, Farinato cautions, "Just leave it alone."

TOADS AND FROGS

Toads, frogs, and other amphibians have been reported to be declining in numbers and diversity in recent years, apparently because of increased pollution and shrinking habitats. A single toad can eat some 15,000 insects, cutworms, and caterpillars in a growing season, so welcoming toads into your garden has great rewards. Because they hunt mostly at night, however, you probably won't even be aware of toads unless you accidentally dig one out of the garden.

All amphibians need water to spawn, so having a pond or other water feature

will encourage their presence in your garden. "Frogs need sloping sides in a pond so they can get in and out easily," says Stein. "There should be enough emergent vegetation so that the tadpoles have some protection against predators. Toads only use ponds for breeding and, because they prefer shallow water, will often breed in a spring puddle. As with the frogs, toad tadpoles need some type of vegetation to spare them from predation."

BATS

Bats are staunch allies in the war against pests, yet the many misconceptions that surround them—their portrayal in horror movies, their reputation for getting caught in women's hair, and their association with rabies—sometimes influence even the most level-headed of us. In reality, these graceful, gentle creatures can eat up to 600 mosquitoes in an hour, which is far more efficient than any bug zapper.

Fear of rabies alone has been instrumental in making them unwelcome

Sources

Bat houses are available from the following mail-order suppliers:

Gardener's Supply Company, Burlington, VT. (800) 427-3363.
www.gardeners.com.

Planet Natural, Bozeman, MT. (800) 289-6656. www.planetnatural.com.

guests. Writing in the *Bats Northwest Newsletter*, Margaret Gaspari explains, "Although rabies has been featured in the news a great deal, it is not a common cause of death in this country....[Y]ou are 100 times more likely to die from a bee sting." Gaspari also notes that, "Bats are supremely disinterested in us. Most of the so-called 'attacks' or 'bats flying in our hair' myths are probably caused by insect-eating bats swooping near us in an attempt to catch the mosquitoes our exhalations attract."

Putting up bat houses can help to increase the bat population in your garden, but only if they are properly sited and installed. (See "Sources" on the left for where you can obtain bat houses.) Bats need warmth during the day, so be sure to site houses in full sun in all but the hottest climates. Ventilation slots, placed one third of the way up from the bottom of the box, allow bats to move up or down inside to find the most comfortable temperature.

LIVE AND LET LIVE

Once you've learned why snakes, bats, toads, and other beneficial wildlife behave the way they do, you will be much more at ease in the garden. By doing some research about these helpful creatures, you may find yourself developing not only a respect for their important role in the food chain, but an avid interest in their daily activities.

Cynthia Eichengreen and her husband own a garden design business, The Gardener's Daughter, in Eugene, Oregon.

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Glory Bowers

The Victorians loved this genus for the showy flowers that form on tender vining species, but today's gardeners are taking note of its semi-hardy shrubby members.

BY RAND B. LEE



The striking two-tone flowers of bleeding heart vine (*Clerodendrum thomsoniae*), native to West Africa, are made even more dramatic by their long, protruding stamens.

IF ANY GROUP of ornamentals deserves its common name, it's the glory bowers (*Clerodendrum* spp.), a genus of some 400 vines, shrubs, and trees native primarily to the tropics and subtropics. All bear clusters of showy blossoms—which in many of the species are sweetly fragrant—and feature rich green leaves arranged in pairs or whorls along their stems.

Viewed up close, each individual flower's intricate construction is worthy of appreciation. They are composed of slender tubes of varying lengths, each ending in a rather pointed bud. The buds open into flattish, five-petaled trumpets from which multiple stamens protrude. In some species, a papery, petallike calyx of a contrasting color surrounds the base of the flower, creating a showy two-tone effect.

As you would expect from their tropical and subtropical ancestry, most cultivated glory bowers are very tender perennials primarily grown as house plants or conservatory specimens in North America. The evergreen vining species are borderline hardy outdoors even in USDA Plant Hardiness Zone 11, but some of the shrubby deciduous glory bowers are hardy to USDA Zone 8—or even 6 with protection—and can be grown outdoors as specimen shrubs or integrated into mixed borders.

VINING SPECIES

THE FIRST GLORY BOWER I ever encountered was bleeding heart vine (*Clerodendrum thomsoniae*), a twining vine native to West Africa that grew on an arbor my mother had built along the streetside of her home in Key West, Florida. Its leaf-pairs, which were big, green, and oval, formed a lush backdrop for a summer-long succession of cascading white bells that gradually opened to reveal tiny true flowers of pure, saturated crayon red. The blooms gave off no scent, but for once—I was and am a scentaholic—I didn't mind. Sitting in their shade gave me the sense of being surrounded by a cloud of the valentines that gave rise to the vine's common name.

Named for the wife of one Reverend W. C. Thomson, bleeding heart vine was discovered in southeastern Nigeria in 1860. Brought back to northern climes, it rapidly became popular among the Victorians, who raised it in heated greenhouses. Indoors, given full to part sun, it tends to flower most heavily in the spring, but sometimes reblooms sporadically in summer and fall. A selection with white-margined leaves, 'Variegatum', is sometimes offered.

Scarlet flowers with color-matched stamens distinguish red clerodendrum (*C. splendens*), a vining species grown as a house plant in most of North America.

Clerodendrum Family History

Glory bowers were traditionally considered part of the verbenaceae family (Verbenaceae), but recently botanists have proposed moving the genus—along with about two-thirds of the verbenaceae family—into the mint family (Lamiaceae). Although you wouldn't guess it, glory bowers are closely related to ornamental shrubs from more temperate regions, including beautyberries (*Callicarpa* spp.) and *Vitex* spp.

The name *Clerodendrum* (originally spelled *Clerodendron*) is something of a mystery. It is derived from the Greek words *kleros*, "chance," and *dendron*, "a tree," which, according to my *Victorian Illustrated Dictionary of Gardening*, reflects uncertainty about the medicinal qualities of the genus. At any rate, European explorers discovered most of the common species from the late 18th century through the first half of the 19th century, during the period when Africa and Asia were opening up to trade with Europe.

—R.B.L.

Even showier than Mrs. Thomson's glory bower is red clerodendrum (*C. splendens*), another west African climber that grows to 12 feet tall. Hardy only in Zone 11, it has shiny, dark green, oval to oblong leaves, paler beneath, and glorious scarlet-red-stamened blossoms borne in large, dense clusters at the ends of their branches. Though not fragrant, *C. splendens* can be the star of the winter windowsill, so long as you keep the temperature at 60 degrees Fahrenheit or above and give the plant full to part sun. It blooms in June and July in its native habitat, but indoors normally puts on its show in fall and winter.

A hybrid between bleeding heart vine and red clerodendrum, *C. ×speciosum* is a

twining climber that grows to 12 feet tall. It has large, roundly spear-shaped leaves and red to scarlet flowers with prominent creamy stamens that extend out from white or pinkish calyces. Like its parents, *C. ×speciosum* will only thrive at temperatures above 60 degrees, and it has similar cultural requirements.

GROWING NEEDS

FOR MOST OF the vining glory bowers, the Victorians used a potting soil that contained equal parts peat and garden loam, with a little leaf compost, well-rotted manure, charcoal, and sand added for good measure. For those of us who don't have these ingredients as close at hand as the Victorians apparently did, a perfectly acceptable substitute would be a blend of two parts coir- or peat-based potting mix with one part perlite or coarse sand for extra drainage.

Vining glory bowers need support, so provide a trellis, a metal hoop, or a steering-wheel-shaped frame for them to climb on. For optimal bloom, they require exposure to at least half a day of sunshine, but if you intend to grow your glory bower outside year round or move a potted specimen outdoors for summer, make sure they are shaded from the hottest afternoon sun.





Left: The flowers of *C. ugandense* resemble a bevy of blue butterflies congregating on the stem—hence one of its common names, blue butterfly bush. Below: *C. speciosissimum* is a bushy species that hails from Indonesia.



Feed vining glory bowers monthly with a balanced water-soluble fertilizer during active growth and water regularly. Thin out old wood and prune excessive growth once or twice a year, as needed—the best time to do this is just after flowering. If grown as house plants, they will do best in a room that is kept moderately humid and has good air circulation.

TENDER SHRUBS

THE SHRUBBY glory bowers come in a wide variety of bloom shapes. Java glory bower or pagoda flower (*C. speciosissimum*, also listed as *C. buchananii*) boasts four-sided stems; oval, pointed, velvety, deep green leaves; and upright spikes of bright scarlet flowers. If pollinated, these offer the added bonus of producing indigo berries. Although *C. speciosissimum* can grow to 12 feet tall outdoors, it responds well to hard pruning and can be kept manageable on a windowsill, where it is known to bloom year round. Native to Indonesia, it is hardy in Zones 11.

Slightly harder—to USDA Zone 9 with protection—is *C. ugandense*, sometimes listed as *C. myricoides* 'Ugandense', which goes by the common names blue butterfly bush and blue glory bower.

Native to East Africa, blue glory bower is one of those plants that can't seem to decide if it's a vine or a shrub—the gardener can to some degree dictate

its shape through selective pruning. Its oval evergreen leaves with serrated margins clothe straight, slim branches that terminate in panicles of enchanting butterflylike blossoms that look as if they were put on upside-down. The bicolor flowers are divided into four pale blue and one cobalt blue petallike lobes. The pale blue "petals" are symmetrically aligned in the shape of butterfly wings, while the larger darker blue petal droops beneath them. Four long white to purple stamens

extend gracefully from the center of the pale blue petals, much like the antennae of a butterfly. I defy anyone to see it in blossom and not covet it immediately. It blooms mainly in the winter when grown as a house plant, but will flower nearly continuously outdoors if planted in a spot that receives dappled or afternoon shade.

C. quadriloculare, the so-called fireworks plant or black-stemmed tube-flower, is another species with a striking inflorescence. In winter, dense globular



Fireworks plant (*C. quadriloculare*) produces starry clusters of pinkish white flowers on long pink tubes. This winter-bloomer has dark green, quilted foliage with attractive reddish undersides.

Quick Guide to Clerodendrums

SPECIES	HABIT	HEIGHT/SPREAD (feet)	FLOWER COLOR	FRAGRANCE	USDA/AHS
<i>C. bungei</i>	shrub	4-6/3-6	dark pink	yes	8-10/10-1
<i>C. philippinum</i>	shrub	6-10/5-8	white to pink	yes	10-11/10-1
<i>C. quadriloculare</i>	shrub	8-12	pink/white	no	9-11/12-1
<i>C. speciosissimum</i>	shrub	6-12/4-6	bright red	no	11/12-3
<i>C. splendens</i>	vine	8-12	scarlet	no	11/12-10
<i>C. thomsoniae</i>	vine	8-12	white/scarlet	no	11/12-10
<i>C. trichotomum</i>	shrub	10-15/10-15	white	yes	7-9/9-6
<i>C. trichotomum</i> var. <i>fargesii</i>	shrub	6-10/6-10	white	yes	6-9/9-7
<i>C. ugandense</i>	shrubby vine	6-12/3-6	pale/deep blue	no	9-11/12-3

Height and spread are given as a range of what can be expected at maturity if the plant is grown outdoors under ideal conditions.

clusters of eight-inch-long, trumpet-shaped pink tubes burst open to reveal starlike white flowers at their tips. The flowers look stunning against the large, quilted leaves, which are dark green above and burgundy on their undersides. Fireworks plant is native to the Philippines, where it grows as an upright shrub or a small tree. Hardy in Zones 9 to 11, it usually flowers in winter or spring and does not rebloom as reliably as some other glory bowers.

Perhaps my favorite tropical glory bower is *C. philippinum* (sometimes listed as *C. fragrans* 'Pleniflorum'), which is native to southern China. The fully double pink to white flowers appear as compact half-globes at the ends of the downy stems. The flowers have a fresh, sweet fragrance reminiscent of trailing arbutus and are wonderful for cutting. As an added treat, its large, heart-shaped evergreen leaves, which are fuzzy on their undersides, give off a distinct, pungent scent akin to that of peanut butter. An upright shrub, *C. philippinum* can reach 10 feet in height.

SEMI-HARDY SHRUBS

NOT ALL the glory bowers are tropical. Among the hardiest species are deciduous shrubs such as *C. bungei* and *C. trichotomum*, which grow quite well in temperate gardens.

Native to China and northern India, *C. bungei* was discovered around 1820 by Russian botanist Alexander von Bunge. A suckering shrub, it can grow over six feet tall and wide, with reddish stems and large, dark purple-green leaves that have a musky scent—hence Bunge's original name for it, *C. foetidum*. I find the dark pink, five-lobed flowers, which are held in rounded clusters, sweetly fragrant, so I was startled to read that some noses discern the aroma

of roast beef. *C. bungei* is reliably hardy to Zone 8, but can be grown in Zone 7 with protection. It will grow best where it will be shaded from the worst of the afternoon sun in summer and watered regularly, but it has naturalized even in rather dry ground in the Houston area.

Harlequin glory bower (*C. trichotomum*), a shrub or small tree native to Japan and China, endears itself to me on several counts. For starters, it is the hardiest of the glory bowers and has been grown into Zone 6 with protection—although in Zones 6 and 7 it often dies back to the roots during harsh winters and should essentially be considered an herbaceous perennial.

It has the handsome oval, rich green leaves, tapered at both ends, that are typical of the genus. Furthermore, it blooms in that garden doldrums period from late summer to mid-autumn—giving us a break from the standard aster-and-mum fare—and its pink-tubed, white-lipped blossoms, which are held in large, loose clusters at the ends of three-forked stalks, exude a perfume that has been likened to that of lilies and nicotiana. To top it off, attractive, shiny turquoise or teal fruits develop in fall, often in tandem with the flowers. The cultivar 'Variegata'—sometimes listed as 'Carnival'—offers the additional virtue of leaves with broad creamy yellow edges.



Although this specimen of *C. bungei* is thriving on a windowsill, it can also be grown reliably outdoors as far north as USDA Zone 8 without winter protection.

Propagating Glory Bowers

Glory bowers are relatively easy to propagate both from seeds and from softwood cuttings. Seeds of the tender climbing species need no special treatment and should be sown indoors in early spring. Seeds of the semi-hardy shrubby glory bowers are reported to germinate most reliably if they are given a three-month period of cold conditioning at about 40 degrees Fahrenheit. In late winter, sow them in moist soil in a covered flat or a zipper-sealed plastic bag and place them in a refrigerator or unheated garage. Check the seeds periodically to see if germination has started and to ensure the soil stays moist.

Once germination begins, immediately move the flat of seedlings to a warm area or pot up loose seedlings if they germinated in a plastic bag. Place the seedlings under lights or in a warm greenhouse or sun room, and keep the soil moist at all times. Transplant seedlings to larger containers as needed. If you plan to move glory bowers outdoors, be sure to harden them off first by putting them outside for gradually increasing periods of time once temperatures have reached 60 degrees.

Take softwood cuttings in early summer, when new growth is still tender. Cuttings should be about two inches long and include one or two sets of leaves. Pinch or prune out the tip of each cutting and remove the lowest pair of leaves. Poke holes with a pencil or dibble stick in premoistened potting soil and then insert the base of the cuttings into the holes and gently firm soil around the stem. Cuttings can be dipped in a rooting hormone, if desired, but this is not really necessary. Enclose potted cuttings in a plastic bag supported by sticks for humidity and place them in a warm, humid environment—provide bottom heat if possible to speed rooting.

The shrubby glory bowers sometimes produce root suckers that can be dug up and planted elsewhere or given away to other gardeners.

—David J. Ellis, Editor



Harlequin glory bower (*C. trichotomum*) blooms in early fall. This species can be grown outdoors in Zones 6 and 7 with protection or careful siting.

A slightly smaller variety of harlequin glory bower, *C. trichotomum* var. *fargesii*, has come into cultivation in recent years. Although I haven't grown this variety yet, it is said to stand up to northern winters even better than the species and, therefore, is probably a more reliable choice for gardeners in Zones 6 and 7. Northern gardeners should plant harlequin glory bower in full sun, but south of Zone 8 it will do best if sheltered from afternoon sun.

GO FOR THE GLORY

WHETHER YOU grow them indoors or out, glory bowers are sure to please with their tropically lush foliage and intriguingly beautiful flowers. They are relatively easy to grow from cuttings or even seeds, and most are readily available through mail-order suppliers. Take the plunge and try one or two—maybe a bleeding heart in the sun room and a harlequin glory bower in the perennial border—and wait for your neighbors to start asking for cuttings.

A resident of Santa Fe, New Mexico, Rand B. Lee is president of the North American Cottage Garden Society and a frequent contributor to The American Gardener.

Sources

Fairweather Gardens, Greenwich, NJ. (856) 451-6261. www.fairweathergardens.com. Catalog \$4. ■ *Clerodendrum trichotomum* var. *fargesii*, *C. trichotomum* 'Variegata' (also known as 'Carnival').

Glasshouse Works, Stewart, OH. (800) 837-2142. www.glasshouseworks.com. Catalog \$2. ■ *C. thomsoniae* 'Variegatum', *C. ugandense*.

Kartuz Greenhouses, Vista, CA. (760) 941-3613. www.kartuz.com. Catalog \$2. ■ *C. bungei*, *C. philippinum*, *C. quadriloculare*, *C. speciosissimum*, *C. thomsoniae* 'Variegatum', *C. ugandense*.

Logee's Greenhouses, Danielson, CT. (888) 330-8038. www.logees.com.

Catalog \$4.95. ■ *C. quadriloculare*, *C. speciosissimum*, *C. xspeciosum*, *C. splendens*, *C. thomsoniae*, *C. ugandense*.

Louisiana Nursery, Opelousas, LA. (337) 948-3696. www.durionnursery.com. Catalog \$6. ■ *C. bungei*, *C. philippinum*, *C. quadriloculare*, *C. speciosissimum*, *C. splendens*, *C. trichotomum*, *C. ugandense*.

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Deciduous Conifers

Living relicts of the first trees that clothed the earth, deciduous conifers bring drama, majesty, color, and texture to the garden.

BY CARL HAHN

LIKE DINOSAURS, deciduous conifers belong to a land before time. Marked by attributes such as gorgeous autumn foliage, strikingly bare silhouettes during the winter, and, in one case, edible seeds the size of a bird's egg, they run counter to our perceptions of a typical conifer. Often regarded as little more than botanical curiosities, they have been simmering on horticulture's back burner for some time now.

Yet these majestic, awe-inspiring, vulnerable, and little-understood trees have survived climate changes, geological upheavals, human deforestation, and all manner of other perils. In the process, they outlasted the dinosaurs that once fed on them. Today, they are prized as sources

of food, herbal medicine, and timber, and provide discerning gardeners with some of the finest ornamental trees available.

GINKGO

OF ALL THE deciduous conifers, none looks less coniferlike than does the ginkgo or maidenhair tree (*Ginkgo biloba*, USDA Hardiness Zones 5–9, AHS Heat Zones 9–5). The unique, fan-shaped leaves are usually notched or irregularly serrated along the rounded apex and have delicate veins that are best seen when the leaves are backlit. These leathery leaves are clustered in groups of three to five atop stubby spurs and also form singly along the branches. Although relatively slow

growing—just under a foot a year under ideal conditions—ginkgos will reach 50 to 80 feet or more in height and about half as much in diameter over time. They typically have a pyramidal habit in youth, but tend to take on a more spreading habit with age. Old, venerable specimens are massive and breathtaking.

Planted on a site with plenty of room to accommodate its size, the ginkgo can be a stellar object of garden art, particularly where the sky serves as a backdrop to branches and foliage. The leaves, bright green in spring and summer, dance on

Protruding eerily from the murky waters of this Georgia swamp, pond cypresses evoke images of their primordial ancestors.



An excellent tree for providing fall color in the garden, ginkgo has leaves that turn an intense shade of yellow in autumn before dropping from the tree to form a golden carpet.

the breeze like miniature fans. In autumn, the foliage turns a rich, uniform, acid yellow of incredible intensity that is every bit as impressive as that of sugar maples (*Acer saccharum*), black gums (*Nyssa sylvatica*), and Japanese maples (*Acer palmatum*). When ginkgo leaves drop, usually all at once, they carpet the ground beneath the tree with gold.

Ginkgos are dioecious—that is, there are separate male and female trees. Only female trees bear the plumlike fruits that form in late summer. These are composed of hard, edible seeds garbed in a thin, fleshy

coating. This outer coating becomes horribly malodorous when the seeds ripen, drop to the ground, and begin to decay, so for garden and landscape purposes it's best to plant vegetatively propagated male trees.

Ginkgos are tough and durable trees that can be grown throughout most of the United States. They do best in full sun but are not fussy about soil types and have no significant disease or insect problems. Because they tolerate air pollution, they are sometimes used as street trees.

The sole living representative of the ginkgo family (Ginkgoaceae), ginkgos are

believed to be the oldest living genus of seed-bearing plants, with a lineage that can be traced back more than 220 million years through the fossil record. In the wild, they are now restricted to isolated stands in mountainous areas of southeastern China. But they have been cultivated in China for centuries, and some of the oldest specimens—found on the grounds of monasteries, Buddhist temples, and royal palaces—are more than 1,000 years old.

In Asia, ginkgos are important not only for their ornamental virtues, but as a source of food and medicine. Roasted ginkgo seeds are a delicacy in China and are often served at feasts and weddings. Traditional herbal medicine in China and Japan employs ginkgo to treat kidney, heart, and lung ailments. Extracts from the leaves have also been used for the treatment of high blood pressure, respiratory ailments, and memory loss. Ginkgo-based herbal products are now commonly available in American and European supermarkets and pharmacies.

Because they have been in cultivation for so long, numerous selections have been developed over the years. The most appealing and useful cultivars for landscape and garden use are male cultivars with narrow growth habits. 'Autumn Gold' combines reliable fall color with compact growth and a broadly pyramidal and symmetrical habit. It matures at about 50 feet high and 30 feet wide. Another good choice is 'Fairmount', a fast-growing cultivar that reaches 75 feet by 30 feet with a narrow pyramidal habit. 'Princeton Sentry', which matures at 60 feet by 25 feet, has a narrow conical shape and good yellow fall color. 'Saratoga' grows 25 feet to 40 feet tall, but has a more rounded shape.

Those who crave a ginkgo but have a small garden can try lower-growing cultivars such as 'Jade Butterflies'—which also has attractive, dark green leaves—or 'Pendula'. The latter is advertised as a weeping selection but tends to grow into irregular, contorted shapes. Specialty nurseries sometimes sell shrubby, extremely slow-growing ginkgos under some variation on the name "witch's broom."

DAWN REDWOOD

A LITTLE FURTHER up the evolutionary ladder from ginkgo is the dawn red-

wood (*Metasequoia glyptostroboides*, Zones 5–11, 12–1). Its history in fossil records goes back some 100 million years, and the trees around today are little changed from their ancestors. As “living fossils” go, this tree is very much a recent discovery; indeed, in an amazing coincidence, the first fossil evidence of dawn redwoods was identified earlier in the same year that living trees were first found in central China. Since that discovery in 1941 and the tree’s subsequent rescue from near extinction in the wild (see “Living Fossils,” page 26), dawn redwood has quickly become a valued ornamental.

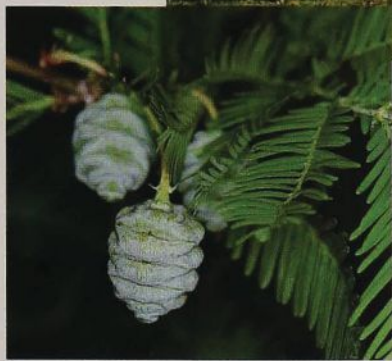
Like the evergreen redwoods (*Sequoia* spp.) of western North America to which they are related, dawn redwoods are large trees that grow to at least 100 feet tall and 25 feet in diameter with a pyramidal or conical habit that sometimes broadens with age. Their sturdy trunks, often muscularly buttressed and fluted at the base before tapering upward, are usually single and arrow-straight. These are covered in reddish brown bark that becomes grayish and exfoliates with age. The soft and lacy needlelike leaves, arranged densely opposite one another on three-inch-long branchlets, are about a half-inch long and a sixteenth-inch wide. The bright green foliage turns a rich orange-brown to red-brown in the fall before dropping.

Solitary, drooping cones form in midsummer on long stalks. Round and bluish green when they first develop, they turn egg-shaped and dark brown and up to an inch in diameter at maturity.

This tree can be stately and stunning in the landscape, and it makes its presence felt in short order.

Trees planted in the United States in the 1950s are already huge—a 30-year-old specimen on the campus of the College of William and Mary in Williamsburg, Virginia, now exceeds 100 feet. Young trees can grow at a rate of two to four feet per year, slowing with age.

Dawn redwoods are quite hardy and heat tolerant, but grow best in areas with warm summers. They also thrive in sites where they get full sun and reasonably regular soil moisture. They establish quickly



Growing as much as four feet a year, dawn redwoods make an instant statement in the garden. In addition to attractive reddish bark and orange-to-reddish brown autumn foliage, their decorative cones, left, often hang on the tree into winter.

and are relatively free of pest and disease problems, although Japanese

beetles sometimes nibble the leaves, and specimens at the U.S. National Arboretum in Washington, D.C., have suffered from a canker disease.

Perhaps the most promising dawn redwood selection is ‘Ogon’, which is only now becoming available in North America. The newly emerging foliage is the color of gold, turning chartreuse as the season progresses. The overall effect is a layering of gold, yellow, and chartreuse suffused with a metallic sheen.

This cultivar, developed through the irradiation of seeds, originated at the Kobe Municipal Arboretum in Japan and was brought to the United States in the early 1990s by horticulturist Barry Yinger. Although it is too soon to know its full landscape potential, ‘Ogon’ seems to have a rate of growth similar to the species. This cultivar has been introduced in Europe under the name ‘Gold Rush’, but ‘Ogon’—which means “gold” in Japanese—is considered the correct name.

BALD CYPRESS

SOMETIMES CONFUSED with dawn

Living Fossils

Ginkgos and dawn redwoods are particularly fascinating plants because they are little altered from their prehistoric ancestors, which paleobotanists have traced back millions of years through the fossil record.

Ginkgo biloba is the sole living representative of the ginkgo family (Ginkgoaceae) and quite probably the oldest living genus of seed-bearing plants, with a lineage going back 220 million years or more. Ginkgos were at peak abundance during the time of the dinosaurs, but fossil records indicate that about 18 species of ginkgolike plants have come and gone throughout geologic time. At one time or another, they were native to the areas that, after continental drift, became North America, Europe, and Asia, with the highest concentrations in what is now northeastern Siberia.

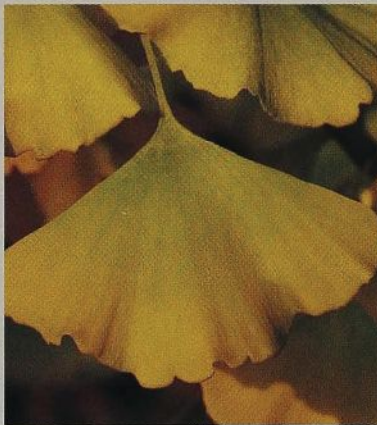
The native range of the ginkgo has shrunk considerably, and today the last wild stands are found in mountainous areas of southeastern China. Some botanists consider ginkgos to be extinct in the wild, arguing that the trees now found in natural areas were actually established by animals carrying seed from cultivated trees.

Often grown around temples and monasteries, ginkgos have been cultivated in China for centuries. From China, travelers to other parts of Asia spread the tree, which was introduced into Japan and Korea around the 12th century. A German physician, Engelbert Kaempfer, first described this remarkable tree in Japan in 1690 and seeds of the ginkgo soon made their way to the botanical garden in Utrecht, Holland. The first ginkgo in the Western world was planted there around 1730 and survives today. William Hamilton of Philadelphia introduced the ginkgo to the United States via England in 1784.

With only a 100-million-year history in the fossil record, dawn redwoods are mere saplings compared with ginkgos, but they have a fascinating story all their own. In 1941, Japanese paleobotanist Shigeru Miki named a new genus of plants based on fossils found in Japan. He called the new genus *Metasequoia* (literally "akin to *Sequoia*") to mark its close relationship with redwoods. Later that year, a Chinese forester noticed a small stand of unknown trees growing at an isolated site in central China's Sichuan province. Specimens of those trees were later collected, and in 1946 Xian-su Hu, a Chinese botanist, recognized their connection to the recently named fossil genus.

Understanding the significance of the find, Elmer Drew Merrill—then director of Harvard University's Arnold Arboretum—arranged funding for a Chinese seed-collecting expedition in 1947. Because locals were using the trees for firewood and lumber, only about 1,500 remained of what had once been a large forest. At the urging of American paleobotanist Ralph W. Chaney, an international conservation effort was launched to preserve the trees from extinction in the wild. It was Chaney who coined the evocative common name "dawn redwood," which helped fuel public support for the trees.

Seeds collected by the Arnold Arboretum-funded expedition and others were distributed to arboreta around the world, and the first generation of trees in America was planted in the late 1940s and early 1950s. (For more on the history of the dawn redwood's discovery, see "Resources," page 27). —C.H.



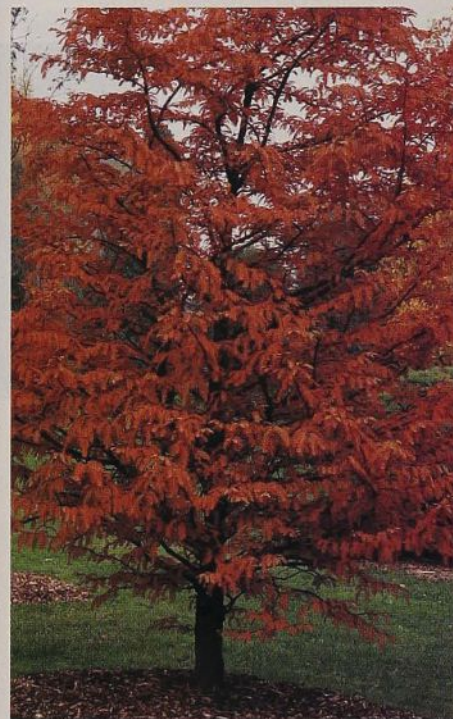
The leathery leaves of ginkgos resemble those of the maidenhair fern.

redwoods, bald cypresses (*Taxodium distichum*, Zones 5–11, 12–5) are characteristic denizens of swamplands in the southeastern and south central United States, with branches draped by Spanish moss and knobby "knees" projecting upward from around the trunk like stalagmites. Bald cypresses can grow to 100 feet or more with a spread of about 30 feet. They are also long-lived; there are several trees in the United States thought to be more than 1,000 years old.

Though naturally found in wet soils, bald cypresses are very adaptable and will thrive in ordinary acidic garden soils. Nor should they be considered only for the south. They are surprisingly hardy and have been grown successfully as far north as southeastern Canada and southern Minnesota. They are also very heat tolerant, thriving in coastal Texas and parts of Oklahoma, as well as on the West Coast where sufficient moisture is available.

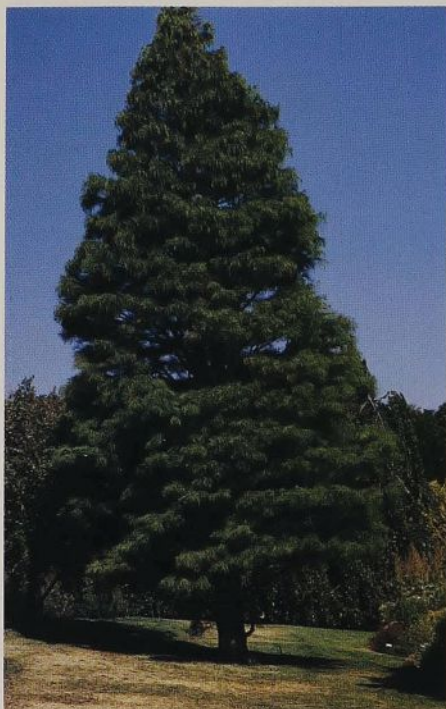
Bald cypresses are well adapted to planting in open upland areas or near ponds. Strongly anchored, they are extremely resistant to uprooting in windstorms. And, not surprisingly, these trees are practically immune to damage from flooding.

Possibly the tree's most distinguishing feature is its knees—cone-shaped structures up to two feet in height that grow



Although native to swampy, wet sites, bald cypresses thrive in ordinary garden soil.

vertically from the roots. How these structures benefit the tree is not exactly known, but possibly they provide additional anchoring and support. The "knees" develop only on trees growing in, or very near, water.



Pond cypress is more columnar in habit than the closely related bald cypress.

Bald cypresses have horizontal branches and straight trunks that flare at the base. In winter, their symmetrical silhouettes and shaggy, reddish bark stand out in the landscape. The soft needlelike leaves, densely clustered in a spiral arrangement on the branchlets, start out bright green in the spring, fade to grayish green in the summer, then turn a soft brown to orange-brown in fall before dropping. Roundish, two-inch, green to purple cones form in summer and later turn brown.

These stately trees are perhaps best used where ample space allows the planting of a single tree in a prominent position. But they can also be used to good effect in a grove, especially along the edge of a pond. Expect fairly rapid growth of a foot or more per year.

Several good selections are also available. 'Monarch of Illinois' grows to 85 feet tall with wide-spreading branches that nearly equal the height of the tree; 'Shawnee Brave' is narrowly pyramidal with ascending branches, growing to 75

feet tall and 20 feet in diameter. 'Secret' is a slow-growing shrubby dwarf selection with reddish gold fall foliage.

POND CYPRESS

POND CYPRESS (*Taxodium ascendens*, Zones 5–11, 12–5) is kissing kin to bald cypress—in fact, some botanists consider it a variety of bald cypress—and is similar in terms of growing requirements and use in the landscape. But pond cypress has a more columnar habit than bald cypress—growing only to 20 feet in diameter—and the way its small, bright green leaves are held tightly along upright branchlets give it a very different appearance.

This is definitely a tree that captures attention in the garden. The combination of form, fine-textured foliage, and vivid leaf color, and the appealing way the leaves are held are truly unique. 'Prairie Sentinel' is an even more columnar selection, growing to only about 10 feet wide.

GOLDEN LARCH

ONE OF THE most striking deciduous conifers is the golden larch (*Pseudolarix amabilis*, also listed as *P. kaempferi*, Zones 5–8, 8–4), which has light green needlelike leaves that contrast wonderfully with the medium and darker greens of many other trees.

This tree is a multi-season eye-catcher with graceful, wide-spreading branches studded with pale green leaves. Arranged in whorls, these are about two inches long and turn a delicious buttery yellow in the fall. The tree is further enhanced by conspicuous two- to three-inch-long green to purple cones that form upright on branches in summer.

Native to upland forests of eastern China, golden larch grows 50 to 60 feet tall and spreads 30 to 40 feet with a broadly pyramidal habit, sometimes becoming open with age. Most sources call it a slow grower, but growth rates of more than a foot per year in young plants have been reported. It grows best in well-drained, slightly acidic soil and full sun. No significant insect or disease problems are known.

The only drawbacks to golden larch are its lack of heat tolerance and its scarcity in the trade. It is well worth the search, however, for its year-round interest.

Sources

Arborvillage Farm Nursery, Holt, MO. (816) 264-3911. Catalog \$1.

Ginkgo biloba 'Autumn Gold', 'Fairmount'; *Larix laricina*; *Metasequoia glyptostroboides*; *Pseudolarix amabilis*; *Taxodium ascendens* and cultivar 'Prairie Sentinel'; *Taxodium distichum* 'Monarch of Illinois', 'Shawnee Brave'.

Forestfarm, Williams, OR. (541) 846-7269. www.forestfarm.com. Catalog \$5 (free if ordered online). *Ginkgo biloba* and cultivars 'Autumn Gold', 'Fairmount', 'Pendula', 'Princeton Sentry', 'Saratoga'; *Larix laricina*; *Metasequoia glyptostroboides*; *Pseudolarix amabilis*; *Taxodium ascendens*; *Taxodium distichum* and cultivars 'Secret' and 'Shawnee Brave'.

Rich's Foxwillow Pines Nursery, Woodstock, IL. (815) 338-7442. www.richsfoxwillowpines.com. Catalog \$2.

Ginkgo biloba 'Jade Butterflies', 'Pendula', 'Saratoga'; *Pseudolarix amabilis*; *Taxodium distichum*.

Wayside Gardens, Hodges, SC. (800) 213-0397. Catalog free. www.waysidegardens.com. *Metasequoia* 'Ogon' (sold under the name 'Gold Rush').

Resources

Manual of Woody Landscape Plants, 5th ed., by Michael A. Dirr. Stipes Publishing, Champaign, Illinois, 1998.

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For more on the dawn redwood's history, see the article by Susan Sand in **American Horticulturist**, Volume 71, Number 10. October 1992.



Left: Golden larch makes a stunning specimen tree. Top: A grove of Japanese larches framed against the autumn sky. Above: The reddish cones of Eastern larch complement its bluish green needles.

LARCHES

THE LARCHES constitute the largest genus of deciduous conifers with about 10 recognized species, mostly native to the colder regions of the Northern Hemisphere. Regrettably, most are not suitable for widespread landscape and garden uses, either because they are lacking in ornamental qualities or because they simply do not grow well under cultivation. They are also subject to a wide range of insect and disease problems, especially if grown outside their northern habitats.

Perhaps the best of them is the Japanese larch (*Larix kaempferi*, Zones 5–7, 7–4), a large and beautiful tree with blue-green foliage that turns yellow in the fall. Having a pyramidal habit, it grows to about 80 feet with a spread of about half the height. The lateral branches commonly sweep downward. It is generally considered the fastest-growing larch, putting on a foot or two of

growth per year in youth if given a site in full sun with moist soil.

Eastern larch or tamarack (*L. laricina*, Zones 2–6, 6–1) is beautiful in the wild in its native Canada, New England, and the upper Midwest but is little cultivated. In garden settings, it grows 30 to 60 feet tall and up to 20 feet in diameter with a pyramidal to open habit and drooping branches. It has pale bluish green foliage that turns bright yellow in fall. It grows best in sunny sites with moist, acidic soil.

European larch (*L. decidua*, Zones 3–7, 7–1) is native to northern and central Europe. It grows taller than tamarack and is slightly more heat tolerant. A variety of cultivars—including weeping, dwarf, and columnar forms—are available.

GRANDEUR IN THE GARDEN

DECIDUOUS CONIFERS are not for every garden. Most tend to become very

large trees and are not suitable for small spaces. But where space is available, deciduous conifers can bring great interest to the garden. Unlike their more static evergreen cousins, deciduous conifers introduce a seasonal rhythm to the landscape, with fall color and winter silhouettes followed by new spring growth. They combine the look of evergreen conifers with some of the attributes of deciduous hardwoods. Moreover, many deciduous conifers have remarkable insect and disease resistance, legendary longevity, pollution resistance, and rapid rates of growth. These qualities, combined with gorgeous foliage and form, make them worthy additions to the horticultural palette.

Formerly chief of the Natural Resources division of the Maryland–National Capital Park and Planning Commission, Carl Hahn lives in Clarksville, Maryland.



On the TRAIL of a FABLED PLANT HUNTER

BY SUSAN DAVIS PRICE

Two modern explorers, each carrying a battered copy of a book that traces the route of an early 20th-century English plant hunter, meet by chance in a remote Tibetan village.



Top: Modern-day explorers in Kenneth Storm Jr.'s group—with the peaks of Gyala Peri in view—trek toward the gorges of the Tsangpo River, the same area traversed by English explorer Frank Kingdon Ward, right, during his plant-hunting expeditions in the 1920s.

*All photographs are from Frank Kingdon Ward's *Riddle of the Tsangpo Gorges*, edited by Kenneth Cox, Antique Collectors' Club, Ltd., Suffolk, England, 2001, courtesy of the publisher. See credit lines for individual photographers or sources for the photographs.*



WHEN PEOPLE WITH a common interest or pursuit meet by chance 100 miles from home, they often remark on the smallness of our world. But the meeting of Minnesota explorer Kenneth Storm Jr. and Scottish plant hunter Kenneth Cox in a remote village in the mountains of Tibet is an especially dramatic illustration of coincidence.

Storm, an avid adventurer who works in his family's book and game-distribution business, has been retracing the historic route of explorers for more than 20 years; his travels have taken him to Mexican gorges, the Colorado Plateau, and the western Himalayas. Since 1993, he has made five journeys to southeastern Tibet—an area currently recognized as part of China—to explore the gorges of the Tsangpo River. In the Himalayan expeditions, Storm followed the footsteps of Frank Kingdon Ward, an extraordinary British plant hunter who was active in the first half of the 20th century. Kingdon Ward conducted more than 20 large-scale expeditions during his lifetime, collected more than 23,000 plants, and introduced many into cultivation (see "Frank Kingdon Ward," page 32).

Cox, who hails from a family of plant hunters, writers, and rhododendron experts, has written five books about rhodo-

dendrons and runs the family nursery in Glendoick, Perth, Scotland. He has led several expeditions to China and Tibet in search of plants. Like Storm, Cox has used Kingdon Ward's book, *The Riddle of the Tsangpo Gorges*, published in 1926, as his guide through the remote areas of Tibet.

When Storm and Cox met in a bar in Tibet in 1996—Storm on his way back from and Cox on his way to the gorges—each carrying a tattered photocopy of Kingdon Ward's book, they knew there would be much to discuss. "It was amazing," Storm says of the meeting. "It's an extremely rare book—if you can even find a copy of it. And here we were, both following Ward's journey. Ken was coming through with a group, and they were

The Tsangpo bends around cloud-enshrouded Abu Lashu, a mountain peak held sacred by many Tibetans.



Far left: Kenneth Storm Jr., right, with his traveling companion Ian Baker, left, and Tibetan guide Dungle Phuntsok, center, at one of the Tsangpo's falls, in 1996. Left: Kenneth Cox comes upon a yellow-flowered *Rhododendron campylocarpum* growing on a rocky ledge during one of his plant-hunting trips to Tibet.

going to all the high places, looking for the rhododendrons and primulas Kingdon Ward had described."

RESURRECTING A CLASSIC

OVER A FEW BEERS, Cox and Storm agreed to collaborate on an effort to get *The Riddle* reprinted—a task successfully accomplished this past spring when the revised book, edited by Cox, was published (see box, page 33). Storm views the original book as a significant piece of horticultural history. "This 1924–25 trek was one of the real classic journeys of a plant hunter," he explains, "in that Kingdon Ward found just extra-

ordinary riches of seeds to bring back to England, including the brilliant blue poppy, *Meconopsis betonicifolia*."

A prolific writer, Kingdon Ward was the author of 22 books, many of which had been republished by the time Cox and Storm met. But oddly, *The Riddle*, which recounted his most important expedition, had not. "Kingdon Ward was a wonderful writer," Storm says. "He renders detail so accurately and vividly." In an account of the blue poppy, for example, Kingdon Ward wrote that the flowers "flutter out amongst the sea-green leaves like blue-and-gold butterflies." In another instance, he described *Primula tibetica* as "a sleek and glossy dwarf" whose "thread-like capsules are ripe, full of gold-dust seeds."

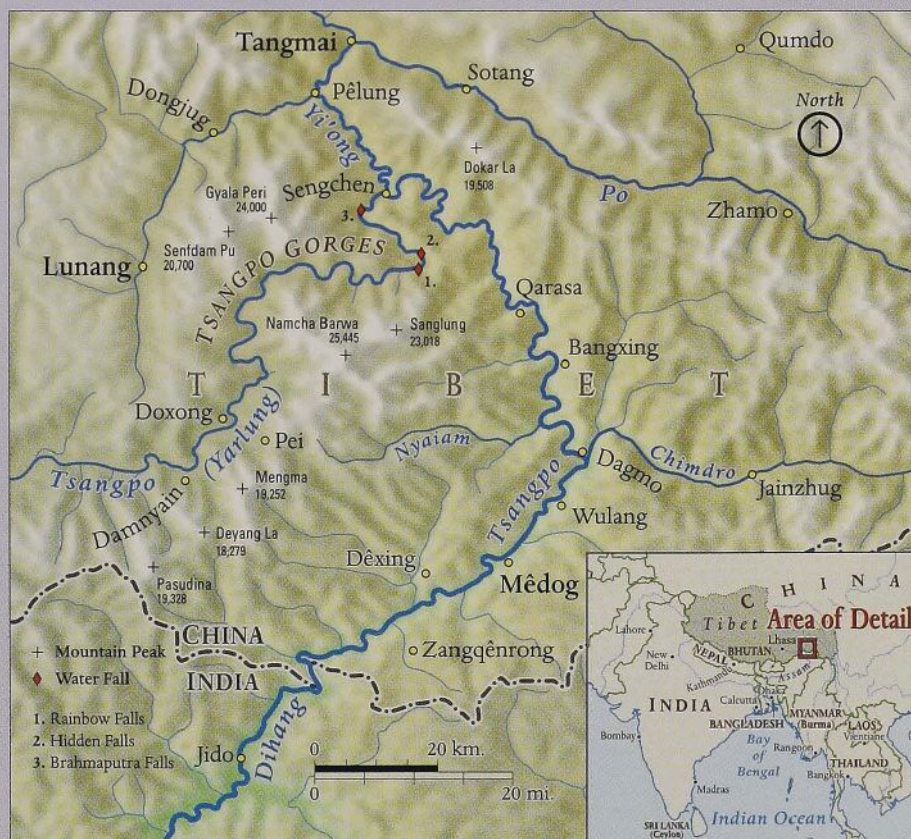
Top of the World

The Himalayas, where Frank Kingdon Ward made many horticultural discoveries, is home to the world's loftiest peaks; the very highest, Mt. Everest, lies on the border of Nepal and Tibet. High peaks in the region around the Tsangpo gorges include Namcha Barwa and Gyalu Peri.

The Tsangpo's location at the confluence of several cultures and geopolitical entities complicates efforts to provide unified names for places and natural features. In modern maps, the Tsangpo bears several names. The Chinese call the river Yarlung; Tibetans call it Tsangpo; where it flows through India, it's Brahmaputra; and in Assam, it's known as Dihang.

In this map, we've used place names that reflect Tibet's current status as an autonomous province of China. However, we've identified the Yarlung as Tsangpo to correspond with Kingdon Ward's accounts.

—Mary Yee, Managing Editor and Designer



Storm and his traveling companion, writer and Tibetan scholar Ian Baker, often read aloud from Kingdon Ward's accounts as they traveled. "It was uncanny," Storm says. "Kingdon Ward would describe the appearance of the weeping pine overhanging the gorge, and immediately we could pick up cues. He was such a careful observer, and many of the plants and fea-

"In June, long before the snow is all melted, the Rhododendrons are flowering furiously. Jostling waves of colour chase each other up the valley. Rain falls almost continuously and the fast-melting snow supplies unlimited quantities of water; the ground is just a filter through which flows a constant stream. Above all, the atmosphere is saturated, and the sun, muffled by the flying scud, rarely breaks through."

—Frank Kingdon Ward,
from *The Riddle of the Tsangpo Gorges*

tures were still there. We always had this sense that he was just beyond the next bend. What is remarkable about the gorge is that it has become an even less-traveled place today than it was in Kingdon Ward's time."

A LAND OF ALLURING MYSTERY

THIS RARELY TRAVELED PLACE to which Storm, Cox, and Kingdon Ward were drawn time and again is one of the most remote and inaccessible on earth. Here, where Assam, Tibet, Myanmar (formerly Burma), and China meet in a web of enormous mountain ranges, some of the greatest rivers of Asia have their sources. Tibet's mighty Tsangpo winds through the world's

Frank Kingdon Ward (1885-1958)

The son of a botany professor at England's Cambridge University, Frank Kingdon Ward spent a lifetime collecting plants for introduction to gardens, earning him the reputation as the last of a long line of great British plant hunters.

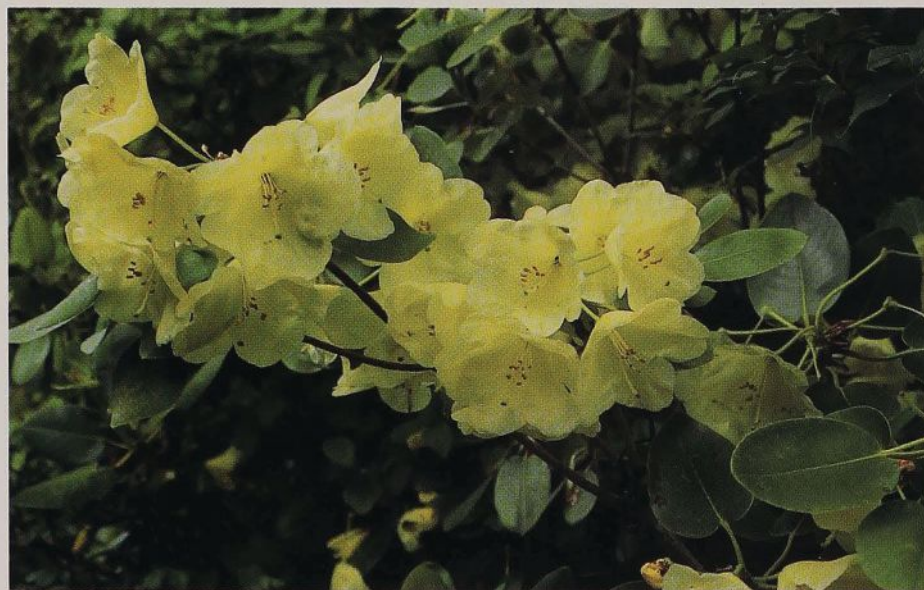
After completing a degree in natural sciences at Cambridge in 1906, Kingdon Ward took a job as a schoolmaster in Shanghai. In 1909, he accompanied a zoological expedition within China. The experience made him realize that "travel had bitten too deeply into [his] soul." From then until his death in 1958, Kingdon Ward was hardly away from the Himalayas for more than a few months, making more than 20 treks. He wrote countless articles, lectured widely, and authored 22 books on plant collecting, gardening, and travel.

Through his often grueling adventures in his quest to discover new plants, Kingdon Ward provided much of our knowledge of the flora, fauna, geology, climate, and ethnology of these remote regions of Asia and sent back thousands of seeds and herbarium specimens. Because of painstaking methods of collection and packing, most of Kingdon Ward's botanical finds were successfully grown by his sponsors.

He is best known for introducing the yellow-flowered *Rhododendron wardii*, *Primula florindae*, *Lilium mackliniae*, and the blue poppy (*Meconopsis betonicifolia*). —S.D.P.

deepest gorge before emerging as the Brahmaputra River in India. (See the map on page 31 for more about the geography of the Tsangpo gorge region.) The area has fascinated explorers because of its rich flora as well as its complex and largely undocumented geography.

Though much has been collected and mapped, many mysteries still remain. There was, until recently, for example, "the riddle" to which Kingdon Ward refers in his book title. Tibetan legend has long told of a mighty waterfall on the Tsangpo of fabled height that was said to contain a portal to Shangri-la, or



Two of Kingdon Ward's discoveries with perhaps the most significance to horticulture are the blue poppy (*Meconopsis betonicifolia*), above, and yellow-flowered *Rhododendron wardii*, left.



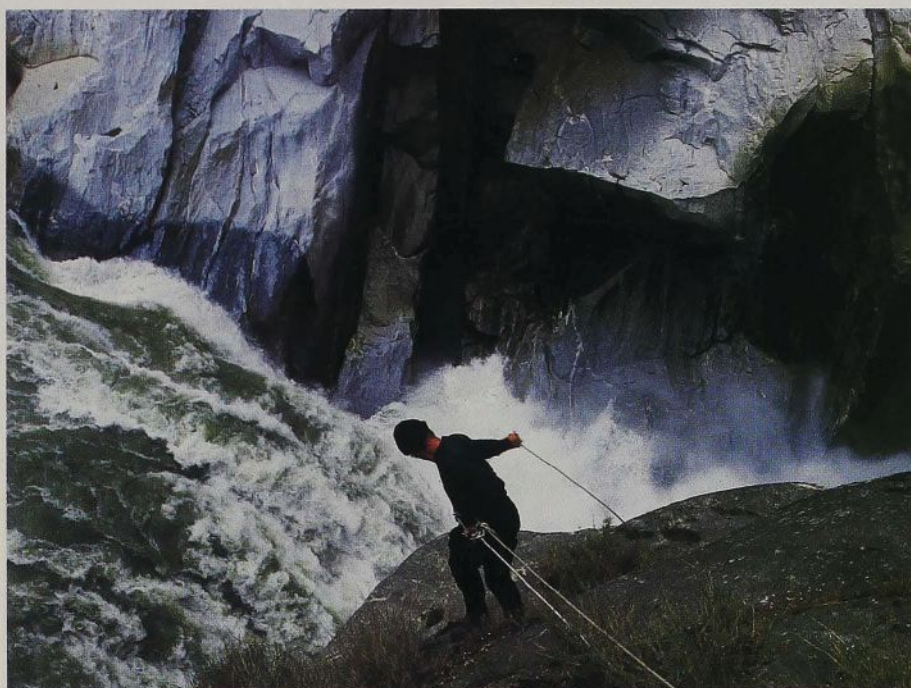
Above: Kingdon Ward's traveling companion Lord Cawdor took this photograph of Rainbow Falls in 1924, but it was left for Ken Storm and Ian Baker in 1997 to finally find the great waterfall they were after. In the photograph on the right, Storm rappels down toward the now-discovered Hidden Falls.

paradise. In searching for this fall, Ward had found a smaller one with a 70-foot drop, later named Rainbow Falls, but he had been unable to proceed further down the river. It was long assumed that the great waterfall was merely a myth.

In 1997, however, Storm and Baker were determined to search again for it. The pair traveled along the precipitous cliff faces to the waterfall area. "In this wild landscape with 11,000-foot drops beneath our feet," Storm recalls, "we saw Rainbow. But what caught my attention was another enormous waterfall just beyond the next bend. Kingdon Ward had been lower in the gorge than we were, so he was unable to see it. Seeing the fall was extraordinary. I realized nobody had seen this big one." Storm and Baker measured the fall at more than 100 feet.

Running low on food and with no ropes to descend, Storm's party ended the journey but not the desire to continue on. A year later, Storm and Baker approached the National Geographic Society with their revelation about the falls. The society immediately agreed to sponsor them for a return trip and document the falls on video.

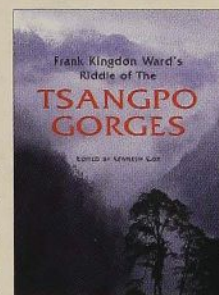
This time, with a National Geographic cameraman in tow,



Storm and Baker reached the falls—now dubbed Hidden Falls—bathed in its spray, hung Tibetan prayer flags above it, and camped along the bottom. "We had the sense of having participated in a sacred pilgrimage rather than being conquering heroes," Storm says of the feat. "The reissue of *The Riddle of the Tsangpo Gorges* is an opportunity to retell the story that laid the groundwork for this achievement."

A free-lance writer living in St. Paul, Minnesota, Susan Davis Price is author of Growing Home: Stories of Ethnic Gardening, which received the AHS Book Award in 2001.

Frank Kingdon Ward's Riddle of the Tsangpo Gorges: Retracing the Epic Journey of 1924–25 in South-East Tibet, edited by Kenneth Cox. Antique Collectors' Club, Ltd., Suffolk, England, 2001. Publisher's price, hardcover: \$69.50.



THE FULLY illustrated revised edition includes a new introduction by Jean Rasmussen—Kingdon Ward's widow, who accompanied him on his plant-hunting trips in the late 1940s and '50s—and new essays by Cox, Kenneth Storm Jr., and Ian Baker that focus on earlier explorations, the recent journeys to the Tsangpo gorges, and the region's religious history. Black-and-white photographs from Kingdon Ward's expeditions in the 1920s have been reproduced in the book and are interspersed with color photographs taken by Cox, Storm, Baker, and other contemporary explorers. The book is available by logging on to the AHS Web site (www.ahs.org) and linking to amazon.com.

designing a Winter Garden



Create a tapestry of berries, bark, and flowers for winter effect.

BY C. COLSTON BURRELL

IF YOU'RE one of those people who believe winter means the end of garden pleasure, you're in for a surprise; there are many ways to create a garden that can be enjoyed during the "unsung" season. Winter strips away a garden's green veneer, leaving an austere but hauntingly beautiful landscape ripe with promise. Divested of summer's excesses, the details of each plant's architecture are open to scrutiny. As deciduous trees and shrubs shed their leaves, their branching structure emerges against a backdrop of bark, berries, seed heads, and evergreen foliage.

Well-planned winter gardens use this simple framework to excel throughout the many moods of the season. Plants and low-



angled sunlight conspire in a subtle interplay, and the overall display evolves daily as birds feast on berries and wind sets grass seeds free from their plumes.

Some people designate a specific area as a "winter garden," but I suggest thinking boldly and making your entire yard a winter canvas. By placing key elements throughout the landscape, you provide structure, interest, and flowers during the winter. Trees and shrubs create the permanent framework, or bones

of the garden, which is most evident in winter. Early in the season, bark and berries are the main show, along with the colorful dried foliage and silken plumes of ornamental grasses. Plants with evergreen foliage—including trees, shrubs, and herbaceous perennials—are the workhorses of the winter landscape. At the cusp of late winter and early spring, bulbs, shrubs, and other flowering plants emerge to bring welcome color and fragrance.

Gardens change dramatically with the seasons. A well-planned garden can offer pleasure year round. Stripped of summer's lush foliage, the branches and berries of deciduous trees and shrubs catch the snow in this garden. A lone chair makes an attractive focal point to stop your eye, allowing you to take in the details of the surrounding bed.

REGIONAL PERSPECTIVE

IN SUBTROPICAL America, the winter season is little more than a temporary lull in the usual riot of bloom. Winter gardening is a privilege reserved for those who live in the temperate regions of North America. In the South, coastal northern California, and the Pacific Northwest (USDA Zones 7–9), winter is relatively mild and short-lived. Throughout the rest of North America, however, winter occupies a significant chunk of the gardening year.

The type of winters experienced in your region governs the overall strategy for designing a winter garden. I gardened for 11 years in USDA Zone 4 in Minnesota, where a deep blanket of snow spread over the garden soon after Thanksgiving, and few plants stirred until warm spring winds melted the snow.

In regions like this, where winter snow persists, ground-level plantings have little impact, so it's best to concentrate on shrubs and trees with exceptional attributes and good winter color. Choose plants with dramatic bark coloration, brilliant berries, and eccentric forms. Ornamental grasses and dried seed heads of tall perennials such as Joe-pye weed (*Eupatorium purpureum*, USDA Zone 3–8, AHS Zone 9–1) and cup plant (*Silphium perfoliatum*, Zones 4–9, 9–4) will also protrude elegantly from the deepest snow.

For the last three years, I have lived in Virginia, where my garden covers a gently sloping wooded hillside that falls away from a terrace and deck at the front of the house. Here, as in much of the South, winters are relatively mild, and there is seldom more than a month after the turning of the year when a

bloom cannot be found. This allows me to use a wide variety of plants to enhance the winter landscape.

The garden is viewed in all seasons through four large windows that bring the outdoors in and frame a series of dramatic outward views to the meadows and gently rolling mountains beyond. Key

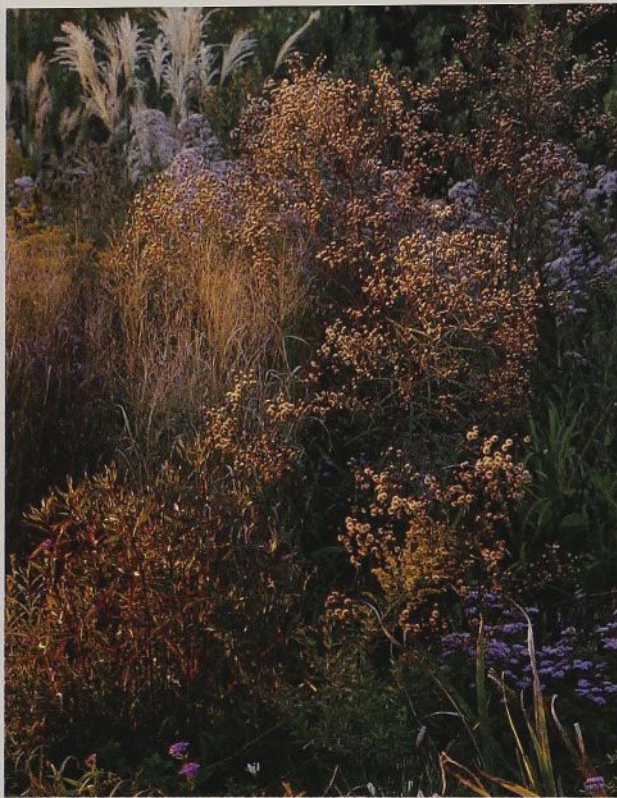
sight lines or vistas radiate like spokes from each window, so I have placed sitting areas or objects such as water basins to provide a focal point in each of these views. To accentuate these vistas, I have included a dramatic plant or combination of plants that offer exceptional winter interest in each sight line. Successive layers of plantings carry the eye from beds just outside the windows to the middle ground, to the background, and, ultimately, to the borrowed scenery beyond the confines of the garden.

Although not everyone has four sight lines, I recommend trying this process with whatever vistas you have. Start by working with the view you enjoy most in winter,

perhaps the one you see from your sun room or out a favorite window.

AROUND THE HOUSE

SOMETIMES WE don't want to stir far from our warm houses in winter, so plant small, early-blooming bulbs and fragrant



Top: Autumn blends seamlessly into winter in the south. In this North Carolina garden, the airy plumes of switch grass (*Panicum virgatum*) accent tawny heads of ironweed (*Vernonia noveboracensis*) against a backdrop of Japanese silver grass and asters (*Aster tataricus*). **Right:** A variety of conifers and deciduous trees combine to provide structure to this late-winter garden.

WINTER GARDEN DESIGN TIPS

Thoughtful plant choice and placement are the keys to creating an evocative winter garden. Start by looking out your windows. Analyze the major sight lines of your garden and plan how to integrate plantings that will add eye-catching color or structure in winter.

Layer plantings for cumulative, dramatic effect. Layered plantings are more interesting as well as more wildlife friendly. Maximum drama depends on a balance between contrast and harmony. Set a flowering tree against a rich evergreen backdrop for contrast, then underplant with a blend of evergreen perennials and flowering bulbs. A bed of mixed heaths (*Erica* spp.) and heathers (*Calluna* spp.) offers colorful evergreen foliage and early flowers.

That's not to say that a single specimen cannot make a powerful statement. The eccentrically twisted branches of a moss-covered Harry Lauder's walkingstick (*Corylus avellana* 'Contorta', Zones 4–8, 9–1) can hold the eye in any context. A lone Japanese apricot (*Prunus mume*, Zones 6–9, 8–6) in full February bloom against a haze of bare winter branches is also a stand-out soloist.

Repetition creates unity and rhythm in a planting. Picture a mountain view, with overlapping ridges as far as the eye can see. Each successive ridge gets paler, until earth and sky meld. Plants farther from the eye should be lighter in color, which accentuates the illusion of depth. Fine texture juxtaposed with bold texture creates the same effect.

Be sure to choose plants in scale with the space in which you are working. A small city lot may have room for only one tree or a cluster of shrubs. If that's the case, choose plants that offer the best combination of branching structure, bark, flowers, and fruits. In a larger garden, plantings can feature clusters of trees, drifts of shrubs, and sheets of bulbs and perennials at ground level.

To stimulate dulled winter senses, choose a few plants that offer fragrant blossoms, such as witch hazels, daphnes, or sweet box (*Sarcococca* spp.). These as well as small, delicate, winter-blooming bulbs should be planted near the house or along a regularly traveled pathway.

Light is also an important factor when creating a great winter garden. Place your plants to take full advantage of the soft quality of light and the low angle of the winter sun. An orange witch hazel will burst into flames when illuminated from the side by the warm glow of the rising or setting sun. Grass plumes seem to glisten from within with backlighting.

Constructed elements such as walls, arbors, and benches add their own interest in the winter garden. Free of the greenery that festoons them during the growing season, they take on a new prominence and make good focal points in the winter landscape.

—C.C.B.

plants near the house or along a regularly traveled walkway so they can't be missed. Beds immediately around my house feature small shrubs mixed with evergreen ground covers, small bulbs, and herbaceous perennials selected to provide maximum color and fragrance early in the season. By early to mid-February, the ever-

green variegated winter daphne (*Daphne odora* 'Variegata', Zones 7–9, 9–7) is festooned with tight pink flower clusters like miniature nosegays. To my nose, the fragrance is a perfect mixture of gardenia and lemon. Entering and leaving the house is a treat, and on warm days with the door open, the whole house smells divine.

Some of winter's flowers are subtle, often making up in fragrance for what they lack in size and color. When the tantalizing scent of sweet box (*Sarcococca hookeriana* var. *humilis*, Zones 6–9, 9–3) mingles with the chilly air in February or March, the tiny white flowers are easily overlooked. The glossy evergreen leaves make an excellent ground cover in rich, well-drained soil under berried branches of chokeberry (*Aronia* spp.) or winterberry holly (*Ilex verticillata*, Zones 4–8, 8–2), but are equally effective carpeting the ground amid fragrant white forsythia (*Abeliophyllum distichum*, Zones 5–8, 8–5), camellias, or witch hazels.

Another scented winter bloomer in my garden is winter honeysuckle (*Lonicera fragrantissima*, Zones 4–8, 8–3), a preco-

Cutting the stems to the ground every other spring ensures that shrubby dogwoods (*Cornus sericea* and cultivar 'Flaviramea') produce fresh stems with intense winter color. The white trunk of Himalayan birch (*Betula utilis* var. *jacquemontii*) provides vivid contrast in form, texture, and color.





Above: Colorful stems of yellow-twig dogwood, right, and milky *Rubus cockburnianus*, far left, make a dramatic foil for a flowering winter hazel (*Chimonanthus praecox*) among a carpet of black Mondo grass and the early greenery of *Iris foetidissima*. Right: In late winter, color abounds in a well-planned vignette featuring a carpet of winter aconite, snowdrops, and crocuses planted among sweet box (*Sarcococca* spp.) beneath a more subtly scented Bodnant viburnum (*Viburnum ×bodnantense* 'Dawn').

cious vamp doused head to toe with perfume when its cream-colored flowers open in late winter.

EVERGREEN MAINSTAYS

EVERGREENS ARE particularly critical elements of the winter landscape, especially in the North. They are a reliable source of winter color and also provide a backdrop for deciduous shrubs and trees with colorful stems or interesting branching patterns. Be sure to include a blend of evergreens with different heights and shapes throughout your garden. Don't confine yourself to conifers; where they are hardy, include broadleaf evergreen shrubs and perennials, too. Larger evergreens can be used as specimen plants or placed near the middle and edges of the garden to serve as back-

drops for other plantings. Smaller ones can be included in mixed borders or grown as low hedges.

Some plants serve double duty, providing evergreen foliage and beautiful flowers. One indomitable winter bloomer that I use throughout my garden is Lenten rose (*Helleborus ×hybridus*, Zones 4–8, 8–3). These cheerful, long-lived plants tolerate plunging temperatures with aplomb. They greet a frosty morning with their heads face down, but the flowers rise with the mercury and are fully recovered by 40 degrees. Not only do they flower in winter, their elegant, umbrellalike leaves grace the garden through the seasons. For variety, try sweet hellebore (*H. odorus*, Zones 5–9,



9–3), which sports fragrant green flowers and silky bright green leaves. The spidery black-green leaves of stinking hellebore (*H. foetidus*, Zones 5–9, 9–6) are elegant intermingled with ferns or in mass plantings. The chartreuse flower buds begin de-

veloping in December, and plants are usually in full bloom by February.

DECIDUOUS SHRUBS AND TREES

LARGER SHRUBS AND small trees are best used to define the mid-ground of the garden. Mass plantings of grasses, berried branches, and colored twigs come into play as well. Shrubby dogwoods (*Cornus sericea* and *C. alba*, Zones 2–8, 8–1) are mainstays, and red-, orange-, and yellow-twigged varieties are available.

Willows are another good choice. Flame willow (*Salix* 'Flame', Zones 2–8, 8–1) has glowing red-orange stems, while basket willow (*Salix purpurea* 'Nana', Zones 3–7, 7–1) has stems the color of burnished bronze. Set against a backdrop of evergreens, these colorful stems will put on a long show.

I achieve rhythm in my garden by repeating a key plant or a key color. One small tree with a vase-shaped form I use re-

Resources

Gardens in Winter by Elizabeth Lawrence. Claitor's Publishing, Baton Rouge, Louisiana, 1977.

The Unsung Season by Sydney Eddison. Houghton Mifflin, Boston, 1995.

The Winter Garden by Peter Loewer and Larry Mellichamp, Stackpole Books, Mechanicsburg, Pennsylvania, 1997.

peatedly is witch hazel (*Hamamelis* \times *intermedia*, Zones 5–9, 9–1), which is placed layer upon layer in the foreground, mid-ground, and background. The spidery petals unfurl in the strengthening sun, spreading a delicate perfume. The cultivar 'Diane', with flowers the color of a winter fire, is placed close to the house because its richly colored beauty is most apparent on

close inspection. In the mid-ground, orange-and-yellow 'Jelena' and 'Primavera' hold sway, while the golden 'Arnold Promise' is placed at the far reaches of the garden because its bright color reads best at a distance.

Witch hazels are not always the earliest of bloomers. When you can rub two warm days together, the first flowers to open are of winter hazel (*Chimonanthus praecox*, Zones 7–9, 9–6), an upright, open shrub to 10 feet tall. The rhapsodic scent of these nodding, waxy-yellow flowers, reminiscent of spicy fruit, is as pronounced as that of witch hazel is subtle. And the flowers seem unperturbed by frost, often emerging unblemished from temperatures in the teens. 'Concolor' has pure yellow flowers that are larger than those of the species.

Try also a mass of yellow-flowered winter jasmine (*Jasminum nudiflorum*, Zones 6–9, 9–6) as a ground cover, or place it where the lithe green stems can cascade



A classic winter vignette features fragrant, airy witch hazels (*Hamamelis mollis* 'Pallida' and *H. \times intermedia* 'Orange Beauty', contrasting with solid green cotoneaster and the burgundy leaves of bergenia. Mixed pink heaths (*Erica carnea*) echo the rich color of the bergenia.

SELECTED PLANTS FOR WINTER INTEREST

Here's a list of plants with various features that make them suitable for including in a winter garden. The botanical names are followed by USDA Plant Hardiness and AHS Plant Heat zones.

Plants with Colorful Stems or Bark

Crape myrtles (*Lagerstroemia indica*, 7-9, 9-7)
 Ghost bramble (*Rubus cockburnianus*, 5-9, 9-6)
 Himalayan birch (*Betula utilis* var. *jacquemontii*, 4-9, 9-3)
 Moosewood maple (*Acer pensylvanicum*, 3-7, 7-3)
 Paperbark maple (*Acer griseum*, 3-7, 7-2)
 River birch (*Betula nigra* 'Heritage', 5-7, 7-2)

Berry-bearing Plants

American cranberry bush (*Viburnum trilobum*, 2-7, 7-1)
 Cotoneaster (*Cotoneaster divaricatus*, 4-7, 7-4)
 Firethorn (*Pyracantha coccinea*, 6-9, 9-6)
 Mountain ash (*Sorbus alnifolia*, 3-7, 8-1)
 Pernettya (*Pernettya mucronata*, 7-10, 10-7)
 Possumhaw holly (*Ilex decidua*, 5-9, 9-5)

Winter-flowering Shrubs and Trees

February daphne (*Daphne mezereum*, 5-8, 8-5)
 Silk tassel tree (*Garrya elliptica*, 8-11, 12-8)
 Winter hazel (*Corylopsis pauciflora*, 5-9, 9-2)
 Winter heath (*Erica carnea*, 5-7, 7-5)

Evergreens

■ Conifers

False cypress (*Chamaecyparis lawsoniana*, 5-8, 9-5)
 Pine (*Pinus bungeana*, 4-7, 7-1)
 Plum yew (*Cephalotaxus harringtonia*, 6-9, 9-3)

■ Trees and Shrubs

Alexandrian laurel (*Danae racemosa*, 6-9, 9-2)
 Creeping mahonia (*Mahonia repens*, 5-8, 8-3)
 Inkberry holly (*Ilex glabra*, 5-9, 9-5)
 Japanese camellia (*Camellia japonica*, 8-10, 10-3)
 Japanese fatsia (*Fatsia japonica*, 8-11, 12-8)

Osmanthus (*Osmanthus heterophyllus*, 6-9, 9-4)
 Star anise (*Illicium floridanum*, 7-10, 9-4)
 Yew (*Taxus x media*, 4-7, 7-1)

■ Herbaceous Perennials

Bergenia (*Bergenia cordifolia*, 4-8, 8-1)
 Christmas fern (*Polystichum acrostichoides*, 3-8, 8-1)
 Hardy ginger (*Asarum shuttleworthii*, 5-8, 8-4)
 Japanese holly fern (*Cyrtomium falcatum*, 6-11, 12-6)
 Makinoi's holly fern (*Polystichum makinoi*, 4-8, 8-3)
 Sacred lily (*Rohdea japonica*, 6-9, 9-6)

Winter-flowering Bulbs

Crocus (*Crocus chrysanthus*, 3-8, 8-1)
 Cyclamen (*Cyclamen coum*, 5-9, 9-5)
 Grecian windflowers (*Anemone blanda*, 4-8, 8-1)
 Reticulated iris (*Iris reticulata*, 5-9, 8-4)
 Winter aconite (*Eranthis hyemalis*, 4-9, 9-1)

down a wall. This early bird, which seems immune to cold, has a lax habit that recalls forsythia, but is more graceful.

FLOWERING PLANTS

WHEN WARM DAYS begin to beckon, be sure there are detailed plant combinations to see throughout the garden. Intermingle shrubs with good winter interest and underplant with a carpet of low-growing evergreen shrubs or perennials such as skimmias (*Skimmia japonica* Zones 7-9, 9-7), wild ginger (*Asarum europaeum*, Zones 4-8, 8-1), and holly ferns (*Polystichum* spp.) mixed with early-blooming bulbs.

In my garden, a carpet of snowdrops (*Galanthus* spp.) and lavender *Crocus tom-*

masinianus (Zones 4-8, 8-1) is lovely under a sweep of fragrant, yellow-flowered paperbush (*Edgeworthia chrysantha*, Zones 7-9, 11-8). Other early-blooming bulbs such as daffodils, glory of the snow (*Chionodoxa luciliae*, Zones 3-9, 9-1) and striped squill (*Puschkinia scilloides*, Zones 3-9, 9-1) add valuable ground-level color to the late-winter landscape.

The most distant plantings in a garden should meld almost imperceptibly with the borrowed landscape beyond. I placed a small drift of bronze-leaf sedge (*Carex buechananii*, Zones 7-9, 9-1) at the bottom of my garden to echo the tawny broomsedge (*Andropogon virginicus*) and little bluestem (*Schizachyrium scoparium*) growing in the meadow beyond. Pale witch hazel (*Hamamelis mollis* 'Pallida',

Zones 5-9, 9-2) and yellow-twig dogwood (*Cornus sericea* 'Flaviramea', Zones 2-8, 8-1) stand out against the green junipers that punctuate the tawny meadow grasses.

No matter where you live or how severe your winter, you can create an evocative garden that celebrates the sublime beauty of the winter season. This winter, consider the views from your windows, and imagine a landscape as provocative as a summer border. Come spring, you can add the plants that will color and perfume the next unsung season.

A writer, photographer, lecturer, and landscape consultant, C. Colston Burrell lives in Free Union, Virginia. His most recent book is Perennials for Today's Gardens, published by Meredith Books.

DEADHEADING



Good gardeners, we are told, should cut back the flowering stalks of perennials as soon as the blooms fade. This practice funnels the energy that would have been used for seed production back into the plant. Relentless deadheading also satisfies our compulsion for neatness. But what happens if we let go? If we leave the spent flowers on plants and allow the formation of seed heads, we might enjoy a second, more subdued period of show. An array of seed pods in fantastical shapes and winter colors gains visual dominance in the garden while it sleeps away the winter.

Here, the foliage of red switch grass (*Panicum virgatum* 'Rubrum') takes on a range of hues from bright orange to deep magenta as the growing season comes to an end. An attractive cultivar of a grass native to many parts of the United States, 'Rubrum' produces the species' characteristic airy clouds of seeds. As hard and shiny as tiny diamonds, they glisten on stems so fine they are practically invisible.

Reconsidered

Seed heads provide interest
in the winter garden and
food for wildlife.

BY LAUREN BROWN



Flowers are fragile, delicate, and short-lived lures that attract pollinators to help accomplish the real goal: the continuity of the species, neatly and securely encased in the seed. Seeds are made of sterner stuff. Their packaging is hard, smooth, and durable because they must endure wind, rain, snow, and sleet to carry germplasm through cold, dark months to the safety of spring. The excess produced by a single plant is enough not only to ensure future generations of plants, but to supply the diet of a host of birds and other wildlife that unwittingly help to distribute the seeds. Here, highlighted by autumn sunshine, the sturdy seeds of wild oats (*Chasmanthium latifolium*) dangle, fully formed, while the purple asters in the background are still in flower. Seeds are abundant as well as durable.

EVERY WORD OF gardening advice I've ever read preaches the virtues of deadheading: Don't let those flowers go to fruit, we're told, because it will sap strength from the plant. And for years I have religiously deadheaded my flowers and cleaned up my perennial beds. Yet as I snooped on the yards of some of my apparently lazy—or unconverted—neighbors last winter, it occurred to me that those of us who follow this gospel might be depriving ourselves of some winter pleasure.

In the dead of winter, my neighbors' gardens contained colorful and sculptural plantings that were encouraging reminders of the summer's success. Dried flower heads and seed pods of sedums, irises, coneflowers (*Rudbeckia* and *Echinacea* spp.), and blazing stars (*Liatris*

spp.) presented a fascinating variety of forms in rich browns, tans, and umbers. Fountain grass (*Pennisetum* spp.) complemented the dried stalks beautifully, creating a ready-made winter garden.

On our town green, the garden club had installed a planting that included dwarf azaleas, with leaves in muted shades of crimson and olive, along with dried grasses, *Rudbeckia*, and tickseeds (*Coreopsis* spp.), the latter two left in their dead brown glory. Despite the surrounding slush and grimy snow, the planting was a visual feast.

BEYOND BLOOMS

IF YOU THINK about it, flowers—which we work so hard to get—are nothing but short-lived lures to attract

pollinators and ensure the formation of seeds for future generations. These seeds and their encasing seed pods often have intriguing shapes, which come into their own if left to dry on the stem.

Iris pods form a graceful open vase, divided into three parts. Lilies bulge in the middle into more of a balloon shape. Hibiscus pods look like little flowers in their own right, with five petallike sections opening to reveal a multitude of seeds. Veronica fruits, if you have good enough eyes to find them, are perfect tiny hearts. Blazing stars have tufts of fuzz lining the stem where the flowers were. Coneflowers and *Heliopsis* spp. leave perky brown pompons after the flowers have gone.

I'm not dismissing the importance of deadheading. I read once that fruit can account for 40 percent of the weight of



The dark chocolate seed heads of *Rudbeckia fulgida* 'Goldsturm', capped with snow and gilded by thin winter sunshine, are sculpture for contemplation—not a *memento mori*, but a promise of new life.



An American goldfinch perches beside one of its favorite foods, the seeds of a coneflower (*Echinacea* spp.). Leaving coneflower seed heads on the plants almost guarantees a garden full of these cheerful songbirds, sometimes called "wild canaries."

the plant, so I don't doubt that seed formation saps strength. But so what? It would be refreshing to watch my plants perform their natural functions and then enjoy the winter sculptures that follow.

A middle-ground approach is also possible: I could deadhead half of a

given planting each year and let the rest go to seed. And, of course, the decision to leave seed heads standing is hardly irrevocable. If I don't like the way they look, I can cut them down. Or, if after a few heavy storms, they appear unsteady, I can clip them off shorter and

GARDENS FOR WILDLIFE

Leaving seed heads on plants will help attract birds and other wildlife to your garden. Once they are there, make them welcome and keep them safe and happy by providing for their needs. Here are tips to help sustain wildlife:

- Don't use synthetic chemical pesticides.
- Include some locally native plants that have evolved in tandem with wildlife.
- Provide sources of fresh water year round.
- Grow thick or thorny shrubs or vines for nesting.
- Landscape with layers of vegetation—from trees to shrubs to a dense cover of herbaceous plants—for shelter.
- Plan for a succession of seeds and fruits throughout the year.

stick them in the ground arranged to my liking.

WINTER VISITORS

ASIDE FROM WINTER interest, leaving seed heads also benefits wildlife. One year, a patch of *Coreopsis* was so prolific I couldn't bear to clip the spent flowers. After goldfinches came to visit and returned every afternoon to peck seeds out of the withered flowers, any guilt I felt for neglecting the garden vanished. Birds also find nesting materials in the dried stalks; a Carolina wren nest that I once reluctantly removed from my garage had all sorts of identifiable winter remnants in it.

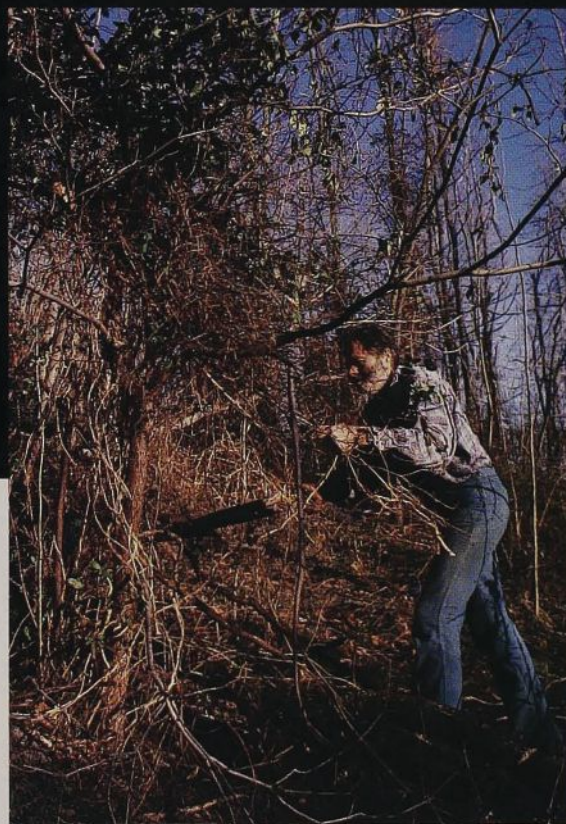
When I looked out at the neighbors' otherwise dreary yards and saw those stalks and pods, they reminded me that something living and beautiful was once there, and will be again. If I can just rein in my compulsive deadheading, I, too, can have a poor-man's winter garden.

A free-lance writer living in Branford, Connecticut, Lauren Brown is author and illustrator of Grasses: An Identification Guide, published in 1979 by Houghton Mifflin.



The rusty seed heads of *Sedum telephium* 'Matrona' contrast nicely with its glowing creamy yellow foliage. The leaves will soon drop off, but the seed heads will last all winter.

when GOOD plants go BAD



Most ornamental plants are good garden citizens, but a few quickly wear out their welcome. We've assembled a rogue's gallery of plants that are highly invasive in certain regions and garden settings and offer tips on how to avoid or control them. *BY CAROLE OTTESEN*

YOU'VE watched over them—feeding, coddling, grooming, and training them. You've quenched their thirst in the dog days and covered them when the temperature dropped. In spite, or perhaps, because of it all, they've become bullies—greedily appropriating more than their share of light, air, and space. They are thugs—PLANTS GONE BAD!

You try to remember where it all went wrong...and way, way back in a dark corner of your brain, a dim red warning light goes on. At the time you made your order, you recall, *something* in that catalog description had prompted a flicker of unease....

HOW THUGS GET INTO OUR GARDENS

"GROWS ANYWHERE," said the catalog. And it did, most unfortunately," writes Janet Thomas, an AHS member from Endicott, New York, of *Houttuynia cordata*. "It has smothered everything within its path," she says. Alarmed when she discovered the plant 15 feet away from its original location, she attempted complete eradication, digging up the entire garden and removing the *Houttuynia* by hand. That didn't work.

Descriptions in catalogs and books tend to make virtues out of vices. "Birds love the berries" is catalog-speak for lots of seedlings popping up in your beds. "Grows any-

where" or "quick coverage" should set off bells and whistles. "Tolerates dry shade" is a code phrase for a tough survivor that can stand just about anything and may possibly go berserk in moist humus.

A "pass-along plant" is another euphemism for "grows just about anywhere" and another way a thug can get a roothold in your garden. It is well to consider that people are less likely to give away rare, slowly-reproducing plants than they are those that multiply freely. Generally speaking, if they have too many of them, so will you.

Fragrant Japanese honeysuckle, top left, is hard to resist but quickly grows out of bounds.



Houttuynia cordata will thrive just about anywhere, which is not always a good thing.

"*Cerithe major*," says California gardener and author of *The Book of Salvias* Betsy Clebsch, "is a prolific seeder in the garden. People like it a lot, and so you have hundreds of gardeners raising hundreds of plants and giving them away as fast as they germinate—which is rapidly."

"We accepted several rootings of *Artemisia* 'Silver King'," writes reader Cynthia Johnson of Richmond, Virginia. They prospered so magnificently that she and her husband, Steve, thought they had "green thumbs down to their wrists" until an army of 'Silver King' "set up camp and invaded perennial beds."

Nobody knowingly plants an invasive. They come into our gardens with our highest aspirations—because they are rare or unusual, because they seem useful, because they support wildlife, and, above all, because they are beautiful. Almost without exception, invasives are attractive—pretty faces you "fall in love with and, only

later, learn the ugly truth," observes New Mexico landscape designer Judith Phillips.

Pretty porcelain berry (*Ampelopsis brevipedunculata*), introduced into eastern gardens in the 1870s, enchanted the Victorians with its intricately shaped leaves, charming vining habit, and attractive berries in silvery pink and shiny turquoise. The birds love it so much they have carried it up and down the East Coast from New England to the mid-Atlantic. It is now commonly found in the wild as far west as Illinois.

NATIVES CAN BE INVASIVE, TOO

PORCELAIN BERRY, like most invasives, is an exotic plant. In its place of origin in Asia, natural controls—climate, soil, animals, insects, and microorganisms—keep it in check. In a more salubrious situation and in the absence of those controls, a plant like porcelain berry, *Cerithe major* or *Artemisia* 'Silver King' may flourish out of all reason. When conditions are right, some natives will do the same thing.

"The scourge of my gardening existence is Virginia creeper (*Parthenocissus quinquefolia*), often listed in landscape books for the South," states Betsy Jukofsky, an AHS member from Hilton Head Island, South Carolina. "When left to wander," she says, this native vine "could easily accommodate Tarzan. Each spring it produces hundreds of tiny plants that pop up all over the yard."

"River oats (*Chasmanthium latifolium*) can be a huge problem if you don't watch where you put it," says nursery owner and

Resources

Invasive Plants: Weeds of the Global Garden by Janet Marinelli and John Randall, Brooklyn Botanic Garden, Brooklyn, New York, 1997. Covers 82 invasive plants in depth.

The Nature Conservancy's Weeds on the Web. tncweeds.ucdavis.edu.

The Plant Conservation Alliance's Weeds Gone Wild.

www.nps.gov/plants/alien.

U.S. Fish & Wildlife Service.
www.fws.gov.

author of *Southeastern Wildflowers* Jan Midgley. Wood poppy (*Stylophorum diphyllum*), a treasured native wildflower in Canada, multiplies with alarming rapidity in the warm, moist shade of southeastern woodlands.

Black locust (*Robinia pseudoacacia*), native to the southeastern United States and pockets of the Midwest, is extremely invasive. Dominating in dry, sandy prairies and savannahs, it has spread to every state but Arizona. Yellow bush lupine (*Lupinus arboreus*), native to southern and central California, invades coastal dunes in northern California, becomes dominant, and, eventually, facilitates the invasion of non-native weedy grasses.

Sometimes people create problem plants because they alter the climate within their gardens. In the Southwest and West where rain is seasonal, drought is a given. In the gardens Phillips designs in New Mexico, the natives she installs tolerate it, but homeowners don't.

"One of the big problems with things being invasive here is that people are watering and fertilizing too much. We find that the native grasses—little bluestem (*Schizachyrium scoparium*) and sideoats grama (*Bouteloua curtipendula*)—are a problem for the same reason. They are adapted to the climate as it is, but by wa-

Silver lace vine (*Polygonum aubertii*), in flower here on a sturdy trellis, spreads with too much abandon for small gardens.



tering too much and amending the soil, we are changing the native habitat.” As for the native grasses becoming invasive outside the richly prepared, regularly watered perennial beds, once they get back into nature, the climate controls them.

Sources for Controls

Glyphosate, available commercially as RoundUp, can be found in most garden centers. Here are sources for other weed-control products:

Corn Gluten Meal and Weed Torches
Planet Natural, Bozeman, MT.
(800) 289-6656.

Fatty Acid Herbicides
Gardens Alive! Lawrenceburg, IN.
(812) 537-8650. (Weed-Aside)

Monterey Lawn and Garden Products,
Fresno, CA. (559) 499-2100.
(Quik-RTU)

Weed Torches
Charley's Greenhouse and Garden,
Mount Vernon, WA. (800) 322-4707.

Gardener's Supply Company, Burling-
ton, VT. (800) 427-3363.

CONTROL STRATEGIES

ONCE AN aggressive plant gets a roothold in the garden, it can become an ongoing maintenance problem. Russell S. Fling, an AHS member from Columbus, Ohio, says the only way he has been able to get rid of winter creeper (*Euonymus fortunei*) “is to physically pull it out by the roots. That is hard work and requires attention every year because you never seem to get all the roots.”

“Be vigilant,” says AHS member Adele Kleine of Winnetka, Illinois, and “PULL, PULL, PULL!” Member Vern Schanilac agrees, “There is no substitute for the old-fashioned way for two reasons: No foreign substance or chemical is introduced, and it's good therapy for the mind and physical exercise for the body.”

Relentless weed pulling will eventually eliminate even garlic mustard (*Alliaria petiolata*) or *Lythrum salicaria* in a home garden. Ingenuity and an array of non-toxic products can help. Jukofsky pours boiling water from a tea kettle on dog fennel (*Anthemis cotula*) and daisy fleabane (*Erigeron annuus*) seedlings as soon as they appear. Weed torches, also called “flamers,” and herbicides containing fatty acids destroy unwanted plants.

Prevention is even better. Connecticut gardener Steve Frowine, who is vice president of horticulture at International Garden Products, mulches thoroughly “to prevent seeds from touching bare ground.”

Corn gluten meal, spread on bare ground, also inhibits seed germination.

GOING WITH THE FLOW

“KNOW WHAT a plant is capable of and find a place in your garden where what it wants to do is an asset,” advises Phillips, who finds working with nature saves time and trouble. For example, “Mexican evening primrose should *not* be mixed into a perennial bed,” she says. “It is really a small-scale ground cover” that should be placed where its natural spreading tendency is an advantage.

Use less-obnoxious thugs to do battle with your worst weeds, suggests Patricia Stover, an AHS member from Morris Plains, New Jersey. She introduced “tough, invasive plants” such as goose-necks (*Lysimachia clethroides*) to gradually crowd out assorted other weeds she couldn't control by conventional means.

Take advantage of the garden's micro-climates and move an out-of-control plant to a less-than-ideal site where it may (or may not) behave. Since the time of the *Artemisia* wars, the Johnsons have developed a strategy to handle their aggressive adversary. They site it “where its tenacity is much needed,” to control soil erosion on slopes, for example. By positioning a rambunctious plant where it must overcome less-than-optimal conditions to survive, they are harnessing its natural vigor to advantage.



Yellow-flowered wood poppy, above, is well-behaved in cool regions but can be aggressive in warmer climates. Right: A sea of purple loosestrife (*Lythrum salicaria*) has displaced native vegetation in this Canadian marshland.



LEFT: ALAN AND LINDA DETRICK; RIGHT: DON JOHNSTON

"In amended soil, *Euphorbia amygdaloides* var. *robbiae* goes like a demon," notes Oregon garden designer, writer, and lecturer Lucy Hardiman. "In dry—really dry—shade, it has good manners and makes a reasonable ground cover." Frowine agrees, noting that evening primrose (*Oenothera speciosa*) "will take over a garden in good soil but can be an answer for a hot, droughty area where nothing else will grow." A thug in one part of the garden may not be in another.

The reverse is also true. When Illinois Extension Specialist Denny Schrock moved to a new home, he found a one-



As shown here, *Euonymus fortunei* grows vertically as well as horizontally.

foot-wide, 18-inch-tall clump of *Physostegia* growing "in about one inch" of topsoil over compacted subsoil next to the house. "I thought it was one of the dwarf, better-behaved cultivars," he says. Wrong. One year after moving it to "loamy black prairie soil," he says, "it is well over four feet tall and covers an area six to eight feet wide and is threatening to obliterate my *Caryopteris*." Schrock also finds *Houttuynia cordata*, polygonums, and bishop's-weed (*Aegopodium* spp.) overly aggressive in his Mahomet, Illinois, garden.

IT'S ALL RELATIVE

HOW A PLANT performs is relative not only from site to site within the garden, but from region to region. New England asters (*Aster novae-angliae*) reproduce with wild abandon in the Northeast, but melt in Mississippi. *Arundo donax*, brought to this

PLANTS ON THE MOST-UNWANTED LIST

Among the vast numbers of ornamentals in North America, only a small percentage are considered truly invasive in the wild, but those that do immense harm. The list below is greatly abbreviated, including garden escapees and plants considered most damaging to natural habitats, and identifies where in North America they are posing the greatest threat.

BLACK LOCUST (*Robinia pseudoacacia*). Entire continental U.S. except Arizona.

BROOMS (*Cytisus*, *Genista*, *Spartium* spp.). West.

BUCKTHORN (*Rhamnus cathartica*). Nova Scotia to Saskatchewan, south to New England and Missouri.

CANADA THISTLE (*Cirsium arvense*). West, Central, mid-Atlantic.

GARLIC MUSTARD (*Alliaria petiolata*). Northeast, mid-Atlantic, South, Midwest, Oregon, Colorado, Utah.

GIANT REED (*Arundo donax*). Northwest, California, Southwest, Southeast.

HIMALAYAN BUSHCLOVER (*Lespedeza cuneata*, *Sericea lespedeza*). Central.

HONEYSUCKLES (*Lonicera* spp.). East and Midwest.

JAPANESE KNOTWEED (*Polygonum cuspidatum*). Most of U.S., including Alaska.

KUDZU (*Pueraria lobata*). South, Illinois, Oregon.

LEAFY SPURGE (*Euphorbia esula*). North central U.S. into Canada.

MILE-A-MINUTE VINE (*Polygonum perfoliatum*). Northeast, mid-Atlantic, Midwest.

MULTIFLORA ROSE (*Rosa multiflora*). Entire continental U.S. except the southeastern coastal plain and deserts of California and Nevada.

OLD WORLD CLIMBING FERN (*Lygodium microphyllum*). Florida.

ORIENTAL BITTERSWEET (*Celastrus orbiculatus*). East and Midwest.

PORCELAIN BERRY (*Ampelopsis brevipedunculata*). East and Midwest.

PRIVET (*Ligustrum* spp.). East, Southeast, Midwest.

PURPLE LOOSESTRIFE (*Lythrum salicaria*). Continental U.S. and Canada.

SPOTTED KNAPWEED, YELLOW STAR THISTLE (*Centaurea* spp.). Northwest, North Central, California.

SALT CEDAR (*Tamarix* spp.). West, central, and parts of Northeast.

TREE OF HEAVEN (*Ailanthus altissima*). Entire continental U.S. except Nevada.

WISTERIA (*Wisteria japonica* and *W. sinensis*). East and parts of Midwest.



Clumps of broom (*Cytisus scoparius*) spreading in a rock-strewn field.

continent from southern Europe by the Spanish mission fathers, is considered invasive in California and parts of the South, but in moist shade in a mid-Atlantic garden, it loses volume and gradually fades away. The night-blooming cereus (*Hylocereus undatus*) is an invasive in Florida, but cannot survive cold northern winters.

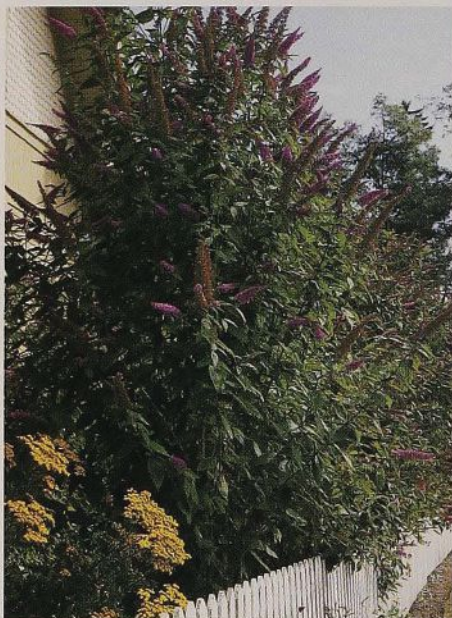
"In north Alabama, what you see all along the roadsides is privet (*Ligustrum vulgare*). It's not as big a problem in the mid-Atlantic," says Midgley, who moved to Wilsonville, Alabama, after decades of

gardening in Maryland. She not only sees differences between the regions, but between parts of Alabama. "Japanese climbing fern (*Lygodium japonicum*) hasn't gotten out of control here in north Alabama where winters are cold," she says, "but it's a big problem in Mobile."

California's climate, with its months without rain, might slow some plants down, but it doesn't bother *Vinca minor*. "They call it mountain ivy," says Clebsch. "It will go without any summer water—with just fog."

Different climates bring out the devil in different plants. In her garden, Clebsch does battle with the numerous seedlings of *Helleborus foetidus*, *Geranium incanum*, and what was touted as a "hot horticultural," *Cerinthe major*. According to Clebsch, they "seed all over the place!"

In the Pacific Northwest, where Hardiman gardens, she has been digging out *Symphytum* 'Hidcote Pink' for 10 years. "English ivy (*Hedera helix*)," she notes, "is destroying our forests; it is only



Buddleia davidii, here in the confines of a garden, can be a prolific self-seeder.

one final step away from being on our invasive plant list. *Buddleia davidii* seedlings are appearing along freeway verges, *Vinca minor* is getting to be a problem in native areas, and *Lysimachia clethroides* goes crazy in our clay soils." Bishop's-weed (*Aegopodium podagraria*) 'Variegatum,' she adds "seems to be bad no matter the region."

KEEPING INVASIVES OUT

THE SUREST WAY to avoid problems is to keep problem plants out in the first place. Gardeners can inform themselves about plants that are already identified as invasive, but there's no way of knowing how a new plant will perform. After her experience with the far-reaching *Houttuynia*, Thomas would like to see the nursery industry do "far more thorough testing before plants are released to gardeners."

INVASIVES IN THE WILD

"There are some plants that are aggressive," says Kim Hawks, owner of Niche Gardens in Chapel Hill, North Carolina, "and there are some plants that are aggressive and displace native populations." A plant crosses the line between being just a pest and becoming an invasive when it escapes the garden or field and makes itself at home in the wild, outcompeting the native flora.

Kristine Johnson, a forester in Great Smoky Mountains National Park, says that in the park, far from their origins "where natural predators, parasites, and climatic conditions keep them under control," the invasives are all exotics. Nevertheless, it does not follow that all exotics are invasive.

"There is a big difference between an exotic plant and an exotic invasive," says Johnson. She explains that of the 1,575 total species in the park, 295 are non-invasive exotics such as daffodils and apple trees, and only 49 are considered invasive exotics.

True invasives have built-in attributes that give them an edge over their competitors. They produce vast numbers of seeds or fruits (*Lythrum*, *Lonicera*, *Celastrus*) with unusually effective means of dispersal (birds, wind); these seeds and fruits can establish swiftly in a wide range of places (*Acer platanoides*, *Alliaria petiolata*); and their growth is fast, shading out neighbors (*Buddleia*, *Paulownia*). Some have extra-effective competitive qualities (such as allelopathic leaves or roots, *Ailanthus*) or a disagreeable taste, odor, or spines to discourage herbivores (*Euphorbia*, *Cirsium*, *Rhamnus*). —C.O.

In fact, the American Nursery and Landscape Association (ANLA) is keenly aware of invasive plant problems. ANLA Senior Director of Government Relations Craig Regelbrugge cites research being undertaken on ivy and "different biotypes of *Imperata cylindrica*" through its Horticultural Research Institute. And he speaks of the possibility, in future, of "breeding for sterility." Bigelow Nurseries co-owner Pat Bigelow, a past president of the Horticultural Research Institute and member of the Invasive Plant Council for Massachusetts, says, "we are working with environmental groups such as the Sierra Club and putting private money into determining which plants are truly invasive."

Responsive to environmental issues, nursery professionals are also regulating themselves. The Florida Nurserymen & Growers Association recently added 34 plants, invasive in natural areas, to a list of those they are asking Florida nursery growers, landscape professionals, and retail garden centers to voluntarily stop propagating, selling, and using.

Kim Hawks, owner of Niche Gardens in Chapel Hill, North Carolina, states, "one of our customers called to alert us that porcelain berry was spreading throughout Virginia. We then decided to

discontinue it as well as *Akebia* and English ivy cultivars and the straight species of *Vinca minor*."

To discourage runaway plant problems, propagators are producing cultivars and searching out species with better social skills. Clumping bamboos for cooler regions (*Fargesia* spp.) are becoming more available. A clumping, non-spreading, white form of obedient plant, *Physostegia* 'Miss Manners', has been selected by Darrell Probst of Garden Visions in Hubbardston, Massachusetts. *Persicaria microcephala* 'Red Dragon', introduced by Greg Speichert of Crystal Palace Perennials in St. John, Indiana, is a stay-put, clumping form in a genus infamous for its ability to spread.

To keep a garden from going bad, gardeners have to exclude known offenders, however beautiful. They have to cultivate a healthy skepticism when it comes to catalog descriptions and choose cultivars with built-in brakes. They have to site new plants thoughtfully and monitor them until proven trustworthy. It takes an alert and knowledgeable gardener to keep plants on the straight and narrow.

Carole Ottesen is associate editor of *The American Gardener*.

Poinsettias for the Holidays

Every year, dozens of dramatic new poinsettias are released just in time for the holidays. Here are some of the most interesting introductions to look for this year. If you can't find the cultivar you're looking for, ask your local nursery to order it for you, or contact the company directly for information on how to obtain it.

'Early Joy'

One of the earliest poinsettia cultivars to color up, 'Early Joy' features very dark green leaves and intense red bracts. Oglevee Ltd., 152 Oglevee Lane, Connellsville, PA 15425-3888. (800) 437-4733. www.oglevee.com.



'Sonora White Glitter'

'Sonora White Glitter'. Dark green leaves and deep red bracts splashed with white distinguish this new compact-to-medium-height variety in the Sonora Series.

'Cortez Marble'. This newest mid-season member of the Cortez family has pink-and-white bracts and dark green leaves.

Fischer USA, 2995 Wilderness Place, Suite 102, Boulder, CO 80301. (303) 415-1466. www.fischerusa.com.



'Holly Point'

'Holly Point'. Green-and-yellow variegated holly-shaped leaves provide a refreshing contrast to red bracts.

'Plum Pudding'. Large, showy bracts of rich mauve set this mid-season variety apart from other poinsettias. Paul Ecke Ranch, P.O. Box 230488, Encinitas, CA 92023. (800) 468-3253. www.ecke.com.

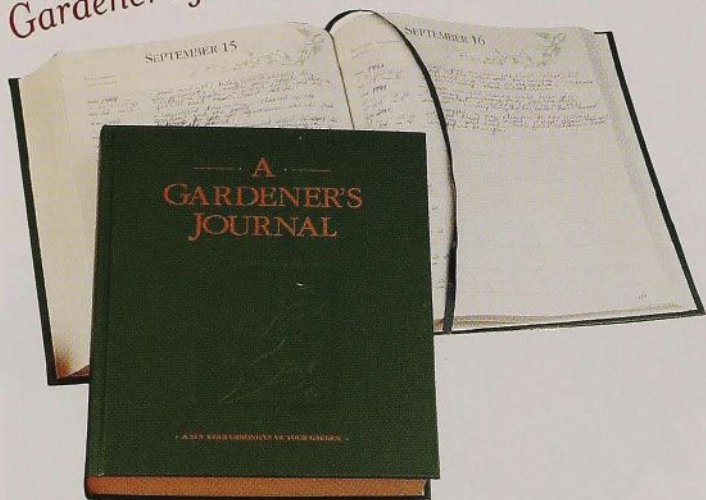
'Plum Pudding'



'Cortez Marble'

Gifts for the Gardener

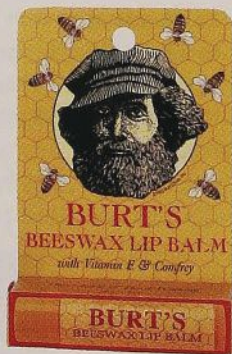
Gardener's Journal



The 544-page journal is set up as a 10-year diary. Additional sections provide information on composting, digging beds, soils, and more. Book is 9 by 11 inches and has a hard cover. Available for \$28.95 from Lee Valley Tools Ltd, P.O. Box 1780, Ogdensburg, NY 13669. (800) 871-8158. www.leevalley.com.

Beeswax Lip Balm

Soothe cracked, chapped, or burning lips with this beeswax-based lip balm from Burt's Bees. Available in a tin or a plastic tube. The cost is \$2.50 for one or \$9.99 for a set of five. www.burtsbees.com.



Folding Pruning Saw

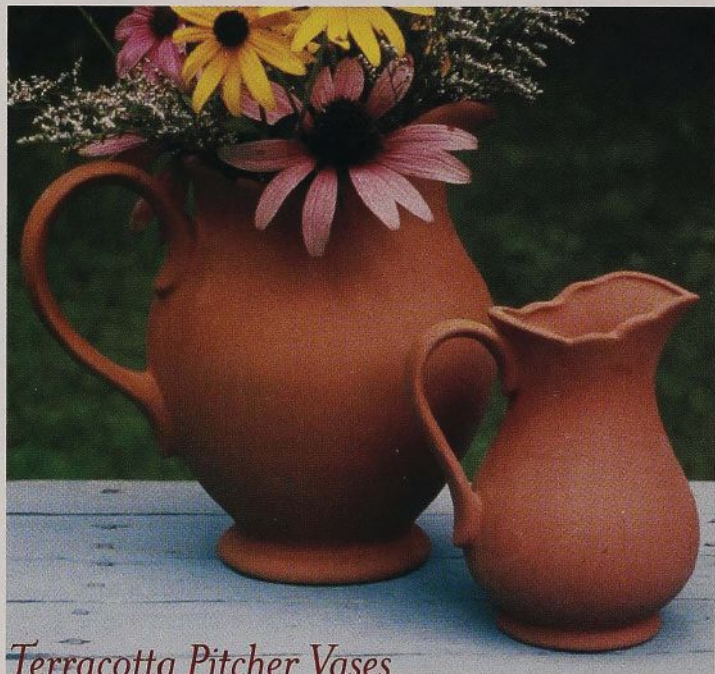


This 16-inch-long pruning saw folds to seven inches for safe storage. It sells for \$19.95. Gempler's, 100 Countryside Drive, PO Box 270, Belleville, WI 53508. (800) 382-8473. www.gemplers.com.



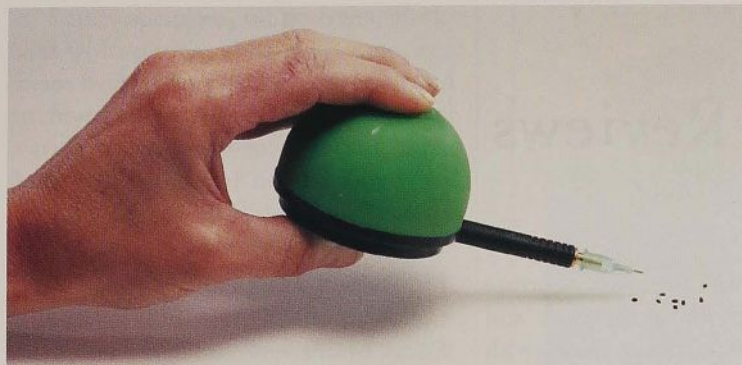
Watering Can Earrings

Show your enthusiasm for gardening by wearing these watering can dangle earrings. Crafted from pewter, they are available for \$12, for pierced ears only. Great Garden Gifts. (877) 446-4387. www.greatgardengifts.com.



Terracotta Pitcher Vases

Ideal for displaying fresh flowers, these terracotta pitcher vases are glazed inside to retain water. The large vase is 8 1/2 inches high by 5 1/2 inches diameter and sells for \$19.95. The small vase is 5 3/4 inches high by 3 1/4 inches diameter and sells for \$9.95. Kinsman Company, P.O. Box 428, Pipersville, PA 18947. www.kinsmangarden.com.



Seed Applicator

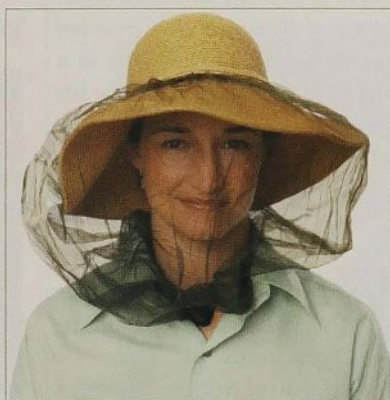
The Precision English Seeder allows you to pick up small seeds one at a time and plant them with accuracy. All it takes is a slight squeeze on the rubber grip. Comes with three tip sizes. Costs \$24.95. Gardener's Supply Company, 128 Intervale Road, Burlington, VT 05401. (800) 427-3363. www.gardeners.com.



Guard your hands and arms from scratches when working around roses and other thorny plants with these goatskin Deluxe Rose Pro's Gloves. They are specially sized for women's hands and are available for \$20.99. Garden Works. www.creatagarden.com.

Mosquito Veil

Protect your face from mosquitos and other insects with this sheer nylon veil. Designed to fit over a hat, can be attached to shirt buttons. Retailers for \$8. Smith & Hawken, P.O. Box 431, Milwaukee, WI 53201. (800) 776-3336. www.SmithandHawken.com.



Seed-Starting Kit

The Deluxe Seedstarting Kit features five high-top propagator domes to accommodate tall seedlings. The domes have two air vents and are made from a durable plastic that can be sterilized in the dishwasher. The 4 1/2-gallon reservoir tray has room to grow hundreds of seedlings at a time. Kit includes a capillary mat, pegboards, and water-level indicator. Available for \$69.95. Gardener's Supply Company, 128 Intervale Road, Burlington, VT 05401. (800) 427-3363. www.gardeners.com.



Folding Wheel Barrow

This wheel barrow weighs only eight pounds but can carry up to 45 pounds and folds flat for storage. The open size of the woven polypropylene basket is 30 by 20 by 14 inches deep. Available for \$39.95. Lee Valley Tools Ltd., P.O. Box 1780, Ogdensburg, NY 13669. (800) 871-8158. www.leevalley.com.

Products profiled are chosen based on qualities such as innovative design, horticultural utility, and environmental responsibility; they have not been tested by the American Horticultural Society. Send new product information to New Products, *The American Gardener*, 7931 East Boulevard Drive, Alexandria, VA 22308.

Book Reviews

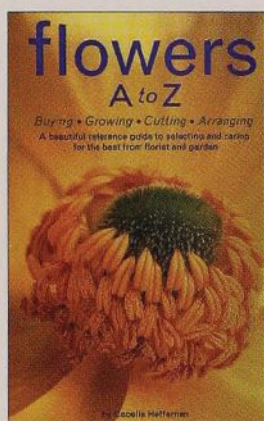
Flowers A to Z: Buying, Growing, Cutting, Arranging.

Cecelia Heffernan. Abrams, New York, 2001. Publisher's price, hardcover: \$49.50.

Sensational Bouquets by Christian Tortu.

Photographs by Sylvain Thomas. Text by Corine Delahaye. Abrams, New York, 2001. Publisher's price, hardcover: \$45.

WHETHER OR NOT a garden surrounds it, every house needs *Flowers A to Z: Buying, Growing, Cutting, Arranging* by floral designer Cecelia Heffernan. At first glance, it looks like a coffee table book. Its size—9 7/8 by 13 7/8 inches—and the beauty of the more than 400 color photographs would support that conclusion. Neverthe-



less, the wealth of information it contains makes it the ultimate floral reference book. The encyclopedic entries contain both beautiful and informative photographs and practical advice.

A godsend for the many people who love flowers but don't know all of their names, each entry lists names, colors, and varieties available for each and whether or not a flower is fragrant. For anyone who orders from a florist or is planning a wedding, this book is especially useful.

Flower arrangers at any level of skill and experience will use this helpful reference as a how-to. It includes everything anyone needs to know about conditioning cut

flowers, the supplies necessary to create arrangements and how to use them, and the mechanics of floral design. Along with tips for arranging and growing the flowers, there is information about how long each flower will last in an arrangement and the availability of plants around the year.

Flowers A to Z is the perfect holiday gift book for gardeners, flower arrangers—both novice and advanced—and people who simply love flowers.

If *Flowers A to Z* is the ultimate reference, *Sensational Bouquets* by Christian Tortu is grand inspiration. Tortu is a French designer known worldwide for his innovative approach to the art of flower arranging. The photographs of Tortu's work show a sophisticated interpretation of nature. The exquisite beauty of all

growing plants—from orchids to field grasses and *Paulownia* fruits to squash blossoms—is displayed in arrangements that will inspire hobbyists as well as professionals.

Tortu combines simple elements with great artistry, choosing for each arrangement just the right vase to enhance superbly the flower and fruit selections, and he always manages to achieve an element of surprise. The spectacular combinations nudge the creative spirit in all of us.

The photographs by Sylvain Thomas are as stunning as the text by Corine Delahaye is inspirational and thoughtful. At the end of the book are practical pages with the bouquet photographs reduced and each and every plant identified. This is a book to be savored.

—Anne Brooks

Anne Brooks is a floral designer and lecturer who maintains her garden, Hollywalk, in Brookeville, Maryland.

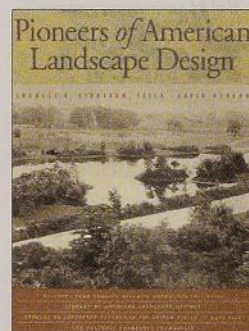
Pioneers of American Landscape Design.

Edited by Charles A. Birnbaum and Robin Karson. McGraw Hill, New York, 2001. Publisher's price, hardcover: \$59.95.

THIS BOOK is the important reference we have needed for a long time. A volume of breadth, depth, and excellence, it pulls together the diverse and fascinating story of American landscape design.

In the hefty collection of books on our gardening shelves by famous British au-

thors, there is no complete account of the development of our national landscape. Too little space is devoted to our college campuses, the curves in our parkways, and the gentle slopes of our cemeteries, but this much-needed work fills that void.



An alphabetical parade of 160 names proceeds from "Abbott, Stanley William (1908–1975)" through "Yoch, Florence (1890–1972)." More than 100 distinguished and dedicated authors have summarized the lives and major works of their subjects. Each entry—usually two or three pages—is followed by a bibliography with comments and a list of relevant primary documents and their locations.

The biographies reveal surprising details about even well-known gardens. For example, the elliptical hornbeam hedge at Dumbarton Oaks in Washington, D.C., often attributed to Beatrix Farrand, is described as Alden Hopkins' "modification" of the Farrand design. In turn, Donald Parker and Ralph Griswold, we learn, completed Hopkins' plans for the east lawn gardens of the University of Virginia after his death. The lives and plans of the featured designers frequently intersected, and the book cross-references these events.

Landscape plans, oil portraits, black-and-white photographs, engravings, and maps from every possible collection and archive bring to life a vast inventory of varied landscapes—some extant, some long vanished, some never realized. We see Lester Rowntree, known for her early appreciation of California natives, standing with her faithful burro on a collecting trip into the backcountry. James C. Rose appears holding a model of his house he made from scraps while stationed at Okinawa during World War II. A striking black-and-white study of the Willis Ward estate in Montecito, California, features two unmatched lawn chairs in the foreground of a vista culminating in the Santa Inez Mountains. The range of eloquent and evocative images documents the subtle changes in the American landscape over the centuries as fully as the words of the text.

My only complaint about *Pioneers of American Landscape Design* is that not all the photographs are dated. It would have been helpful to know the year of each photograph, where possible, because gardens and landscapes are notoriously subject to change and revision. Some of the images appear to have been taken fairly recently, while others are clearly archival.

At the end of the book is a list of "Sites Accessible To the Public," with addresses and telephone numbers. A discreet symbol alerts readers to sites available only by appointment. Some entries, such as that for Benjamin Bannecker's overall plan of Washington, D.C., even suggest where to find the best vantage point.

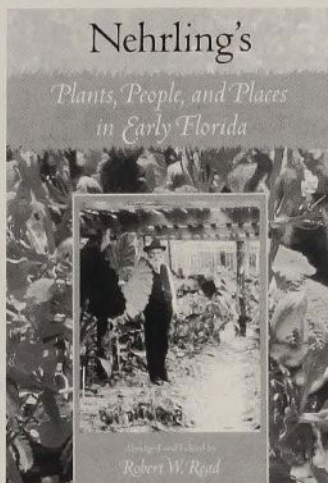
A book of this importance will, I'm sure, translate into action. Readers will consume the text, pore over the photos, and visit the existing designs. Some will campaign to save remnants of significant landscapes in their own neighborhoods. Those who take the time to fully explore this significant addition to our national library will find they eye our landscapes with a whole new range of understanding and appreciation.

—Lucy Coggin

Lucy Coggin is site administrator for the George Washington University Landscape Design Certificate Program at Lewis Ginter Botanical Garden in Richmond, Virginia.

UNIVERSITY PRESS OF

Florida



Nehrling's Early Florida Gardens

Abridged and Edited by Robert W. Read

Foreword by David Fairchild

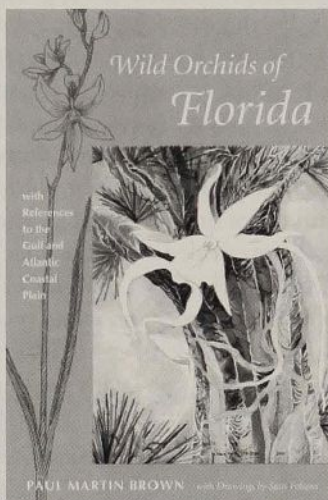
"This book brings about feelings of both envy and gratitude. Envy because Nehrling lived during simpler times when natural Florida was still in its primitive glory. Gratitude for putting it all in elegant prose for future generations of Florida gardeners and explorers."—Roger L. Hammer, Tropical Audubon Society and Miami-Dade Parks Department
December. 304 pp. 11 b&w photos, 17 color plates.
2425-0 Paper, \$29.95

Nehrling's Plants, People, and Places in Early Florida

Abridged and Edited by Robert W. Read

Foreword by David Fairchild

"Dr. Nehrling, who fully combined passion for observation with skill in the propagation and cultivation of a variety of species, is one of the real pioneers in the fascinating field of plant introduction. In Dr. Nehrling's own simple but fascinating language, these stories of a great plantsman tell how one who learns to recognize plants can explore for a lifetime the unlimited variety of beautiful forms which compose the plant kingdom."—David Fairchild
December. 320 pp. 10 b&w photos, 15 color plates.
2428-5 Paper, \$29.95



Wild Orchids of Florida with references to the Atlantic and Gulf Coastal Plains

Paul Martin Brown

Drawings by Stan Folsom

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First published in the 1940s as *My Garden in Florida*, these two newly revised and edited volumes by Henry Nehrling (1853-1929) present a remarkable record of Florida's botanical history and a delightful mixture of observations on the Florida climate and growing conditions. His association with writers, scientists, and travelers presents a window into the gardening community of his era, and his intriguing mixture of subjects furnishes an important source of information for those interested in Florida's social, botanical, and environmental history.

Nehrling's Early Florida Gardens describes Florida's climate and soils, the flatwoods, the hammocks, epiphytes, bamboos, magnolias, live oaks, Japanese and Chinese evergreens, the camphor tree, conifers, the myrtle family, oleanders, cycads, bromeliads, air plants, orchids, shade trees and flowering trees, fig trees, sacred trees, vines and sweet-scented plants, flowering shrubs, oleasters, annuals, perennials, and bulbs.

Nehrling's Plants, People, and Places in Early Florida describes oriental trees and shrubs, cacti and succulents, palms, gymnosperms, cycads, Florida native trees and shrubs, curious and interesting ornamental plants, Nehrling's favorite places of beauty, tropical Ft. Myers, classic Florida gardens, and Nehrling's favorite contemporaries.

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Armitage's Manual of Annuals, Biennials, and Half-Hardy Perennials. Allan M. Armitage. Timber Press, Portland, Oregon, 2001. Publisher's price, hardcover: \$39.95.

A SCREAMING gap in my garden library shelf has been filled by *Armitage's Manual of Annuals, Biennials, and Half-Hardy Perennials*. Gardeners have long needed a really comprehensive and affordable encyclopedic reference to plants of brief longevity, and now we have it.

From the outset, Armitage crisply sets forth the Problem With Annuals Today. "The flower breeding industry," he writes in his not-to-be-missed and occasionally hilarious preface, "spent millions of dollars successfully improving the habits, color, and availability of impatiens, geraniums, and petunias for the landscaper and gardener, and as a result, other annuals receded from the American landscape." He confesses that he himself has been one of those floral researchers. But, "the tide has turned," and Armitage gives credit to us—the plantaholics: "Because of the gardener, not the industry, dozens of more unusual annuals are now available in the local garden shop."

Armitage's manual is the best guide yet to this new world of possibility. The book itself is of workmanlike design, set in a clear typeface just a squidge too small for easiest reading. Still, if the type were larger, the book would be, too, and one of its charms is that it is small enough to trot around the garden center with.

In an A-to-Z section that begins with

Abelmoschus and ends with *Zinnia*, Armitage tells you the genus name, how to pronounce it, a common name if it has one, the plant's family, its sun, shade, site, and water requirements (if noteworthy), plus general seed-collecting and germinating tips. Furthermore, each species entry also has its own key to pronunciation, common names, average height and spread (something you hardly ever see in articles on annuals, including my own), flowering time, flower or foliage color, and geographical site of origin. Best of all, the text is liberally interlarded with Armitage's editorial comments, drawn from his experience as a plant breeder and world traveler.

For me, the table of contents is misleading. You come away with the impression that the manual is organized according to biennials, half-hardy perennials, winter annuals, shade-tolerant plants, fragrant plants, climbing plants, and everlastings, but these are merely the titles of the specialty plant lists in the appendix. The bulk of the book is comprised of the 492-page "A-to-Z Genera" section. Additionally, there are indexes to botanical names and common names at the back, but no general subject index.

I was disappointed, at first, to find most of the illustrations to be black-and-white line drawings. (The color photographs I had been hoping for are clumped together in the middle of the book.) But on closer look, I found the drawings to be exquisite.

There are many treasures in this compilation, though inevitably, Armitage leaves out a few of my favorites, such as

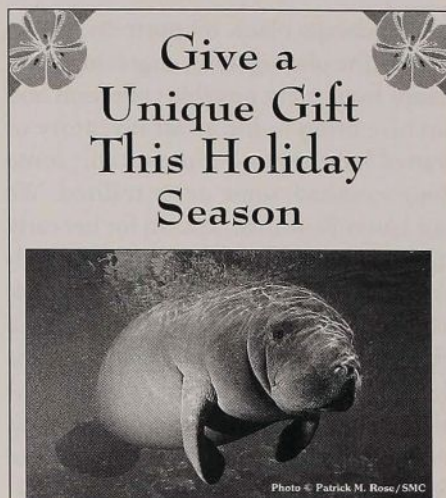
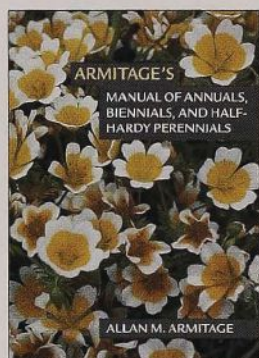


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the annual members of the genera *Corydalis* and *Dianthus*. But by and large, the this book—whether you are an experienced gardener or an intelligent beginner—will make you want to run right out and hammer at the doors of your local nursery or write away madly for every obscure catalog you can find. ∞

—Rand B. Lee

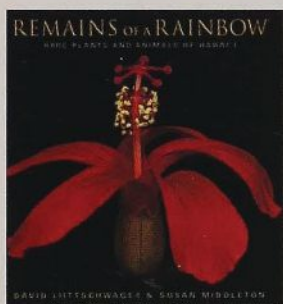
A garden writer and lecturer who lives in Sante Fe, New Mexico, Rand B. Lee is author of *Pleasures of the Cottage Garden*.

Gardeners' Gift Books

There are many more new books on the market than we have time or space to review, but here are a few that recently caught our eye. Through a partnership with amazon.com, AHS members can order these and other books at a discount by linking to amazon.com through the Society's Web site at www.ahs.org.

Remains of a Rainbow: Rare Plants and Animals of Hawai'i.

David Liittschwager and Susan Middleton. National Geographic Society, Washington, D.C., 2001. Publisher's price, hardcover: \$65.

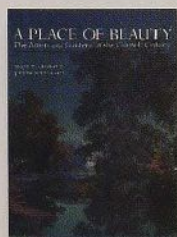


THE captivating photographs of Hawai'i's flora and fauna in this oversized volume lend it the air of a coffee table

book. But the text reveals the authors' serious purpose: to document the loss of Hawai'ian biodiversity and describe ongoing efforts to stem the tide. Each of the plants and animals illustrated is rare or in danger of extinction.

A Place of Beauty, The Artists and Gardens of the Cornish Colony.

Alma M. Gilbert and Judith Tankard. Ten Speed Press, Berkeley, California, 2000. Publisher's price, hardcover: \$29.95.



THE Cornish Colony, a picturesque New Hampshire settlement of artists, prospered in the decades before and after the turn of the 20th century. Among its citizens were Maxfield Parrish, Augustus Saint-Gaudens,

Daniel Chester French, Charles Platt, and Frederic Remington. This book, illustrated with black-and-white as well as color photographs, chronicles the gardens, gardeners, and art of this golden place and period.

Taylor's Guide to Trees.

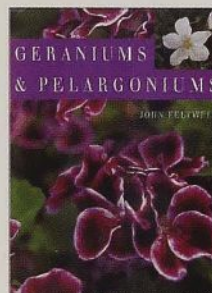
Susan A. Roth. Houghton Mifflin, Boston, 2001. Publisher's price, hardcover: \$23.

MORE THAN 200 color photographs and encyclopedic descriptions of deciduous and evergreen trees make this a thorough beginner's guide to the most permanent plants in the home landscape. Includes general cultural practices and lists of trees for special uses and conditions.

Geraniums & Pelargoniums.

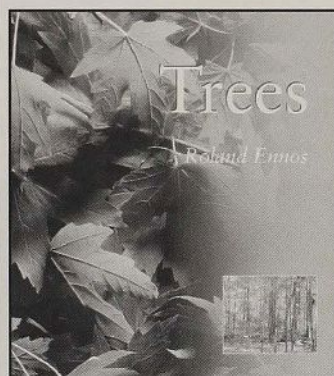
John Feltwell. Firefly Books Ltd., Ontario, New York, 2001. Publisher's price, hardcover: \$35.

ALTHOUGH linked by common name and plant family, the two genera profiled here make strange bedfellows. The author adeptly explains the difference between *Geranium*, a genus of mostly hardy perennials, and *Pelargonium*, the genus of



scented house plants and tender bedding plants that we commonly call "geraniums." Fully illustrated with color photographs.

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NOV. 10–JAN. 6. **Arnold Kessler—Real and Imaginary.** Exhibit of flower photography. Brooklyn Botanic Garden, Brooklyn New York. (719) 623-7200.

NOV. 14. **Woodland Terrariums.** Workshop. Berkshire Botanical Garden, Stockbridge, Massachusetts. (413) 298-3926.

NOV. 17. **Mushrooms of Southern New England.** Lecture. Berkshire Botanical Garden, Stockbridge, Massachusetts. (413) 298-3926.

NOV. 23–JAN. 6. **Holiday Garden and Train Show.** New York Botanical Gardens, Bronx, New York. (718) 817-8700.

NOV. 28. **Wreaths from the Wild.** Workshop. Berkshire Botanical Garden, Stockbridge, Massachusetts. (413) 298-3926.

DEC. 15. **Winter Landscape Arrangements.** Workshop. Wave Hill, Bronx, New York. (718) 884-8952.

MID-ATLANTIC

NOV. 12 & 13. **Science and Stewardship: Creating Greener Communities.** Sponsored by the Wildlife Habitat Council. Renaissance Washington, D.C. Hotel, Washington, D.C. (301) 588-8994.

NOV. 22–JAN. 6. **Christmas at Longwood Gardens.** Longwood Gardens, Kennett Square, Pennsylvania. (800) 737-5500.

NOV. 23–DEC. 30. **Garden of Lights.** Norfolk Botanical Garden, Norfolk, Virginia. (757) 441-5830.

NOV. 23–JAN. 6. **Winter Flower Show.** Phipps Conservatory and Botanical Gardens, Pittsburgh, Pennsylvania. (412) 622-6914.

NOV. 27. **National Capital Area Flower Show School.** Seminar. Sponsored by NCA Federation of Garden Clubs. Merrifield Garden Cen-

ter, Fairfax, Virginia. (703) 713-0138.

NOV. 28. **Creating Oases of Civility in the City.** Lecture by Lynden Miller. Delaware Center for Horticulture, Wilmington, Delaware. (302) 658-6262.

AHS. DEC. 3–JAN. 4. **Holiday Trees at George Washington's River Farm.** Display of trees decorated with American-themed ornaments from the Smithsonian Institution archives. American Horticultural Society. River Farm, Alexandria, Virginia. (703) 768-5700.

DEC. 8. **Fresh Holiday Wreaths from the Garden.** Workshop. U.S. National Arboretum, Washington, D.C. (202) 245-2726.

DEC. 30. **Cold Moon Hike.** U.S. National Arboretum, Washington, D.C. (202) 245-2726.

SOUTHEAST

NOV. 14. **My Favorite Native Shrubs.** Lecture. Sponsored by the Georgia Native Plant Society. Georgia Perimeter College Botanical Garden, Decatur, Georgia. (770) 343-6000.

Japanese Garden of Peace in Texas

PART OF THE National Museum of the Pacific War, the Japanese Garden of Peace is a small oasis of cool, green beauty in Fredericksburg, Texas. A gift from the Japanese, the garden symbolizes world peace. From December 6 to 9 the museum and garden will host the official mainland commemoration of the 60th anniversary of the Japanese attack on Pearl Harbor.

Visitors to the museum complex are always captivated by the garden's serenity. The garden has two distinctive parts. The first is traditional Japanese, with a waterfall, pond, and trees. The second is a stone garden designed to represent the Pacific Ocean. Stones are aligned against the vibrant green background to create a sense of rhythm, tempo, and harmony. Selective placement of the large rock islands on a sea of water-worn pebbles emphasizes the tranquility of the ocean.

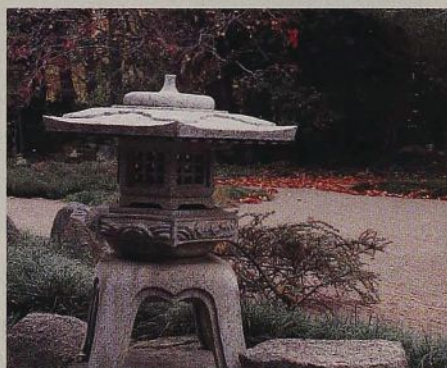
Casting shadows in this serene garden are dwarf maples, live oaks, flowering apricots, Japanese black pines, corkscrew wil-

lows, magnolias, wisterias, and crape myrtles. The ground cover consists of azaleas, irises, and Mondo grass, which the Japanese call "tiger's whiskers." Flowers such as chrysanthemums and moss roses add a touch of color to the peaceful setting. "I can't tell you how many people have told me—many of them World War II veterans—that the garden is therapeutic," says Helen McDonald, the assistant director of the museum.

Activities during the three-day event include the opening of the Pacific Combat Zone exhibit, a Texas barbecue and big band dance, a parade, a flyover of vintage aircraft, oral histories from survivors, and the city's annual Christmas Market and Festival. Former President

George Bush will be a guest speaker at a commemoration ceremony to be held on December 7. For more information on the 60th anniversary commemoration visit the museum's Web site (www.nimitz-museum.org) or call (830) 997-4379 ext. 228.

—Christie Craig, special to The American Gardener



Stone lantern in the Garden of Peace

NOV. 17. **Fourth Annual Native Plant Symposium.** Georgia Southern University Campus, Statesboro, Georgia. (912) 871-1149.

NOV. 21-DEC. 27. **Fantasy in Lights.** Callaway Gardens, Pine Mountain, Georgia. (800) 225-5292.

NOV. 21-JAN. 6. **Poinsettia Festival.** Cypress Gardens, Winter Haven, Florida. (800) 282-2123.

NOV. 27. **Herbal First Aid.** Class. State Botanical Garden of Georgia, Athens, Georgia. (706) 542-1244.

NOV. 30-DEC. 1. **Great Southern Tree Conference.** Florida Nurserymen & Growers Association. University of Florida, Gainesville, Florida. (407) 295-7994.

DEC. 2. **Camellias.** Workshop. Harry P. Leu Gardens, Orlando, Florida. (407) 246-2620.

NORTH CENTRAL

NOV. 1-DEC. 31. **Wild World of Orchids.** Exhibit. Bolz Conservatory, Olbrich Botanical Gardens, Madison, Wisconsin. (608) 246-4550.

NOV. 10 & 17. **Basic Pruning for Homeowners.** Class. School of the Chicago Botanic Garden, Glencoe, Illinois. (847) 835-8261.

NOV. 15 & 16. **Trees N Towns Conference.** Grand Island, Nebraska. (402) 475-6741.

NOV. 17. **Garden Q&A.** Sponsored by the Indianapolis Museum of Art, Indianapolis, Indiana. Better Than New Shop basement. (317) 920-2660.

NOV. 23-JAN. 6. **Celebrations! A Festival of Lights, Flowers & Music.** Chicago Botanic Garden, Glencoe, Illinois. (847) 835-5440.

NOV. 23-25 & 30; DEC. 1 & 2, 7-9, 14-16, 21-23. **WPS Garden of Lights.** Green Bay Botanical Garden, Green Bay, Wisconsin. (920) 490-9457.

DEC. 1-31. **Olbrich's Holiday Express Flower and Model Train Show.** Olbrich Botanical Gardens, Madison, Wisconsin. (608) 246-4550.

DEC. 8. **Evergreen Wreath Making Horticultural Class.** Indianapolis Museum of Art, Indianapolis, Indiana. (317) 920-2660.

SOUTH CENTRAL

NOV. 14-18. **Rio Grande Valley Birding Festival.** Casa de Amistad, Harlingen, Texas. (800) 531-7346.

NOV. 17. **All Things Brown and Leafless.** Identify various trees by their bark. Roman Nose

Culinary Garden in California

A FUSION OF horticultural and culinary arts is the aim of COPIA: the American Center of Wine, Food & the Arts, which will celebrate its grand opening on November 15 in Napa, California. The center's organically maintained vegetable and herb gardens are designed to yield produce for cooking classes and an on-site restaurant while at the same time maintaining aesthetic appeal.

"The concept of the gardens is to connect people to different cultures and to nature's diversity as well as to feed the senses," says Jeff Dawson, curator of gardens. Among the highlights is the Garden Pavilion, which features an outdoor teaching kitchen. A formal herb garden is filled with both common and unusual varieties of culinary herbs, including those from other parts of the world. The seed-saving garden is an area where plants will be allowed to go to seed so their seeds can be harvested and saved for future plantings. The cultural garden is designed to change seasonally to focus on the gardening traditions of a different ethnic group; it will debut by spotlighting Asian American culture. Lavender aficionados will enjoy the collection of lavender from all over the world. For visitors who would like to learn more about horticulture, the garden education program will offer classes on soil fertility, composting, growing herbs, and other related topics.

In addition to classes and demonstrations, the grand opening will feature a parade through Napa. Admission is \$12.50 per day, \$10 for students and senior citizens, and includes most classes and exhibitions. For more information, call (707) 257-3606 or visit www.copia.org.

—Sarah Schroeder, Editorial Assistant

Park, Watonga, Oklahoma. (800) 892-8690.

DEC. 6. **Flowers in Holiday Splendor.** Floral design class. Missouri Botanical Garden, St. Louis, Missouri. (314) 577-9441.

DEC. 8. **Smooth Sailing Through the Gardeners' Web.** Gardening information on the Internet. Missouri Botanical Garden, St. Louis, Missouri. (314) 577-9441.

JAN. 9-12. **The National No-Tillage Conference.** Sponsored by No-Till Farmer. Regal Riverfront Hotel, St. Louis, Missouri. (800) 645-8455.

NORTHWEST

NOV. 10-DEC. 23. **Molbak's Annual Poinsettia Festival.** Molbak's, Woodinville, Washington. (425) 483-5000.

NOV. 20. **Volcano Country Festival of Trees.** SWW Fairgrounds, Centralia, Washington. (360) 748-8885.

DEC. 1. **Greens Galore.** Washington Park Arboretum, Seattle, Washington. (206) 325-4510.

DEC. 1-31. **Garden D'Lights.** Bellevue Botanical Garden, Bellevue, Washington. (425) 452-2750.

SOUTHWEST

NOV. 30-DEC. 1. **Las Noches de las Luminarias.** Desert Botanical Garden, Phoenix, Arizona. (480) 941-1225.

NOV. 30-DEC. 2. **Luminaria Nights.** Tucson Botanical Gardens, Tucson, Arizona. (520) 326-9686.

DEC. 1. **Holiday Plant and Gift Bazaar.** The Arboretum at Flagstaff, Flagstaff, Arizona. (928) 774-1442.

DEC. 7 & 8. **15th Annual Holiday Fair.** Sponsored by the Council of Albuquerque Garden Clubs, Inc., Albuquerque Garden Center, Albuquerque, New Mexico. (505) 296-6020.

WEST

DEC. 1. **Holiday Festival.** Rancho Santa Ana Botanic Garden, Claremont, California. (909) 625-8767.

DEC. 8. **Designing New Landscapes for Water Efficiency.** Lecture. The Garden, El Cajon, California. (619) 660-0614.

CANADA

NOV. 16-18. **Royal Revelry RBG Auxiliary Christmas Show and Sale.** Royal Botanical Gardens Centre, Burlington, Ontario. (905) 529-2920.

NOV. 17 & 18, 24 & 25. **Dried Flower Sale.** Van Dusen Botanical Garden, Vancouver, British Columbia. (604) 878-9274.

DEC. 1-24. **24 Days of Winter Peace in a Chinese Garden.** Tours of Dr. Sun Yat-Sen Classical Chinese Garden, Vancouver, British Columbia. (604) 662-3207.

Garden Market

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Pronunciations and Planting Zones

Most of the cultivated plants described in this issue are listed here with their pronunciations, USDA Plant Hardiness Zones, and AHS Plant Heat Zones. These zones suggest a range of locations where temperatures are appropriate—both in winter and summer—for growing each plant. While the zones are a good place to start in determining plant adaptability in your region, factors such as exposure, moisture, snow cover, and humidity also play an important role in plant survival. The zones tend to be conservative; plants may grow outside the ranges indicated. A USDA zone rating of 0 means that the plant is a true annual and completes its life cycle in a year or less. Many plants that are perennial in warm climates are grown as annuals in cooler zones. To purchase a two-by-three-foot glossy AHS Plant Heat-Zone Map for \$9.95, call (800) 777-7931.

A-C

Abeliophyllum distichum uh-beel-ee-o-FIL-um DIS-tih-kum (5-8, 8-5)
Acer palmatum AY-ser pal-MAY-tum (5-8, 8-2)
A. saccharum A. sak-AH-rum (4-8, 8-1)
Aegopodium podagraria ee-go-PO-dee-um po-duh-GRAR-ee-uh (4-9, 9-3)
Ampelopsis brevipedunculata am-peh-LOP-sis brev-ih-peh-dunk-yew-LAY-tuh (5-8, 8-3)
Andropogon virginicus an-dro-PO-gon vir-JIN-ih-kus (2-7, 7-1)
Artemisia 'Silver King' ar-teh-MEEZ-yuh (4-9, 9-1)
Arundo donax ah-RUN-doh DOH-naks (6-11, 12-1)
Asarum europaeum uh-SAR-um yew-ro-PEE-um (4-8, 8-1)
Aster novae-angliae ASS-ter NO-vee-ANG-lee-ay (3-9, 9-1)
A. tataricus A. tuh-TAR-rih-kus (3-9, 9-1)
Betula utilis var. **jacquemontii** BET-yew-luh yew-TIH-lis var. jahk-MON-tee-eye (4-9, 9-3)
Bouteloua curtipendula boo-teh-LOO-uh kur-tih-PEN-dyew-luh (5-9, 9-5)
Buddleia davidii BUD-lee-uh duh-VID-ee-eye (5-9, 10-4)
Carex buechananii KAIR-eks byoo-kuh-NAN-ee-eye (7-9, 9-1)
Cerinth major sair-IN-thee MAY-jeer (0, 12-8)
Chasmanthium latifolium chas-MAN-thee-um lat-ih-FO-lee-um (5-9, 9-1)
Chimonanthus praecox kim-o-NAN-thus PREE-cox (7-9, 9-6)
Chionodoxa luciliae ky-on-o-DOK-suh loo-SIL-ee-ee (3-9, 9-1)
Clerodendrum buechananii klee-ro-DEN-drum byoo-kuh-NAN-ee-eye (9-11, 12-1)
C. bungei C. BUN-jee-eye (8-10, 10-1)
C. philippinum C. fil-ih-PY-num (10-11, 10-1)
C. quadriflorum C. kwad-ril-o-kyew-LAR-ee (9-11, 12-1)
C. speciosissimum C. spee-see-o-SISS-ih-mum (11, 12-3)

C. xspeciosum C. Xspee-see-O-sum (11, 12-10)
C. splendens C. SPLEN-denz (11, 12-10)
C. thomsoniae C. tom-SO-nee-ee (11, 12-10)
C. trichotomum C. try-KO-toh-mum (7-9, 9-6)
C. trichotomum var. **fargesii** C. try-KO-toh-mum var. far-JEEZ-ee-eye (6-9, 9-7)
C. ugandense C. yew-gan-DEN-see (9-11, 12-3)
Cornus alba KOR-nus AL-buh (2-8, 8-1)
C. sericea C. seh-RISS-ee-uh (2-8, 8-1)
Corylus avellana 'Contorta' KOR-ih-lus ah-vel-LAN-uh (3-9, 9-1)
Crocus tommasinianus CRO-kus tom-muh-sin-ee-AY-nus (3-8, 8-1)

D-I

Daphne odora 'Variegata' DAF-nee o-DOR-uh (7-9, 9-7)
Edgeworthia chrysantha edj-WORTH-ee-uh kris-AN-thuh (7-9, 11-3)
Euonymus fortunei yew-ON-ih-mus for-TOON-ee-eye (4-9, 9-5)
Eupatorium purpureum yew-puh-TOR-ee-um per-PER-ee-um (3-8, 9-1)
Geranium incanum juh-RAY-nee-um in-KAY-num (4-8, 8-1)
Ginkgo biloba GINK-go by-LO-buh (5-9, 9-5)
Hamamelis mollis 'Pallida' ham-uh-ME-liss MOL-lis (5-9, 9-2)
H. xintermedia H. Xin-ter-MEE-dee-uh (5-9, 9-1)
Hedera helix HED-er-uh HE-likes (5-11, 12-1)
Helleborus foetidus hel-eh-BOR-us FEE-tih-dus (5-9, 9-6)
H. xhybridus H. xHY-bruh-dus (4-8, 8-3)
H. odoratus H. o-DOR-us (5-9, 9-3)
Houttuynia cordata hoo-TYNE-yuh kor-DAH-tuh (4-7, 7-1)
Hylocereus undatus hy-lo-SEER-ee-us oon-DAH-tuh (11-12, 12-1)
Ilex verticillata EYE-likes vur-tih-sih-LAY-tuh (5-8, 8-2)
Imperata cylindrica im-peh-RAH-tuh sih-LIN-drih-kuh (6-9, 9-4)
Iris foetidissima EYE-ris fee-tid-ISS-ih-muh (4-9, 9-2)

J-N

Jasminum nudiflorum jaz-MIN-um new-dih-FLOR-um (6-9, 9-6)
Larix decidua LAY-riks deh-SID-yew-uh (3-7, 7-1)
L. kaempferi L. kemp-FAIR-eye (5-7, 7-4)
L. laricina L. lah-rih-SY-nuh (2-6, 6-1)
Lilium mackliniae LIL-ee-um mak-LIN-ee-ee (7-8, 8-7)
Lonicera fragrantissima lah-NISS-er-uh fray-gran-TIS-sih-muh (4-8, 8-3)
Lupinus arboreus loo-PY-nus ar-BOR-ee-us (8-9, 9-8)

Lysimachia clethroides liss-ih-MAHK-ee-uh kleth-ROY-deez (4-10, 9-3)
Lythrum salicaria LITH-rum sal-ih-KAIR-ee-uh (4-9, 9-1)
Meconopsis betonicifolia me-kuh-NOP-sis beh-ton-iss-ih-FO-lee-uh (7-8, 8-7)
Metasequoia glyptostroboides met-uh-suh-KWOY-uh glip-toh-stro-BOY-deez (5-11, 12-1)
Nyssa sylvatica NISS-uh sil-VAT-ih-kuh (5-9, 9-2)

O-R

Oenothera speciosa ee-no-THEE-ruh spe-see-O-suh (5-9, 12-1)
Panicum vigatum PAN-ih-kum vur-GAY-tum (5-9, 9-1)
Parthenocissus quinquefolia par-then-o-SISS-us kwin-kweh-FO-lee-uh (7-9, 9-5)
Persicaria microcephala 'Red Dragon' pur-sih-KAIR-ee-uh my-kro-SEF-uh-luh (3-8, 8-1)
Primula florindae PRIM-yew-luh flor-IN-dee-ay (3-8, 8-1)
P. tibetica P. tih-BET-ih-kuh (estimate 4-7, 7-2)
Prunus mume PREW-nus MOO-may (6-8, 8-6)
Pseudolarix amabilis soo-doh-LAY-riks uh-MAB-uh-liss (5-8, 8-4)
Puschkinia scilloides push-KIN-ee-uh sil-OY-deez (3-9, 9-1)
Rhododendron campylocarpum ro-doh-DEN-dron kam-pih-lo-KAR-pum (7-9, 9-7)
R. wardii R. WARD-ee-eye (7-9, 9-7)
Robinia pseudoacacia row-BIN-ee-uh soo-doe-uh-KAY-shuh (4-9, 9-3)
Rudbeckia fulgida 'Goldsturm' rood-BEK-ee-uh FUL-jih-duh (3-9, 10-1)

S-Z

Sarcococca hookeriana var. **humilis** sar-kuh-KOKE-uh hook-ur-ee-AN-uh var. HEW-mih-lis (6-9, 9-3)
Schizachyrium scoparium skits-ah-KEER-ee-um sko-PAR-ee-um (2-7, 7-1)
Sedum telephium 'Matrona' SEE-dum tuh-LEF-ee-um (4-9, 9-1)
Silphium perfoliatum SIL-fee-um per-fo-lee-AY-tum (4-9, 9-4)
Skimmia japonica SKIM-ee-uh jah-PON-ih-kuh (7-9, 9-7)
Stylophorum diphyllum sty-lo-FOR-um dye-FIL-lum (5-8, 8-1)
Taxodium ascendens taks-O-dee-um uh-SEN-denz (5-11, 12-5)
T. distichum T. DIS-tih-kum (5-11, 12-5)
Vernonia noveboracensis vur-NO-nee-uh no-vay-bor-uh-CHEN-sis (4-8, 8-3)
Viburnum xbodnantense 'Dawn' vy-BER-num xbahd-nan-TEN-see (7-8, 8-7)
Vinca minor VING-kuh MY-nor (4-9, 9-3)

2001 Magazine Index

AUTHOR

Achenbach, Delores. "Waiting for My Garden to Smile," May/June, 19.

Action, Patricia. "Waiting on a Garden," Nov./Dec., 14.

Arter, Barbara. Review: *The Natural History of Medicinal Plants*, Mar./Apr., 52.

Baird, Margaret T. "AHS Plant Sale and Garden Festival," Mar./Apr., 56. "Brian Holley Receives 2001 AHS Professional Award," Mar./Apr., 10. "A Community Makes Room for Wildlife," Jan./Feb., 16. "Garden Series Returns to The Cloister," Jan./Feb., 57. "Paul Ecke Jr. Wins Bailey Award," Jan./Feb., 9.

Bennett, Jim. Review: *Making More Plants: The Science, Art and Joy of Propagation*, Mar./Apr., 52.

Blanchard, Chris. "Gourmet Alliums," Sept./Oct., 48. Review: *The Gardener's Table*, Mar./Apr., 53.

Brooks, Anne. Reviews: *Flowers A to Z: Buying, Growing, Cutting, Arranging*, Nov./Dec., 52. *Sensational Bouquets by Christian Tortu*, Nov./Dec., 52.

Brown, Jerry W. "No Place Like Home," July/Aug., 48.

Brown, Lauren. "Deadheading Reconsidered," Nov./Dec., 41.

Burrell, C. Colston. "Designing a Winter Garden," Nov./Dec., 34. "Magnificent Meadow Rues," May/June, 28.

Clarke, Ethne. "Chambers Receives 2001 AHS Horticultural Therapy Award," May/June, 13. "Rosemary Verey," July/Aug., 8.

Coggin, Lucy. Review: *Pioneers of American Landscape Design*, Nov./Dec., 52.

Craig, Christie. "Japanese Garden of Peace in Texas," Nov./Dec., 56.

Dardick, Karen L. "Vibrant, Flowing Fields of Flowers," Mar./Apr., 57.

Eichengreen, Cynthia. "Friend or Phobia?" Nov./Dec., 16.

Ellis, David J. "An Autumn Windfall of Persimmons," Sept./Oct., 62. "The Busy Days of Winter,"

Jan./Feb., 62. "Finding Solace in Gardening," Nov./Dec., 62. "A Garden Takes Wing," Mar./Apr., 62. "Propagating Glory Bowers," Nov./Dec., 22. "Reassessing Garden Design," May/June, 62. Review: *My Garden (Book)*, July/Aug., 55. "Thoughts on Trees," July/Aug., 62.

Erlar, Catriona Tudor. Review: *Time-Tested Plants: Thirty Years in a Four-Season Garden*, Jan./Feb., 53.

Ferber, Deborah. "Northwest Paradise Preserved," Sept./Oct., 43.

Fisher, Kathleen. "Perfectly Divine," Mar./Apr., 28.

Goodwin, Nancy. "The Bulbs of Autumn," Sept./Oct., 20.

Hahn, Carl. "Deciduous Conifers," Nov./Dec., 23.

Hanson, Rosalie. "The Garden Tour," July/Aug., 14.

Heath, Brent and Becky. "Bloom-ing Bogs," Mar./Apr., 44.

Heidcamp, Arnette. "Gardening with Hummingbirds," May/June, 22.

Humphrey, Donald. "All-American Mallows," July/Aug., 29.

Johnson, Kathryn Lund. "Compost Critters: The Invisible Life of the Compost Pile," July/Aug., 16.

Johnson, Roger. "The Transplanted Gardener," Jan./Feb., 46.

Kargel, Raven. "Winter Mania in Montana," Jan./Feb., 14.

Keene, Teresa. "Lament for Things Unseen," Mar./Apr., 16.

Kelaidis, Panayoti. "Discover Diascias," July/Aug., 18.

Keyser, Joseph M. Review: *A Man's Garden*, May/June, 52.

Kleiber, Chela. "Cutting Gardens: A Fresh Look," Mar./Apr., 22.

Kleine, Adele. "Rooftop Garden Cools Windy City," July/Aug., 59.

Koehne, Maryalice. "Vanishing Oak Savannas," Sept./Oct., 18.

Lee, Rand B. "Glory Bowers," Nov./Dec., 18. "High-Rise Herbs," Mar./Apr., 38. "New Wave Daisies," Jan./Feb., 26.

Review: *Armitage's Manual of Annuals, Biennials, and Half-Hardy Perennials*, Nov./Dec., 54.

Loewer, Peter. Review: *Gaining Ground*, Jan./Feb., 54.

Lopat, Rommy. Review: *Growing*

Shrubs and Small Trees in Cold Climates, July/Aug., 53.

McDonald, Nancy. Review: *A Year in Our Gardens*, July/Aug., 54.

Molnar, Ann Marie. "Growing Hope for Seattle's Homeless Youths," Sept./Oct., 17.

Morris, Rekha. "Going Wild in the Shade," Mar./Apr., 34.

Nelson, Sonja. "Rhododendrons to Rave About," May/June, 44.

Olsen, Sue. Review: *The Plant-flinder's Guide to Garden Ferns*, Jan./Feb., 53.

Ottesen, Carole. "Falling for Native Trees," Sept./Oct., 36.

"Giving Back to Horticulture: Jane Steffey," Sept./Oct., 10.

"When Good Plants Go Bad," Nov./Dec., 44.

Pelczar, Rita. "After Dark in the Garden," Sept./Oct., 26. "Ann Lovejoy," July/Aug., 10. "The Flower Guy," Mar./Apr., 26.

"Garden Vignettes," May/June, 36. "Hangin' with Hummers," May/June, 26. "Inspired Plantings for Walls and Fences," Jan./Feb., 36. "Members' Cut Flower Tips," Mar./Apr., 24.

Review: *With Paintbrush & Shovel*, May/June, 53. "Secret Gardens," July/Aug., 23.

"SMARTGARDEN™—Biological Controls," Nov./Dec., 10.

"SMARTGARDEN™—Heat Zones," Mar./Apr., 12.

"SMARTGARDEN™—Pest and Disease Control," July/Aug., 11.

"SMARTGARDEN™—Plants that Suit your Site," May/June, 14.

"SMARTGARDEN™—Understanding Hardiness," Jan./Feb., 10.

"SMARTGARDEN™—When to Use Pesticides," Sept./Oct., 11. "Top Regional Performers," Jan./Feb., 18.

Prendergast, Norma. Review: *The Botany of Desire: A Plant's-Eye View of the World*, Sept./Oct., 54.

Price, Susan Davis. "A Northern Light," July/Aug., 36. "On the Trail of a Fabled Plant Hunter," Nov./Dec., 29. "Wild Sesame and Balloon Flower," May/June, 33.

Salman, David. Review: *The Cactus Family*, Sept./Oct., 55.

Schlein, Barbara. Review: *Stone in the Garden: Inspiring Designs*

and Practical Projects, Sept./Oct., 54.

Schroeder, Sarah. "Browns Receive 2001 Jane L. Taylor Award," July/Aug., 9. "Cheekwood Perennial Plant Conference," Sept./Oct., 59. "Culinary Garden in California," Nov./Dec., 57. "McDonald Honored at AGGS Convention," May/June, 57. "Oregon Garden Opens in Silverton," Sept./Oct., 59.

Simmons, Morgan. "Success with African Violets," Jan./Feb., 32.

Simpson, Rob and Ann. "Mushrooms in the Lawn: To Mow or Not to Mow?" Mar./Apr., 18.

Stewart, Amy. Review: *Ann Lovejoy's Organic Garden Design School: A Guide to Creating Your Own Beautiful, Easy-Care Garden*, July/Aug., 53.

Talt, Marge. "Web Tips from the Savvy Surfer," Jan./Feb., 51.

Taylor, Harold. "Easy-to-Make Plant Supports," May/June, 42.

Thomas, Cathee. "The Holden Arboretum," Jan./Feb., 42.

Wallace, Carol. "Hosta Fever," July/Aug., 40.

Waters, George. Review: *Sunset Western Garden Book*, May/June, 52.

Woodbury, Eugene. "The Garden of Our Discontent," Sept./Oct., 15.

Yee, Mary. "Collecting and Saving Seeds," July/Aug., 46.

"Overwintering Tropicals," Sept./Oct., 32. Review: *Chicken Soup for the Gardener's Soul: 101 Stories to Sow Seeds of Love, Hope and Laughter*, July/Aug., 55. Review: *Notes on Madoo: Making a Garden in the Hamptons*, July/Aug., 55. "Top of the World," Nov./Dec., 31.

SUBJECT

African Violets: "Success with African Violets," Jan./Feb., 32.

Alliums: "Gourmet Alliums," Sept./Oct., 48.

Book Reviews: *Ann Lovejoy's Organic Garden Design School: A Guide to Creating Your Own Beautiful, Easy-Care Garden*, July/Aug., 53. *Armitage's Manual of Annuals, Biennials, and Half-Hardy*

Perennials, Nov./Dec., 54. *The Botany of Desire: A Plant's-Eye View of the World*, Sept./Oct., 54. *The Cactus Family*, Sept./Oct., 55. *Chicken Soup for the Gardener's Soul: 101 Stories to Sow Seeds of Love, Hope and Laughter*, July/Aug., 55. *Flowers A to Z: Buying, Growing, Cutting, Arranging*, Nov./Dec., 52. *Gaining Ground*, Jan./Feb., 54. *The Gardener's Table*, Mar./Apr., 53. *Growing Shrubs and Small Trees in Cold Climates*, July/Aug., 53. *Making More Plants: The Science, Art and Joy of Propagation*, Mar./Apr., 52. *A Man's Garden*, May/June, 52. *My Garden (Book)*, July/Aug., 55. *The Natural History of Medicinal Plants*, Mar./Apr., 52. *Notes on Madoo: Making a Garden in the Hamptons*, July/Aug., 55. *Pioneers of American Landscape Design*, Nov./Dec., 52. *The Plantfinder's Guide to Garden Ferns*, Jan./Feb., 53. *Sensational Bouquets by Christian Tortu*, Nov./Dec., 52. *Stone in the Garden: Inspiring Designs and Practical Projects*, Sept./Oct., 54. *Sunset Western Garden Book*, May/June, 52. *Time-Tested Plants: Thirty Years in a Four-Season Garden*, Jan./Feb., 53. *A Year in Our Gardens*, July/Aug., 54.

Brown, Dirck and Molly: "Browns Receive 2001 Jane L. Taylor Award," July/Aug., 9.

Bulbs: "Blooming Bogs," Mar./Apr., 44. "The Bulbs of Autumn," Sept./Oct., 20.

Chambers, Nancy: "Chambers Receives 2001 AHS Horticultural Therapy Award," May/June, 13.

Clerodendrum: "Glory Bowers," Nov./Dec., 18.

Compost: "Compost Critters: The Invisible Life of the Compost Pile," July/Aug. 16.

Conifers: "Deciduous Conifers," Nov./Dec., 23.

Crombie, Terry: "Terry Crombie," Nov./Dec., 8.

Cutting Gardens: "Cutting Gardens: A Fresh Look," Mar./Apr., 22.

Daisies: "New Wave Daisies," Jan./Feb., 26.

Deadheading: "Deadheading Reconsidered," Nov./Dec., 40.

Diascia: "Discover Diascias," July/Aug. 18.

Ecke Jr., Paul: "Paul Ecke Jr. Wins Bailey Award," Jan./Feb., 9.

Edible Plants: See "Alliums."

Ethnic Gardening: "Wild Sesame

and Balloon Flower," May/June, 33.

Evening Gardens: "After Dark in the Garden," Sept./Oct., 26.

Garden Design: "After Dark in the Garden," Sept./Oct., 26.

"Blooming Bogs," Mar./Apr., 44.

"Designing a Winter Garden," Nov./Dec., 34.

"Garden Vignettes," May/June, 36.

"Inspired Plantings for Walls and Fences," Jan./Feb., 36.

Gardeners Information Service: Bat plant, Jan./Feb., 15.

Cardinal flower, Mar./Apr., 20.

Cutting back perennials, Nov./Dec., 15.

Grape black rot, Mar./Apr., 20.

Caladiums, Sept./Oct., 16.

Century plant, Jan./Feb., 15.

Fig, Sept./Oct., 16.

Hardy hollies, Jan./Feb., 15.

Hibiscuses, July/Aug., 15.

Hostas, Mar./Apr., 20.

Irises, July/Aug., 15.

Magnolia, May/June, 21.

Nematodes, May/June, 20.

Orchid pseudobulbs, Nov./Dec., 15.

Overwintering trees and shrubs, Nov./Dec., 15.

Perennials, May/June, 20.

Roses, Sept./Oct., 16.

Star anise, Jan./Feb., 15.

Stevia, Jan./Feb., 16.

Sudden oak death, July/Aug., 15.

Sunflower, Mar./Apr., 20.

Vinca, Nov./Dec., 15.

Woundwort, July/Aug., 15.

Gardeners Notebook: "2002 Gold Medal Plant Awards," Nov./Dec., 12.

"Beetle Awareness," July/Aug., 12.

"BT Booster Discovered," July/Aug., 13.

"Clay Product Protects Fruits and Vegetables," Jan./Feb., 12.

"Crape Myrtle Society Formed," Sept./Oct., 14.

"Daylily rust Alert," Sept./Oct., 12.

"Diazinon Phase-Out," Mar./Apr., 13.

"Dirr to Retire," Jan./Feb., 12.

"Exit: Garden.com," Jan./Feb., 13.

"Florida Invasives," Sept./Oct., 12.

"Gardening Helps Prevent Osteoporosis," Nov./Dec., 13.

"Grading Goldenrods," Mar./Apr., 13.

"Grafting on the Net," Nov./Dec., 13.

"Green Bankruptcies," Nov./Dec., 12.

"Kudzu Discovered in Oregon," May/June, 17.

"New Director for U.S. Botanic Garden," Jan./Feb., 12.

"New Disease-Resistant Redbud," Jan./Feb., 12.

"Nominate a National Tree," Mar./Apr., 14.

"Paper Mulch Makes Sense," May/June, 18.

"Raven Awarded National Medal of Science," Jan./Feb., 13.

"Regional Plant Picks," July/Aug., 12.

"Saving Mount Vernon's Trees,"

Sept./Oct., 14.

"Stufano Awarded 2001 Scott Medal," May/June, 17.

"Three AARS Winners for 2001," May/June, 17.

"Toad Lily Study," Sept./Oct., 12.

"Trading Turf for Cash," Sept./Oct., 14.

"Visit America's Best Gardens," Mar./Apr., 13.

Gardening Online: "Web Tips from a Savvy Surfer," Jan./Feb., 51.

Gardens and Arboreta: "The Holden Arboretum," Jan./Feb., 42.

"Secret Gardens," July/Aug., 23.

Hardy Plants: See "Pellett."

Herbs: "High-Rise Herbs," Mar./Apr., 38.

"Gourmet Alliums," Sept./Oct., 48.

Hibiscuses: See "MalloWS."

Holden Arboretum: "The Holden Arboretum," Jan./Feb., 42.

Holley, Brian: "Brian Holley Receives 2001 AHS Professional Award," Mar./Apr., 10.

Hostas: "Hosta Fever," July/Aug., 40.

Hummingbirds: "Gardening with Hummingbirds," May/June, 22.

Invasive Plants: "When Good Plants Go Bad," Nov./Dec., 44.

Kingdon Ward, Frank: "On the Trail of a Fabled Plant Hunter," Nov./Dec., 29.

Kruckeberg, Arthur and Mareen: "Northwest Paradise Preserved," Sept./Oct., 43.

Lovejoy, Ann: "Ann Lovejoy," July/Aug., 10.

MalloWS: "All-American MalloWS," July/Aug., 29.

Meadow Rues: "Magnificent Meadow Rues," May/June, 28.

Mushrooms: "Mushrooms in the Lawn: To Mow or Not to Mow?" Mar./Apr., 18.

Native Plants: "All-American MalloWS," July/Aug., 29.

"Falling for Native Trees," Sept./Oct., 36.

"No Place Like Home," July/Aug., 48.

"Perfectly Di-Vine," Mar./Apr., 28.

"Vanishing Oak Savannas," Sept./Oct., 18.

Onions: See "Alliums."

Pellet, Harold: "A Northern Light," July/Aug., 36.

Pests and Diseases: See entries under "Gardeners Information Service" and "SMARTGARDEN™."

Plant Breeding: "A Northern Light," July/Aug., 36.

Plant Exploration: "On the Trail of a Fabled Plant Hunter," Nov./Dec., 29.

Plant Supports: "Easy-to-Make Plant Supports," May/June, 42.

Regional Gardening: "Going Wild in the Shade," Mar./Apr., 34.

"Northwest Paradise Preserved," Sept./Oct., 43.

"No Place Like Home," July/Aug., 48.

"The Transplanted Gardener," Jan./Feb., 46.

"Vanishing Oak Savannas," Sept./Oct., 18.

Rhododendrons: "Rhododendrons to Rave About," May/June, 44.

River Farm: "An Autumn Windfall of Persimmons," Sept./Oct., 62.

"The Busy Days of Winter," Jan./Feb., 62.

"Finding Solace in Gardening," Nov./Dec., 62.

"A Garden Takes Wing," Mar./Apr., 62.

"Reassessing Garden Design," May/June, 62.

"Thoughts on Trees," July/Aug., 62.

Seed Saving: "Collecting and Saving Seeds," July/Aug., 46.

Shade Gardening: "Going Wild in the Shade," Mar./Apr., 34.

SMARTGARDEN™: "Biological Controls," Nov./Dec., 10.

"Heat Zones," Mar./Apr., 12.

"Pest and Disease Control," July/Aug., 11.

"Plants that Suit your Site," May/June, 14.

"Understanding Hardiness," Jan./Feb., 10.

"When to Use Pesticides," Sept./Oct., 11.

Steffey, Jane: "Giving Back to Horticulture: Jane Steffey," Sept./Oct., 10.

Thalictrum: See "Meadow Rues."

Top Performers: "Top Regional Performers," Jan./Feb., 18.

Trees: "Deciduous Conifers," Nov./Dec., 23.

"Falling for Native Trees," Sept./Oct., 36.

Tropical Plants, caring for: "Overwintering Tropicals," Sept./Oct., 32.

Tropical Gardening: "The Transplanted Gardener," Jan./Feb., 46.

Twinspers: See "Diascia."

Urban Gardening: "Growing Hope for Seattle's Homeless Youths," Sept./Oct., 17.

"Wild Sesame and Balloon Flower," May/June, 33.

Verey, Rosemary: "Rosemary Verey," July/Aug., 8.

Vines: "Glory Bowers," Nov./Dec., 18.

"Perfectly Di-Vine," Mar./Apr., 28.

Wildlife in the Garden: "A Community Makes Room for Wildlife," Jan./Feb., 16.

"Friend or Phobia?" Nov./Dec., 16.

"Gardening with Hummingbirds," May/June, 22.

Youth Gardening: "Browns Receive 2001 Jane L. Taylor Award," July/Aug., 9.

"Growing Hope for Seattle's Homeless Youths," Sept./Oct., 17.



Notes from River Farm

Finding Solace in Gardening

by David J. Ellis

MY ORIGINAL plan for this column was to write about the wonderful Christmas ornaments the Smithsonian Institution lends us each year to decorate our trees here at River Farm, but the events of the last several weeks made such an article seem rather frivolous. Not that frivolity is necessarily bad; we all need light-hearted distractions from the serious issues facing our nation and world.

River Farm is less than 10 miles from the Pentagon, so the events of September 11 hit very close to home for all of us. Although no one on the AHS staff was directly affected by the attacks, most of us are acquainted with others who weren't so lucky. One of the regular members of the AHS online Gardening Community listserv, a resident of Long Island, wrote of her harrowing escape from the collapse of the World Trade Center towers. Another listserv member described her evacuation from the U.S. Capitol when the Pentagon was struck.

Eighteen Society members list addresses in buildings that were badly damaged or destroyed at Ground Zero in New York City. We hope and trust they are all safe, and our membership department has been contacting these people to offer to extend their memberships until they are able to take advantage of them once again.

Many members have written or called to say they had found great comfort during these distressing times by working in their gardens. River Farm itself has provided a peaceful, contemplative setting for many people in need of solace, as have botanical gardens, arboretums, and parks around the nation. On September 12, particularly, more people visited the grounds here than would have on a normal fall weekday, many of them with children who played happily in our Children's Gardens. A recent ar-

ticle in the *Washington Post* noted that New York City's public gardens, including Brooklyn Botanic Garden and the New York Botanical Garden, were also heavily visited in the days and weeks following the attacks.



Happily oblivious to the tragic events occurring in the world, a child frolics in the Children's Gardens at River Farm. Gardens can also provide adults with a respite from grief and anxiety.

In October, a tree was planted at River Farm in memory of the victims of the September 11 attacks and their friends and family members. The tree, a northern red oak (*Quercus rubra*), is located near our parking lot, where it will provide shade for future generations of visitors to AHS headquarters. The AHS horticulture staff

also held a tree-planting demonstration to show Washington, D.C., area residents proper techniques for planting their own trees. We encourage all of you to consider planting a tree in your gardens and to support tree planting programs and other memorial activities in your communities.

One worthy program that has come to our attention is Trees of Strength, which originated with Master Gardeners at the North Carolina State University in Raleigh. Master Gardeners and Cooperative Extension service horticulturists are helping to coordinate donations of trees to be planted around fire stations, police stations, and airports. A suggested list of trees for planting has been drawn up and participants in this program are being asked to register online so that the results of this effort

can be shared with the families of victims and military personnel. For more information on this program, write to Trees of Strength, NC State University, Box 7609, Raleigh, NC 27609-7609, or visit the Web site www.treesofstrength.org.

In decades to come, the millions of trees that are planted will serve not only as fitting memorials to the victims of this tragedy, but as a living legacy for future generations of Americans.

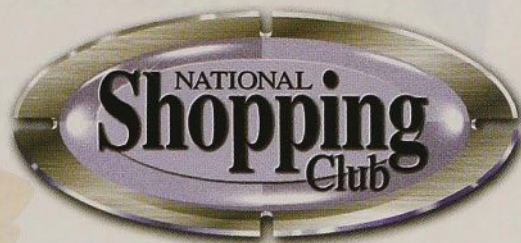
David J. Ellis is editor of The American Gardener.



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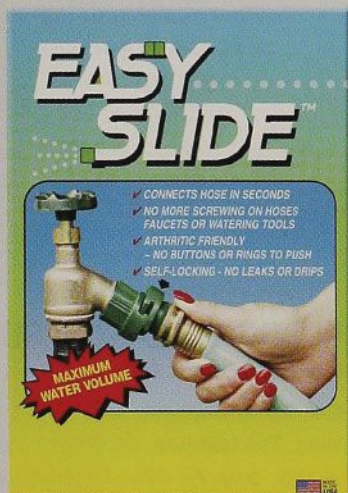
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Tobie is a seventh-grade life science teacher—and one of more than 150 volunteers at the AHS headquarters at River Farm. Our volunteers help us maintain our gardens, answer gardening questions in our Gardeners Information Service, work with visiting children, and operate our annual Seed Exchange—they all play a vital role in AHS's daily work.

One way you can support volunteers like Tobie is to shop at the AHS Store. These items, suggested by members, are a great way to show your support of AHS programs. Proceeds from the sale of these items support our interns and volunteers and the many AHS programs in which they are involved.

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