



The American GARDENER[®]

The Magazine of the American Horticultural Society

July / August 2008

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CONTACT US

The American Gardener

7931 East Boulevard Drive

Alexandria, VA 22308

(703) 768-5700

EDITORIAL

E-MAIL: editor@ahs.org

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E-MAIL: advertising@ahs.org

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NOTES FROM RIVER FARM

SUMMER IS upon us and for many of us this means family gatherings, vacation time, and longer days for outdoor activities. As the peak of the summer growing season approaches, the excitement of spring's arrival and the requisite new additions to the garden give way to the regularity of routine maintenance and anticipation of the fruits of our labors. It is a great time of year to relax with family and friends and enjoy the rewards of gardens and gardening.

If your summer travels take you to the Washington, D.C., area, this year's special exhibit at the United States Botanic Garden (USBG) titled "One Planet, Ours! Sustainability for the 22nd Century" is a must-see. Staged on the Conservatory terrace with a backdrop of the U.S. Capitol, the exhibit features dozens of displays focusing on the theme of sustainable living. Our very own AHS Green Garage exhibit is part of the show that runs through October 13. Our hats are off to Executive Director Holly Shimizu and her staff at the USBG for bringing this important issue to the National Mall where it will be viewed by thousands of visitors from across the country and around the world.



Susie and Tom at the U.S. Botanic Garden

Wherever your travels may take you, don't forget your AHS membership card and your 2008 *AHS Member Guide* listing the more than 200 gardens across America that offer members special admission privileges or discounts. From California to Florida and from Minnesota to Texas, your AHS membership card can be your passport to discovering the diversity and richness of horticulture in America. A copy of the list of participating gardens can also be downloaded from our AHS website (www.ahs.org). Click on "Reciprocal Admissions Program" and start taking advantage of this AHS member benefit.

In early June, the Society hosted its annual Great American Gardeners Awards Ceremony at River Farm. On this memorable evening, 12 outstanding individuals and organizations from across the country were recognized for their achievements. Our 2008 AHS Book Awards were also presented. It was such an honor to see these award winners receive the recognition they so deserve and to hear firsthand how horticulture has touched their lives and inspired their work. Nominations are now open for the 2009 awards—we encourage you to nominate your own horticultural heroes for this very special honor. Look for a nomination form between pages 8 and 9 of this issue.

Speaking of this issue, you'll find that it's packed, as usual, with great gardening information and tips, including a profile of some unusual hardy members of the *Arum* family, recommendations for exceptionally drought-tolerant perennials, and a feature on an intriguing cactus collector in the Pacific Northwest. We hope that the AHS and *The American Gardener* can help you make the most of the season.

Happy gardening!

Susie Usrey, Chair, AHS Board of Directors
Tom Underwood, Executive Director

MEMBERS' FORUM

YOUTH GARDENING KUDOS

Your May/June 2008 issue was the best ever! Every article was well-written and packed full of information. I teach workshops and lecture on a variety of garden topics and generally copy and file away articles with tidbits of information that I can use in my talks. This *entire* issue will be filed away for future reference. Great job!

The article previewing the upcoming National Children & Youth Garden Symposium in the Philadelphia area reminded me to mention that I was fortunate enough to attend the symposium in St. Louis in 2006. The energy and enthusiasm that I garnered from that experience was still fresh in my mind this spring when I built raised beds in our downtown to show residents of the community just how easy it is to garden and raise their own food.

Donations rolled in for lumber and soil and compost, and people showed up with wheelbarrows and shovels to help fill the beds. Since May, we have been harvesting and sharing greens from the garden. It has been a big hit and has inspired many residents of this little southern Oregon coastal town to follow suit. The exhilaration of the 2006 symposium lives on! Thank you, AHS. I encourage everyone who is interested in "Growing Fertile Minds and Communities" to attend this year's symposium and be inspired.

Good luck with this year's symposium. I look forward to when you next have one on the West Coast.

*Jennifer Ewing
Port Orford, Oregon*

Editor's response: Next year's symposium will be in Cleveland, Ohio, and for 2010 the National Children & Youth Garden Advisory Panel is exploring possible sites on the West Coast.

LEUCANTHEMUM CONUNDRUM

In the May/June issue you included a news item about an evaluation of daisy cultivars ("Gardener's Notebook," page



'Becky' Shasta daisy was the Perennial Plant Association's Plant of the Year in 2003.

46). The article mentions that the 'Becky' daisy was introduced by Luther Burbank in 1901. The following information was passed along to me about the 'Becky' daisy and I'm wondering which version is correct: "Taxonomists now list this plant as *Chrysanthemum leucanthemum* 'Becky' (commonly called Shasta daisy). A passalong plant in the Southeast before it was named after Decatur, Georgia, landscape designer Becky Stewart, the glossy green rosettes remain evergreen in my Zone 7b/8a garden."

*Donna Forse
Canton, North Carolina*

Editor's response: To clarify, our news item indicated that the original Shasta daisy (now named *Leucanthemum xsuperbum*) was introduced by Burbank in 1901. 'Becky' is a cultivar of Shasta daisy that was introduced to the nursery trade in the early 1990s.

HARDY GERANIUMS GROW IN THE GREAT PLAINS, TOO

I was excited to see the article about cranesbills in the May/June issue because I have recently tried some varieties in my Kansas garden. I loved your concept of listing proven plants for different regions, but, to my disappointment, the Great Plains states weren't included! I just wanted to remind

you that we enjoy growing flowers and other plants in Kansas, Nebraska, and Oklahoma. And we are a hardy breed! We deal with freezing cold winters with drying winds and little to no snow cover; our summers are hot and sultry, with little to no rainfall from mid-June to mid-September.

My experience, which is only based on two to three years of growing two varieties, is that cranesbills don't like full sun here. I dug them up and moved them to part shade last year. The plants bloomed after I moved them, and this year they seem to have increased in number.

Please remember us in the Great Plains when you discuss different regions of the country.

*Sandra Herder
Sedgwick, Kansas*

SOURCE FOR UNUSUAL IMPATIENS

I was pleased to find articles on two of my favorite plant groups—cranesbills and impatiens—in the May/June issue. A good source for some of the more interesting impatiens, such as *Impatiens nyungwensis*, is a nursery called Annie's Annuals that is near my home.

Keep up the interesting work.

*Rita Hopper
Aliso Viejo, California*

Editor's response: Annie's Annuals & Perennials is located in Richmond, California. For more information or a catalog, visit www.anniesannuals.com or call (888) 266-4370.

ARTICLE SUGGESTIONS

How about a visit to a public garden in every issue? Also, it would be interesting to have an article about "guerilla gardening," which seems to be catching on in New York City.

*Steven Robert Sirois
Fort Lauderdale, Florida*

PLEASE WRITE US! Address letters to Editor, *The American Gardener*, 7931 East Boulevard Drive, Alexandria, VA 22308. Send e-mails to editor@ahs.org (note Letter to Editor in subject line). Letters we print may be edited for length and clarity.

AHS Celebrates Award Winners

DURING A CEREMONY at the American Horticultural Society's River Farm headquarters on June 6, the AHS presented the 2008 Great American Gardeners Awards and Book Awards. The outstanding recipients represent the finest in the industry and traveled from all over the United States to receive their



Liberty Hyde Bailey Award recipient Harold Pellett with AHS Board Chair Susie Usrey during the June awards ceremony.

awards. Each recipient was recognized for their significant contributions to fields such as plant research, garden communications, landscape design, youth gardening, and conservation.

A highlight of the evening was having **Jane L. Taylor** on hand to present the award named in her honor, which is given to those who have inspired and nurtured young people through innovative children's and youth gardening programs. The 2008 recipients, **Mike Devlin** and **Valerie Frick**, co-founders of the Camden Children's Garden in Camden, New Jersey, met Taylor in 1993 at the AHS's National Children and Youth Garden Symposium. After hearing Taylor describe her experience creating the children's garden at Michigan State University, Devlin and Frick dedicated themselves to creating a safe environment for urban children to learn about and enjoy plants.

The ceremony concluded with the presentation of the Liberty Hyde Bailey Award, the Society's highest honor, to Landscape Plant Development Center founder and Executive Director **Harold Pellet** for his significant lifetime achievements in horticulture. These include more than 36 years of teaching and research and the introduction of more than 25 new trees and shrubs. To learn more about the award winners and their contributions to horticulture, visit www.ahs.org and click on "Awards."

Nominations for next year's Great American Gardeners

Awards are being accepted until September 30. For more information and a nomination form, turn to page 8, or contact AHS Education Programs Coordinator **Jessica Rozmus** at (703) 768-5700 ext. 137.

River Farm Meadow Completed

INITIATED IN 2004, the André Bluemel Meadow at River Farm is now complete, after the installation of the final 20,000 plants in June. It comprises more than four acres of native grasses and colorful wildflowers that attract an abundance of birds, insects, small mammals, and other wildlife.



Above: An early morning view of the meadow planted during the first phase of installation, now coming into its own. Left: Volunteers from George Washington's Mount Vernon Estate & Gardens assist with planting the final phase in June.

"Creating this meadow has been a tremendous and wonderful undertaking for the AHS," says AHS Executive Director **Tom Underwood**. "It was made possible by the support of our Board member **Kurt Bluemel**, who donated more than 100,000 plant plugs from his nursery in Maryland."

"It's got the best water feature already installed!" quipped Bluemel while surveying the view of the Potomac River from the meadow, which is named in memory of his son.

Call for Nominations

AMERICAN HORTICULTURAL SOCIETY 2009 GREAT AMERICAN GARDENERS AWARDS



2008 Professional Award
Holly Harmar Shimizu, Executive Director, U.S. Botanic Garden

It's an Honor...

Since 1953, the American Horticultural Society's Great American Gardeners Awards Program has recognized individuals and institutions that have made significant contributions to American horticulture. Nominations are now being accepted for 2009.

Nominate your "horticultural hero"—a memorable professor, a favorite garden book author, or the driving force behind an incredible community project.

Use the nomination form on the opposite page. For additional information, visit www.ahs.org or call (703) 768-5700 ext. 137.

Nominations must be submitted by September 30, 2008.



Liberty Hyde Bailey Award

Given to an individual who has made significant lifetime contributions to at least three of the following horticultural fields: teaching, research, communications, plant exploration, administration, art, business, and leadership.

Luther Burbank Award

Recognizes extraordinary achievement in the field of plant breeding.

Paul Ecke Jr. Commercial Award

Given to an individual or company whose commitment to the highest standards of excellence in the field of commercial horticulture contributes to the betterment of gardening practices everywhere.

G. B. Gunlogson Award

Recognizes the innovative use of technology to make home gardening more productive and successful.

Horticultural Therapy Award

Recognizes significant contributions to the field of horticultural therapy.

2009 AWARDS

Landscape Design Award

Given to an individual whose work has demonstrated and promoted the value of sound horticultural practices in the field of landscape architecture.

Meritorious Service Award

Recognizes a past Board member or friend of the American Horticultural Society for outstanding service in support of the Society's goals, mission, and activities.

B. Y. Morrison Communication Award

Recognizes effective and inspirational communication—through print, radio, television, and/or online media—that advances public interest and participation in horticulture.

Professional Award

Given to a public garden administrator whose achievements during the course of his or her career have cultivated widespread interest in horticulture.

Jane L. Taylor Award

Given to an individual, organization, or program that has inspired and nurtured future horticulturists through efforts in children's and youth gardening.

Teaching Award

Given to an individual whose ability to share his or her horticultural knowledge with others has contributed to a better public understanding of the plant world and its important influence on society.

Urban Beautification Award

Given to an individual, institution, or company for significant contributions to urban horticulture and the beautification of American cities.

Not only is the meadow picturesque, it has become a haven for biodiversity, observes **Peggy Bowers**, the former horticulturist at River Farm who oversaw the meadow's installation up until last year. "There certainly were challenges along the way, such as keeping ahead of the weeds," she notes, "but the meadow has developed into an incredible space for people to come to enjoy and learn about nature."

Award-Winning Article in *The American Gardener*

AS PART OF THE Garden Writers Association's 2008 Media Awards, **Bob Hill** earned a Silver Award of Achievement for magazine writing for an article published in the July/August 2007 of *The American Gardener*. "The Legend of Hidden Hollow" featured plantsman **Harald Neubauer** and his Hidden Hollow Nursery in Belvidere, Tennessee.

"Harald and his family are the best in the country at what they do; finding, grafting, and ultimately sending out into the world thousands of very unusual, interesting, darn-near-delicious trees and shrubs," says Hill, who hosts a garden radio show in Louisville, Kentucky, and is a regular contributor to *The American Gardener*. "They do it with pride and sweat in a remote country setting on rocky ground ringed by green mountains, barren ledges, and hidden creeks. All I wanted to do when writing about them was to fit them into that sense of work ethic, family, and place."

IT'S SEED-SAVING TIME!



If you have some seeds to spare, consider donating them to the AHS Annual Seed Exchange this year. This program, which celebrates its 50th anniversary in 2009, allows AHS members to share rare, uncommon, and favorite varieties for next year's garden. Look for more information in the September/October issue of *The American Gardener* or go online to www.ahs.org/membership/seed_exchange.htm.

If you have suggestions for improving the Seed Exchange, please contact River Farm Manager Trish Gibson at tgibson@ahs.org or call (703) 768-5700 ext. 112.



PHOTO BY ANNIE C. ALLEN FROM 2008 GARDENERS CALENDAR

2009 "Gardener's" Calendar

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AHS NATIONAL EVENTS AND PROGRAMS 2008 CALENDAR

Mark your calendar for these national events that are sponsored or cosponsored by the AHS. Visit www.ahs.org or call (703) 768-5700 for more information.

- JULY 8. **Webinar: Designing with Color and Texture For Visionary Effects** by Tracy DiSabato-Aust.
- JULY 24–26. **National Children & Youth Garden Symposium: Growing Fertile Minds and Communities.** Greater Philadelphia Area.
- AUG. 22–24. **The Homestead's 10th Annual "In the Garden With the Experts" Symposium.** The Homestead, Hot Springs, Virginia.
- SEPT. 20. **AHS Annual Gala.** George Washington's River Farm, Alexandria, Virginia.
- OCT. 16. **Webinar: Design and Plants for Woodland Gardens** by C. Colston Burrell.
- OCT. 23. **Dr. H. Marc Cathey Day.** George Washington's River Farm, Alexandria, Virginia.
- DEC. 1–23. **Holiday Trees Display.** George Washington's River Farm, Alexandria, Virginia.
- DEC. 11. **Annual River Farm Holiday Reception.** George Washington's River Farm, Alexandria, Virginia.



The Homestead

While there is no fee for AHS members to participate in these webinars, space is limited so early registration is recommended. Additionally, a high-speed or broadband Internet connection is recommended for best results. Go to the members-only area of the AHS website (www.ahs.org) to sign up.

Capital Trip in the Capitol

THIS YEAR'S AHS President's Council (PC) trip, held from May 27 to 30, featured the Washington, D.C., area. It was hosted by PC Committee co-chairs **Katherine Stark Bull** and **Jeanne Shields**. AHS Board member **Leslie Ariail**, 2nd vice chair of the AHS Board of Directors, welcomed participants with a cocktail party in her garden in Alexandria, Virginia. The itinerary included behind-the-scenes tours by horticulturists and volunteers of the U.S. Botanic Garden, National Arboretum, Hillwood Estate, Museum and Gardens, Dumbarton Oaks, and George Washington's Mount Vernon Estate & Gardens. **Don Riddle**, 1st vice chair of the AHS Board, gave a tour of his Homestead Gardens retail garden center and his 250-acre growing division with



Among the gardens participants in the President's Council trip visited was Hillwood Estate, Museum and Gardens in Washington, D.C.

Upcoming AHS Webinars

THE AHS webinar series, sponsored by Monrovia nursery in Azusa, California, and OXO, provides members the opportunity to hear from horticultural experts over the Internet, rather than having to travel. Speakers to date have included University of Georgia horticulture professor **Allan Armitage**, native plant expert **William Cullina**, and plant explorer **Dan Hinkley**.

On July 8, garden designer **Tracy DiSabato-Aust** will present "Designing with Color and Texture for Visionary Effects." "In a well-designed border, we often notice the beauty of the combinations of plants more than the individual plants themselves," she says. DiSabato-Aust will discuss how to achieve "this sense of interplay by taking an artistic approach to color and visual texture—the patterns created by the lines and forms of combined leaves, branches, and flowers."

Next, plantsman **C. Colston Burrell** will present "Design and Plants for Woodland Gardens" on October 16. Registration for this webinar will open on September 17.

a five-acre, state-of-the-art greenhouse in Davidsonville, Maryland. Participants also visited several private gardens in the Georgetown area of Washington.

Participation in this annual trip is an exclusive benefit for the PC members. Depending on the membership level, other benefits include autographed gardening books, two tickets to the AHS annual gala, and a private tour of the AHS's headquarters at River Farm. To learn more about the President's Council, call **Stephanie Perez** at (703) 768-5700 ext. 127 or e-mail sperez@ahs.org.

Saturday Lectures at River Farm

THIS SUMMER, a new monthly lecture series on a wide range of topics is being offered at River Farm. On July 19, visitors are invited to learn about water conservation with environmental education expert **Joe Keyser**, who will describe strategies such as rain barrel use and rain garden creation.

American Horticultural Society
2008 Annual Gala

AMERICA'S GARDEN CELEBRATION

Local Harvest, Bountiful Earth



September 20, 2008
River Farm, Alexandria, Virginia



Honorary Gala Chair,
Roger Swain

The 2008 American Horticultural Society Annual Gala will be a true celebration of the bounty of the earth and American gardens. Join us for an elegant evening to savor the seasonal flavors of the local harvest. Roger Swain, America's garden champion and beloved host of "The Victory Garden," is serving as Honorary Chair for this extraordinary event. Proceeds from the gala support the stewardship of River Farm and the Society's educational programs.

For tickets, call (703) 768-5700 ext. 114

Do you or your business have talent and resources to contribute to this year's gala? For more information and to get involved, please contact Events Coordinator Sarah Christie at schristie@abs.org or (703) 768-5700 ext. 114.

AHS Part of the Green Scene



The AHS's Green Garage® display is part of the U.S. Botanic Garden's "One Planet—Ours!" exhibit this summer on the National Mall in Washington, D.C. Visitors have been especially inspired by the green roof, which is planted with a variety of succulents and watered by a solar-powered irrigation system.

On August 16, **Richard Koogle**, operations manager at Lilypons Water Gardens, will delve into water gardening. Participants can learn more about the variety of plants and creatures that inhabit a water garden, as well as the logistics behind creating a healthy aquatic ecosystem.

Finally, on September 27, artist **Karen Coleman** will discuss the history of botanical art and its current renaissance. She also will describe techniques for botanical painting, accompanied by several pieces of original art in a variety of media including graphite, colored pencil, watercolor, pastels, and pen and ink.

Pre-registration is required. Tickets are \$12 for AHS members or \$15 for non-members. To register, call (703) 768-5700 ext. 114 or e-mail schristie@ahs.org.

The Homestead's Garden Weekend

THE HOMESTEAD resort in Virginia's Allegheny Mountains will offer its 10th annual "In the Garden With the Experts," symposium from August 22 to 24. The event will include hands-on workshops and instructional classes with radio personality **André Viette** and the Homestead's own horticultural expert **Kyle Richardson**. Other speakers include **Brent and Becky Heath**, daffodil hybridizers and featured television guests. **R. William Thomas**, executive director of Chanticleer in Wayne, Pennsylvania, will also be featured, as well as **Dale Hendricks** of North

VIVEKA NEVELN

Gifts of Note

In addition to vital support through membership dues, the American Horticultural Society relies on grants, bequests, and other gifts to support its programs. We would like to thank the following donors for gifts received between April 1 and May 31, 2008.

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If you would like to support the American Horticultural Society as part of your estate planning, as a tribute to a loved one, or as part of your annual commitment to charitable giving, please contact: Sue Galvin, (703) 768-5700 ext. 111 or sgalvin@ahs.org.

Creek Nurseries, Inc., in Landenberg, Pennsylvania. For more information on this event and to register, call (866) 354-4653 or visit the Homestead's website at www.thehomestead.com.

Homecoming for America in Bloom

REPRESENTATIVES OF communities from across the nation will convene at the annual America in Bloom (AIB) Symposium and Awards Program from October 2 to 4. Columbus, Ohio—where AIB's headquarters is located—will be the host city for this year's event, aptly themed "Homecoming."

Keynote speakers include **Bill Dawson** of the Franklin Conservatory's "Growing to Green" community garden program that serves as a resource for community gardens, schools, and neighborhood beautification programs throughout Columbus. Also, **Jean Schwab** will expand on the Environmental Protection Agency's "GreenScaping" program, which offers insight into planting right for the site, conserving water, reducing yard waste, and using pesticides wisely.

Participants will have the opportunity to tour the Franklin Park Conservatory, Historic German Village, various community and public gardens, and an array of "green" buildings, both corporate and residential, in the greater Columbus area. Additionally, AIB will present its annual awards to outstanding communities. The AHS is proud to sponsor the Community Involvement Award.

AIB, an AHS horticultural partner, is "dedicated to promoting nationwide beautification programs and personal and community involvement through the use of flowers, plants, trees, and other environmental and lifestyle enhancements." Visit the AIB website at www.americainbloom.org or call (614) 487-1117 for more information.

Garden Photography Contest

THROUGH a horticultural partnership with The Gardeners of America/Men's Garden Clubs of America (TGOA/MGCA), the organization's 2009 Photography Competition is open to AHS members. Winning photos are eligible to appear in the TGOA/MGCA's 2010 calendar.

Members of the AHS who received awards for the 2008 contest are **Anne C. Allen** from Brownsville, Vermont; **Arabella S. Dane** from Center Harbor, New Hampshire; **Di DeCaire** from Penfield, New York; and **Debra Kayata** from Ocean City, New Jersey. Their photos will appear in the 2009 TGOA/MGCA calendar.

The competition deadline is February 13, 2009. For more information, visit www.tgoa-mgca.org or call (515) 278-0295.

News written by Associate Editor Viveka Neveln and Editorial Intern Kirsten Winters.



THE AMERICAN HORTICULTURAL SOCIETY TRAVEL PROGRAM

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■ Enjoy the fabulous gardens and scenery of New Zealand. We will explore both the North and South Islands, providing opportunities to see private gardens galore, along with penguins, fjords, snow-capped mountains, and wineries. This is a trip that will be remembered for a lifetime.

For more information about the AHS Travel Program, visit www.hiddentreasuresbotanicaltours.com or call (573) 881-6316.

Lovable Lobelias

BY RAND B. LEE

Sizzling red, hot pink, cool blue, or frosty white—lobelias fill the summer landscape with color.

WHEN I WAS growing up in rural Connecticut, the small pond next to our yard served as the town skating rink in winter; but in summer and fall, it was a boggy morass of red ants and milkweed. One early September morning, when I was about 12, I was walking past the pond on the way to school, when a flash of scarlet caught my eye. Growing in the tall pondside grass, I discovered a three-foot green pillar topped with electric crayon-red blossoms. It was cardinal flower (*Lobelia cardinalis*), a wildflower I had read about but never seen, as it was rare around those parts. Ever since, lobelias have been a fetish of mine.

The genus *Lobelia* contains around 370 species of tropical and temperate zone annuals, perennials, and shrubs. Lobelias are found throughout the world and have adapted to nearly every climate and habitat.

Valued for their brightly colored flowers, all lobelias possess simple, alternate, often stalkless (sessile) leaves and two-lipped, five-lobed, tubular flowers; the upper two lobes are frequently held upright, while the lower three spread into little fans. In some species, the calyx tubes are prominently swollen. The blossoms are usually borne in terminal panicles or racemes, but may also be solitary. All parts of the plants are poisonous if eaten.

Botanists are divided over whether the genus *Lobelia* belongs in the bellflower family (Campanulaceae) or in its own family, Lobeliaceae. While these worthies fight the matter out, let's look at some of the best of the tribe.

PERENNIAL SPECIES

Queen of the hardier perennial sorts is the cardinal flower, (*Lobelia cardinalis*, USDA Hardiness Zones 2–8, AHS Heat Zones 8–1). A semiaquatic North American clump-former, cardinal flower's wild

range extends from southeastern Canada south to east Texas and Florida. A western subspecies, *L. cardinalis* ssp. *graminea*, is found from Arizona and California south to Mexico and Central America.

The cardinal flower is a lover of lake and stream banks. It forms clumps of bronzy-green, four-inch, toothed, lance-like leaves. In summer and early fall, three- to five-foot reddish-green stalks arise from these clumps, terminating in 14-inch

Unfortunately, cardinal flowers are rather short-lived even when grown in their preferred site—acidic, constantly moist soil, in sun or part shade. However, they can be easily propagated by divisions taken in early spring, cuttings taken in summer, or by seed, so if you can provide it with the moist conditions it requires, there is no reason why you should ever do without it (see “Growing Lobelias From Seed,” opposite page).



In a damp border, cardinal flower combines well with a perennial sunflower (*Helianthus* sp.)

racemes of brilliant, two-inch, scarlet blossoms. As you may imagine, a well-grown stand of these plants is a traffic-stopper.

There are some color forms worth mentioning. *Lobelia cardinalis* forma *alba* bears white flowers. *L. cardinalis* forma *rosea* blooms pink. ‘Shrimp Salad’ bears salmon-pink flowers.

Another striking perennial lobelia is the blue cardinal flower or great blue lobelia, which possesses the unpleasant botanical moniker, *Lobelia siphilitica* (Zones 4–8, 8–1), derived from its supposed use by Native Americans for countering European-introduced syphilis. Its wild range includes moist woods and



Hummingbirds flock to the intensely purple-blue spikes of great blue lobelia.

marshes from Maine to South Dakota, south through Missouri to eastern Kansas and Texas. Its four-foot stems are topped in August and September with clusters of bright blue, inch-long blossoms. There is also a white-flowering form, *L. siphilitica* forma *alba*. A recent selection from it is 'White Candles', which grows 18 to 20 inches tall and about 18 inches wide, producing pure white flower spikes in July and August.

Semiaquatic *Lobelia sessilifolia* (Zones 5–8, 8–3) can thrive in up to four inches of water, though a constantly moist poolside will suit it just fine. Native to eastern Asia, it has toothed, lancelike, alternating leaves to eight inches long. The large lavender to purplish flowers are borne in late summer and early fall on stems from two to three feet tall. Bloom color tends to be more vibrant when the plants are grown in part shade, although the plants can tolerate full sun in regions that have cool summers. *L. sessilifolia* reseeds readily where it is happy, but the plants must never be allowed to dry out.

HYBRID LOBELIAS

If anybody knows hybrid lobelias, it's Thurman Maness. The native North Carolinian—a former New York marketing pro and antiques dealer—is

GROWING LOBELIAS FROM SEED

In most cases, if started early enough, lobelias grown from seed will bloom in their first year. Lobelia seeds need light to germinate. Sow the seeds of annual lobelias six to eight weeks before the final frost date in your area. Sow thinly (the seed is tiny) in a flat of moist potting soil and keep them at around 60 degrees Fahrenheit in good light. Do not cover the seed. Drape the flat loosely with plastic film and keep the soil evenly moist until seedlings emerge, usually within two to three weeks.

Lobelia seedlings are highly susceptible to the fungal disease commonly known as damping off. Keep the flat watered from below to avoid the disease. When seedlings are about an inch tall, transplant into peat pots or three-inch plastic pots. After the soil warms outside, transfer the young plants to their final positions in a well-drained, compost-enriched site.

The seeds of perennial lobelias are treated in the same manner, except that, unless you are sowing seeds that are absolutely freshly harvested, you must provide one to three months of cold conditioning (stratification) in order for them to germinate. To do this, sow the seeds directly onto the surface of slightly moist peat in a planting box with drainage holes and cover the box loosely with plastic film. Or take a plastic bag, mix the seed with a couple of tablespoons of vermiculite, add a teaspoon of water, mix thoroughly, then tie the bag loosely shut. Place the box or bag into the refrigerator and, after the first month, check weekly for signs of germination. Separate out emerging seedlings and proceed as above for the annual types.

—R.B.L.

known worldwide for his lobelia breeding. "I am not the typical professional plant breeder," Maness says. "I learned to do plant cloning on my own." Although many of the colorful, heat- and drought-tolerant cultivars he has introduced to the market over the years are now very difficult to find in the trade, his knowl-

edge of the genus is encyclopedic. *Lobelia* 'Ruby Slippers' (Zones 5–8, 8–5), which Maness introduced to commerce in 1989, is among the finest of his hybrids. In part shade, it can reach about four-and-a-half feet in height and boasts blossoms of a rich, unforgettable ruby red that open in late July. Whack back the main bloom



'Grape Knee-Hi' is a compact hybrid of cardinal flower and great blue lobelia.

spike after the flowers start to fade, and ‘Ruby Slippers’ will produce blossoming side shoots well into September.

Another Maness introduction is ‘Monet Moment’ (Zones 5–8, 8–5). A lover of rich, moist, well-drained soil in full sun to part afternoon shade, its burgundy rosettes give rise to three-foot stems topped by 18-inch masses of extra-large, bright rose-pink blossoms from summer through early fall; they attract hummingbirds and butterflies like nobody’s business.

Richard Lighty, a lobelia enthusiast and editorial advisor to *The American Gardener* who lives in Kennett Square, Pennsylvania, recommends another Maness cultivar, ‘Sparkle deVine’ (sometimes listed as ‘Sparkle DeVine’, Zones 5–8, 8–5), which he reports is “tough, reliable, and extra vigorous.” This is important because Lighty—like so many gardeners who have tried to get lobelias to thrive year after year—says that until he grew ‘Sparkle deVine’, most of the lobelia hybrids he’d seen lasted only a year. Growing 30 inches tall, ‘Sparkle deVine’ has large, dark fuchsia flowers that glow in the garden. Best of all, adds Lighty, ‘Sparkle deVine’ is easy to propagate by cuttings or divisions. “Very quickly I built up 50 or 60 plants simply by dividing and redividing them,” he says.

Dan Heims of Terra Nova Nurseries in Tigard, Oregon, holds a special place in his heart for the Terra Nova introduction ‘Grape Knee-Hi’, citing the cultivar’s compact habit, which it maintains all season. A dwarf hybrid of *L. cardinalis* and *L. siphilitica*, ‘Grape Knee-Hi’ makes 22-inch-tall clumps and blooms from July to August in vivid deep purples. A sterile cultivar propagated by cuttings, it is reportedly hardy and long-lived up to USDA Zone 5.

There are a number of other delightful hybrid lobelias available these days. *Lobelia xspeciosa* (Zones 5–8, 8–5) contains genes from *L. cardinalis*, *L. siphilitica*, and *L. fulgens*, a Mexican species. *L. xspeciosa* Compliment Series produces 30-inch-tall clumps of dark green leaves, adorned in summer with long-stemmed racemes of scarlet, deep red, or bluish-purple flowers. Selections of the compact Fan Series grow



‘Monet Moment’ bears large pink flowers.

20 to 24 inches tall. The foliage is dark green to bronze and the narrow-petaled, one-inch flowers come in pink, deep carmine-rose, scarlet, and deep red.

Of uncertain parentage is ‘Queen Victoria’ (Zones 6–8, 8–6), a stunning old cultivar sometimes classified as *L. xspeciosa*. The foliage and stems are deep burgundy, forming clumps that grow three feet tall.



‘Sparkle deVine’ is a vigorous hybrid noted for its flowers and purple-tinted foliage

The blossoms are a jaw-dropping red, one to one-and-a-half inches wide, borne in slightly one-sided racemes up to 18 inches long.

Another lovely hybrid is *Lobelia xgerardii* ‘Vedrariensis’ (Zones 8–9, 9–8), a cross between *L. cardinalis* and *L. siphilitica*. Growing 30 to 48 inches tall by about a foot wide, its four-inch, dark green basal leaves form rosettes that are often flushed with red. In summer, thick stems emerge, topped with 18-inch racemes of numerous, tubular, two-lipped blooms in a particularly rich shade of violet-purple. Though less winter-hardy than many hybrids, ‘Vedrariensis’ is very long-blooming and performs admirably as a container

annual in the north. In regions where summers are hot, give it some shade and mulch it well to keep the rootball from drying out between waterings.

As you may have gathered, I have a weakness for red-flowered lobelias, and there are several more hybrids that deliver this color in spades. *Lobelia* ‘Bee’s Flame’ (Zones 4–9, 9–1) makes 30-inch-by-one-foot clumps of narrow, pointed, reddish-purple leaves. Its 18-inch racemes of large, bright crimson flowers appear in mid- to late summer. ‘Dark Crusader’ (Zones 4–8, 8–1) grows two to three feet tall with maroon foliage. Its flowers, borne at the same time as those of ‘Bee’s Flame’, are a deep velvety red. ‘Will Scarlet’ (Zones 4–8, 8–1) produces maroon-flushed green clumps three feet tall by one foot wide. Its midsummer to early fall blossoms are bright blood red, fitting for a plant named after Robin Hood’s merry minstrel.

ANNUAL LOBELIAS

Most of the so-called annual lobelias are, in fact, tender perennials grown as annuals. *Lobelia erinus* (Zones 10–11, 9–1) comes in both compact and spreading forms and is an indispensable source of true blue for the cool or shaded mixed or annual border. Many other flower colors are available, but the dark blue sorts continue to be the most popular by far.

Of the compact strains, ‘Crystal Palace’, which was introduced in 1890, is

still one of the best. The dark green plants get four inches tall and bear masses of dark blue flowers through much of the season. 'Cambridge Blue' bears sky-blue blossoms. 'Mrs. Clibran' bears brilliant blue flowers with white eyes on four- to six-inch plants. 'Rosamonde' is similar, with white-eyed cherry-red flowers. 'Alba' blooms white.

Of the cascading types, the Pendula Cascade Series grows six inches tall by about a foot wide and bears flowers in carmine-red, violet-blue, true blue, pink,

to six inches apart, taller species 18 to 25 inches apart.

Perennial lobelias can be propagated by division in early spring to summer. Maness does not recommend fall division because new plants rarely have enough roots to establish before frost.

Lobelia erinus is readily available from garden centers in the spring and early summer. It flowers best if fed every two weeks from spring to early summer with a balanced liquid or time-release fertilizer. From midsummer onward, however,



Annual lobelia (*Lobelia erinus*) is useful for adding a touch of blue to summer borders.

or white. Selections of the Regatta Series are a bit taller, to eight inches, with a similar color range, but they bloom earlier and over a longer season.

GROWING LOBELIAS

All the perennial lobelias noted previously prefer a deep, fertile, leafy, moist soil in full sun or partial shade. Semi-aquatics and aquatics, such as *L. cardinalis* and *L. sessilifolia*, prefer an acidic soil and make gorgeous additions to a poolside bed, where they may be planted in the ground or in containers sunk into the bank. Very young plants may be potted up in a peat-and-perlite based soil mix and grown on in a cool, sunny window or greenhouse to be planted outdoors when all danger of hard frost has passed. Set out small annual species four

switch to a nitrogen-free plant food that is high in phosphorus. When plants get leggy, shear them back halfway. If you keep up your feeding schedule, *L. erinus* will resume blossoming again in a month, and can be kept in flower much of the winter in mild climates.

Throughout the growing season, be on the lookout for slugs, which adore lobelia foliage and flowers. Rust, smut, and leaf-spot disease can also be problems; if you live in a humid environment, try weekly preventive fungicide sprays or spray with a mixture of one tablespoon baking soda per gallon of water. And watch out for thrips, which can keep buds from opening. Deadhead regularly. Plants will survive hot summers if given good drainage, afternoon shade, mulch, and abundant water.

Sources

Annie's Annuals & Perennials, Richmond, CA. (888) 266-4370. www.anniesannuals.com.

J.L. Hudson, Seedsman, La Honda, CA. www.jlhudsonseeds.com.

Jelitto Perennial Seeds, Louisville, KY. (505) 895-0807. www.jelitto.com.

Lazy S'S Farm and Nursery, Barboursville, VA. www.lazysfarm.com. Online orders only.

Shooting Star Nursery, Georgetown, KY. (866) 405-7979, (502) 867-7979. www.shootingstart.com.

Swallowtail Garden Seeds, Santa Rosa, CA. (707) 538-3585. www.swallowtailgardenseeds.com.

Resources

The AHS Encyclopedia of Perennials by Graham Rice, editor in chief, and Kurt Bluemel. DK Publishing, New York, New York, 2006.

Annuals and Tender Plants for North American Gardens by Wayne Winterrowd. Random House, New York, New York, 2004.

Herbaceous Perennial Plants (3rd edition) by Allan M. Armitage. Stipes Publishing, Champaign, Illinois, 2008.

If your supposedly hardy hybrid lobelias don't make it through the winter, it's not necessarily your fault. "When you're dealing with hybrids, sometimes we get something called 'F2 breakdown' in the second generation, in which the genetic components from the hybrid's parents don't work well together," says Lighty.

A problem frequently brought up in gardening books is the tendency for some lobelias to become virus-infected. One possible clue is the color of the newly emerging spring foliage. If the new

MORE CHOICES FOR LOBELIA LOVERS

Name	Height/Width (inches)	Bloom Time	Remarks	Origin	USA Hardiness, AHS Heat Zones
PERENNIALS					
<i>L.</i> 'Cotton Candy'	36/24	July–Sept.	white and pink blooms	hybrid	5–9, 9–5
<i>L.</i> 'La Fresco'	30–36/18	Aug.–Oct.	dusky plum flowers	hybrid	4–9, 9–5
<i>L. laxiflora</i> var. <i>angustifolia</i>	24/12	June–Sept.	blooms red and/or yellow	Arizona	9–10, 10–9
<i>L. spicata</i>	60/18	June–Aug.	small pale blue to white flowers	North America	4–9, 9–4
<i>L. splendens</i> (syn. <i>L. fulgens</i>)	36/12	late summer	leaves red-flushed; scarlet flowers, in 16-inch racemes	California, Texas, Mexico	8–9, 9–8
<i>L. tupa</i>	72/36	July–Oct.	brick to orange-red flowers, in 18-inch racemes	Chile	8–10, 10–8
ANNUALS					
<i>L. erinus</i> Laguna Series	4/6	spring to fall	compact, in sky blue, dark blue, lilac or pink	hybrid	10–11, 9–1
<i>L. erinus</i> Palace Series	4/6	spring to fall	uniform, compact, often with bronze foliage, in light blue, dark blue, lilac, pink or white	hybrid	10–11, 9–1
<i>L. erinus</i> Riviera Series	4-6/12	spring to fall	trailing plants bloom very early in lilac, sky blue, or mottled blue with picotee edge	hybrid	10–11, 9–1
<i>L. erinus</i> 'Sapphire'	6-8/6-8	spring to fall	trailing plants bear bright blue blooms with white eyes	hybrid	10–11, 9–1
<i>L. inflata</i> Indian tobacco	36/12	summer	flowers blue, purple, or pinkish-lavender in 18-inch racemes	North America	4–8, 8–1
<i>L. tenuior</i>	18–30/18	summer	cobalt-blue flowers	Australia	4–8, 8–1

leaves—which should be plain green—come out streaked with white and pink, you may have an infected plant, which should be dug up and thrown out (don't compost it).

USING LOBELIAS IN THE LANDSCAPE

Requiring moist soil, *Lobelia cardinalis*, *L. siphilitica*, and their hybrids are wonderful poolside plants. As long as your borders get sufficient water, many taller perennial selections make great companions for Japanese or Siberian iris (*Iris japonica*, *I. sibirica*), beebalms (*Monarda* spp.), masterwort (*Astrantia* spp.), and Joe-Pye weed (*Eupatorium maculatum* and *E. purpureum*). Shorter lobelias such as 'White Candles' and 'Grape Knee-Hi' make fine late-blooming companions alongside colonies of monkeyflower (*Mimulus* spp.), forget-me-not (*Myosotis palustris*), catchfly (*Lychnis xhaageana*), geums (*Geum* spp.), and primroses (*Primula* spp.).



Trailing annual lobelias such as Waterfall™ Blue, here with yellow-and-red blanket flower 'Fanfare', are container favorites.

Tall, long-blooming hybrids such as 'Ruby Slippers' or 'Cotton Candy' combine well with royal fern (*Osmunda regalis*), Solomon's seal (*Polygonatum* spp.), astilbes (*Astilbe* spp.), meadow rues (*Thalictrum* spp.), and Japanese lilybells (*Adenophora triphylla* var. *japonica*). And one of the new purple-leaf elderberries such as *Sambucus nigra* Black Lace™ would look smashing as a backdrop for a bed of *Lobelia* 'Will Scarlet'.

Lobelias also do well in large shaded containers. Try combining the bronze-and-scarlet *L.* 'Queen Victoria', *Monarda didyma* 'Jacob Cline', *Astilbe* 'Fanal', and some maidenhair ferns (*Adiantum* spp.) in a loam-and-sand-filled half-barrel. Or come up with your own combinations—given plenty of water, lobelias are not difficult to grow, and they're easy to love.

Rand B. Lee is a writer and gardener based in Santa Fe, New Mexico.

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Ranging from simply gorgeous to plain weird, plants in the arum family are great garden conversation starters.

BY GENE BUSH

bizarre and beautiful Hardy Aroids

COMMON NAMES such as devil's arum, corpse flower, green dragon, and voodoo lily are indicative of the outlandish, weird, and wonderful plants found in the arum family (Araceae), sometimes called aroids.

While the family does include a number of truly exotic and strange members, many of the genera and species are familiar to the average gardener. Some are common houseplants such as Chinese evergreen (*Aglaonema* spp.) and Swiss cheese plant (*Monstera deliciosa*). Others such as taro (*Colocasia esculenta*) and yau-

tia (*Xanthosoma*) are valuable food crops in tropical regions. Still others are tender perennials such as caladiums and cannas that are now widely grown as summer border plants in temperate regions.

In this article, I will focus on “hardy” aroids that most temperate-zone gardeners can grow as herbaceous perennials.

HARDY AROIDS FOR AMERICAN GARDENS

Arisaema For American gardeners, the best known hardy aroid is without doubt Jack-in-the-pulpit (*Arisaema triphyllum*), native to moist woodlands from the East-

ern Seaboard west to the Dakotas and Texas. Growing from a flattish corm to one or two feet tall, Jack develops a three-part leaf and the characteristic combination of the attractively striped, hooded spathe (pulpit) and rodlike spadix (Jack), that gave rise to its evocative common name. In late summer, the green fruits that form in a cluster around the spadix turn brilliant orange to scarlet. Jack is easy to propagate by seed or from offsets that develop on the corm.

There are many other fine species in the genus *Arisaema*, but I am going to pass over them here because I profiled them in the November/December 2005 issue of this magazine. A link to that article will be available with the online version of this piece on the AHS website (www.ahs.org).

Amorphophallus In recent years several American and British botanical gardens have turned the blooming of a titan arum or giant corpse flower (*Amorphophallus titanum*) into a media spectacle, with footage carried on local and national television stations, streaming video from webcams, and a resulting spike in visitation to see an event once reserved for hardy adventurers into the Sumatran rainforest. While this species is a novelty due to its size (it has the largest unbranched inflorescence and the heaviest tuber of any flowering plant), revolting stench, and need for a large heated greenhouse, there are a number of smaller, hardier, and less stinky species better suited to our gardens.

Amorphophallus konjac (syn. *A. rivieri*, USDA Zones 7–11, AHS Zones 12–6) is probably the most commonly grown member of the genus. The tuber follows the habit of many other aroids in blooming first and then, after a pause, producing a single stem topped by a leaf. The vase-shaped flower is lustrous purple with deep red highlights, heavily textured, and lined. Standing straight up in the center of the spathe is a three-foot purple red spadix that gave rise to the genus's botanical name (literally, “shapeless phallus”). The one large, divided leaf unfurls at the top of a five- to six-foot stem that has green and purple mottling.

Indian snake palm (*A. bulbifer*, Zones 7–10, 10–7) is so named for its resemblance to palm foliage and its origins in India. The strange-looking inflorescence resembles a

Eastern skunk cabbage's spectacular flowers bloom above lesser celandine.



This past March, two *Amorphophallus konjac* plants bloomed in the home of Doreen Howard, a garden writer from Illinois. Howard had to keep them in her sunroom because of the stench.

sea shell someone stuck in the sand. The rounded open spathe is mottled brown and green over shell pink and of heavy substance. The interior is light pastel pink deepening to dark pink with a hint of red at the base. The spadix is pink and tan. All parts have a rounded appearance.

The stems are heavily mottled in olive green over silver-green reaching about three to four feet in height. Foliage is a single leaf parted into three sections, each leaflet having heavy veins. The foliage has curious brown “warts” at major leaf junctions. The warts are small tubers that can be transplanted to grow new plants.

At about two feet tall, *A. henryi* (Zones 7–9, 9–7), native to Taiwan, is the smallest member of the genus. Topped by a large divided single leaf, the stem is green with blotches of white. The spathe is purple and very open with ruffles around the edges, revealing an orange spadix overlaid with hints of red and brown. This species can be propagated both by seeds and by very prolific offsets from the mother tuber.

I grow *A. henryi* in containers so I can move them around to fill open spaces left

THE ECCENTRICITIES OF THE ARUM FAMILY

When lecturing about arums, I often suggest jokingly that if taxonomists ever reclassify them they should place them within the Addams Family. The more than 100 genera in this eccentric family are characterized as primarily herbaceous perennials that develop from tuberous or rhizomatous roots. Many have milky or strong-smelling sap and some—dumbcane (*Dieffenbachia* spp.), for one—contain calcium oxalate crystals that can cause injury if chewed or swallowed. The family is found widely in the tropics occupying a variety of habitats ranging from canopy-living epiphytes to floating aquatic plants such as the invasive water lettuce (*Pistia stratiotes*).

But it’s the unique structure of the “flowers” that makes it easy to recognize aroids. What we think of as the flower is a modified leaf, or **spathe**, that serves to protect the actual flower structure, or inflorescence. The inflorescence, often hidden down in the protective sheath, is composed of a club-shaped structure called a **spadix** that holds the relatively small flowers. The flowers are fleshy and can be bisexual or unisexual, depending upon the genus. When unisexual, the numerous minute flowers are usually arranged with male above and female below on the spadix. The modified leaf around the inflorescence can be quite decorative; named cultivars and hybrids are usually chosen for their colorful or intriguingly textured spathes.

Another common trait shared by most aroids is the use of scent to attract pollinators. This is not unusual among flowering plants, but in the case of aroids the scent—designed to attract flies, beetles, and other insects that feed on carrion (rotting animal flesh)—is often unpleasant and, sometimes, downright putrid. But overall I believe the stigma associated with the smell is overstated; in most species the scent lasts only a few days until the plants are pollinated. —G.B.

by perennials that have gone dormant. Come late summer, when these plants go dormant, I bring them inside my greenhouse. I remove the tubers from the containers, clean and dry them, then store



In late summer to early fall, the berries of *Arum italicum* turn from green to bright red.

them in dry peat moss under a bench for the duration of winter.

Arums There are about two dozen *Arum* species, but the European native *Arum italicum* (Zones 6–9, 9–3)—which I refer to as the “backward plant” because of its odd growing cycle—is the most familiar to American gardeners. The foliage starts growing in fall and by mid-spring, the glossy, arrowhead-shaped, deep green leaves, often marked by white or creamy variegation along the veins, are 18 inches long and four inches broad.

Emerging in spring, the large flowers feature a pale green spathe around a yellowish spadix, but are often obscured by the tall clumps of foliage. As the blooms are pollinated, the leaves wither away with the early summer heat. Tall stalks bearing clusters of bright orange-red berries then provide a late summer show. Plants spread slowly by rhizomes, eventually creating large clumps in a sunny or partly shaded site. The popular cultivar ‘Marmoratum’ has extensive milky white variegation on the leaves.

Resources

Arrowhead Alpines, Fowlerville, MI.
(517) 223-8750. www.arrowheadalpines.com.

Glasshouse Works, Stewart, OR.
(800) 837-2142. www.glasshouseworks.com.

Munchkin Nursery & Gardens LLC,
Depauw, IN. (812) 633-4858.
www.munchkinnursery.com.

Plant Delights Nursery, Raleigh, NC.
(919) 772-4794. www.plantdelights.com.

Variiegated Foliage Nursery, Eastford,
CT. (860) 974-3951. www.variegatedfoliage.com.

Resources

Aroids: Plants of the Arum Family by
Deni Bown. Timber Press, Portland,
Oregon, 2000.

International Aroid Society,
www.aroid.org.

Equally reliable in my garden is *Arum maculatum* (Zones 6–9, 9–6), sometimes called lords-and-ladies, which emerges in early spring at half the size of *A. italicum* with matte green foliage. After the blooms and berries make a quick early show, this European native disappears underground.

For a four-season show in my garden, I pair arums with hardy begonias (*Begonia grandis* ssp. *evansiana*), which emerge late, just as the arums are losing their foliage, and bloom at the same time as the arum berries ripen.

Devil's or Dragon Arum The common names are appropriate for this species, because, when blooming, it does conjure up a hint of devilry. Devil's arum (*Dracunculus vulgaris*, Zones 7–10, 10–7) makes quite a statement in the garden with a height of about two-and-a-half to three feet, sending up multiple offsets that form colonies two feet in diameter. The large leaves are lobed, white-flecked



over dark green, atop purple-and-brown mottled stalks.

The thick spathe, saturated black-purple over maroon, can reach one to three feet tall and well over six inches wide. Inside, the blackish-red spadix arches up and out in a curve like a skinny rotten banana. The inflorescence is short-lived but pungent, usually collapsing after four or five days.

Above: The exotic-looking foliage of voodoo lilies adds a tropical touch to any bed. **Left:** Dragon arum's striking flower can grow up to three feet tall and has a pungent odor.

Native to the Mediterranean region, devil's arum is rated as hardy to USDA Zone 7, but I have grown it for years in Zone 6. The plant usually tries to emerge too early in spring and is sensitive to frost, so I cover it with leaves if frost is forecasted. Plant this arum in bright open shade in good soil with a chopped leaf mulch. For companions, I like tall ferns and I use a limestone rock to mark the spot when the plant goes dormant in early summer.

Voodoo Lily The flower of voodoo lily (*Sauromatum venosum*, Zone 6–10, 11–7) is intriguing but ephemeral, so this plant's primary attraction is its tropical foliage. The bloom makes its appearance above the soil line in early to midsummer about two weeks before the foliage appears. The flowers remind me of wildly painted bananas emerging from the soil. Bronze-purple-brown with a metallic sheen, they peel back on one side to reveal an interior of yellow-tan with red-brown spots. The red-brown tubular spadix stands straight up and, once pollinated, quickly collapses.

Then, this shade-loving plant, which is native to the Himalayas, shoots its foliage up, almost overnight, opening like a large umbrella. The substantive stalk is mottled

and spotted dark green over light green and purple-brown. At two to three feet in height, the leaves spread gracefully outward with seven to 11 leaflets of deepest green. Only one stalk is produced per tuber, so group two to three tubers for a better display. Mine look at home among ferns and groundcovers such as Hakone shade grass (*Hakonechloa macra*).

Skunk Cabbage and Relatives If you are blessed with a spot of consistently boggy soil, there are some good aroids for your garden as well. All they require is relatively deep muck that remains moist throughout the summer.

One is skunk cabbage (*Symplocarpus foetidus*, Zones 3–7, 8–2), called polecat weed in the Midwest, where I live. It's native to woodlands and streambanks from the southeastern United States north to Canada and west to the base of the upper Midwest.

This is literally one hot plant, for it heats up the soil in late winter so it can push through snow and frost to bloom. The common name derives from its cabbage-like leaves and its flower's scent, which has been compared to the odor of an angry skunk. Because of this, it is easy to locate in the wild when it is in bloom, despite its camouflaged coloration. The thick spathe is brown-red and black with tan spots,



Skunk cabbage's "hot" flower, above left, emerges in later winter before the lush foliage, right.

which mimics the mud it emerges from. In late spring, the large, mid-green leaves form attractive clumps. The roots of skunk cabbage are large in relation to visible parts of the plant, making it difficult to grow in nurseries and thus somewhat hard to find.

Well worth seeking out are two related plants similar in appearance and site needs. Native to the Pacific Northwest from Alaska south to California and inland to parts of Idaho, western (or yellow) skunk cabbage (*Lysichiton americanus*, Zone 5–8, 7–1) has a bright yellow spathe and glossy green leaves. Its cousin, eastern (or white) skunk cabbage (*Lysichiton camtschatcensis*, Zone 5–9, 9–1), is found across the Bering Strait in eastern Russia and Asia. Its spathe

is a striking white color that contrasts with the green spathe. Both will thrive in part shade to full sun, in damp to wet sites.

Calla Lily One last aroid worth mentioning is the beautiful calla lily. Native to South Africa, calla lily (*Zantedeschia aethiopica*, Zones 8–10, 10–4), is a tuberous perennial that thrives in consistently moist, rich soil in full sun. It has speckled, heart-shaped leaves that are evergreen in milder regions, and attractive cup-shaped, white spathes tinged green. Many hybrids with a crayon-box range of colors have been created from crosses of this species and other African species.

Until recently, these could only be grown in gardens in warm regions (or containers), but a cultivar named 'Green Goddess' has proven to be hardy to at least USDA Zone 7. Other hardy selections are sure to follow. Try these in a container or a damp, sunny garden spot. Beware of the sap, which is poisonous. Calla lilies have shown the potential to naturalize in warm regions and are being monitored in coastal California.

CONVERSATION PIECES

As interest in hardy aroids grows, they are becoming more widely available. In my garden, I find children and non-gardeners are particularly captivated by the plants' appearance and intriguing pollination strategy. And anything that can spark conversation and get people interested in gardening is a big plus in my book.

A garden writer and lecturer, Gene Bush owns Munchkin Nursery & Gardens in Depauw, Indiana.



A large clump of white calla lilies produces elegant flowers on long, slender stems.

Tough-as-Nails Perennials

Tired of coddling temperamental plants? Garden expert Carole Ottesen profiles 10 resilient perennials that have survived drought, deer, and neglect in her Maryland garden.

BY CAROLE OTTESEN



Amsonia tuberosa

GIVEN PLENTY of water and a bit of coddling, any plant can look good despite hellish weather and rapacious deer. But what happens if you go away for three months and leave your unirrigated garden in the heart of deer country untended during a prolonged drought? If your first thought is “plants will die,” you’re right. Without the water and TLC, there will be losses.

I experienced this firsthand because for the last two summers I have abandoned my sultry Maryland garden to the elements and escaped north to a cool maritime haven in Nova Scotia. After last summer’s record-breaking drought

in the eastern United States, and recalling that my house-sitter is not a gardener, I expected the worst when I returned in September.

THE UPSIDE OF NEGLECT

Shocking as it is to return to a neglected garden, there is an upside to this experience. After my garden had endured these harsh conditions, I discovered which plants made it through and, more interestingly, which came through the ordeal with flying colors. A rare few plants not only survived, but did so with aplomb.

Generally speaking, well-established shrubs and trees made it—if a bit less

perkily than usual. Not so the perennials, which are more susceptible to deer damage and drought. And forget annuals and thirsty tropicals.

The first thing I noticed on my tour of the garden was that the ground seemed strangely empty—even of weeds! A prolonged drought not only stresses plants, it stresses deer, so they eat more and different plants than their usual fare. As a result, I found spots of bare soil in my woodland garden and perennial border where plants used to be.

The next thing I observed was that some of what had survived didn’t look the way it’s supposed to. Asters are a case

in point. Although it's hard to kill an aster, deer browsing can make it look like the product of a breeding experiment gone awry. That gracefully arching mass of starry flowers becomes a bunch of sticks with a few blooms jammed at the ends. Likewise, deer browsing reduced the seemingly invincible prairie dock (*Silphium terebinthinaceum*) from a monumental clump of three-foot-long, sandpapery leaves to a giant pin-cushion of shredded stems.

When I got over the initial shock, I noticed, here and there, a few dust-encrusted individuals that appeared intact. After dousing them with a hose, I found (my heart swelling with profound gratitude) a few of these plants appeared to be totally unscathed. They may not have grown overmuch during the summer, but neither did they lose significant biomass.

The following are plants in my Maryland garden (USDA Zone 7, AHS Zone 7) that came through the Summer from Hell with grace and good looks. (See page 29 for a list of dependably drought-tolerant plants from other regions of North America, or visit the web special linked to the online version of this article at www.ahs.org for a more detailed list.)

PERENNIALS FOR SUN

Arkansas Bluestar

(*Amsonia hubrichtii*, USDA Zones 5–9, AHS Zones 9–5)

Completely unscathed from its summer of neglect was Arkansas bluestar, which is endowed with a milky latex sap that makes it unappealing to deer. Its other fabulous quality, once well-established, is its drought tolerance.

Although the delicate ice-blue spring flowers are what give this plant its common name, the autumn color of its feathery leaves is the reason people grow it. The stems grow long and billowy and put on a fine show in October when the leaves turn a stunning pale pumpkin color. Great in both sun and part shade, Arkansas bluestar is native to Arkansas and Oklahoma. It grows into mounds of arching foliage that reach three feet and slightly more in height and breadth. Downy bluestar (*A. cilia-*



ta, Zones 6–10, 10–6) and common bluestar (*A. tabernaemontana*, Zones 3–9, 9–1) are not quite as drought tolerant but still worth considering.

Butterfly Weed

(*Asclepias tuberosa*, Zones 4–9, 9–2)

Butterfly weed's other, less appealing, name is "pleurisy root," because its deep-reaching root was once used to treat lung inflammation. That taproot is one reason this plant easily tolerates heat and drought. In fact, this two-foot-tall native perennial seems to flourish in the sunniest, hottest spot in the garden where it will flower in mid- to late summer. Butterflies flock to the flat, bright orange

flower heads for nectar, and the larvae of monarch butterflies feast on the leaves, a short-term phenomenon that doesn't harm the plant. Selections include the Gay Butterflies series and 'Hello Yellow'.

This super-tough perennial has a couple of quirks. It is late to emerge from dormancy in spring, so forgetting its presence is easy. When trying to plant something else near butterfly weed, be careful to avoid digging into and damaging its hidden roots. Its other quirk is that it so dislikes transplanting; it may disappear for nearly a season after being moved. Depending on where you live, other milkweed species are worth considering, among them swamp milkweed (*A. incarnata*).



Japanese Roof Iris

(*Iris tectorum*, Zones 5–9, 9–3)

Yes, Japanese roof iris can actually grow on a thatched roof. It can take anything the climate throws at it and still look like it spent the summer at a spa. Divisions I set out the fall before the terrible summer still provided a river of texture through my garden. In fact, the river has become a veritable torrent of light green fans, 18 inches high by at least two feet across.

The flowers, usually white to pale blue-lavender with serrated crests, bloom for a fleeting week or two in late spring or early summer,



Miscanthus sinensis 'Morning Light'

but the dramatic foliage lasts until a hard frost. The selection 'Alba' has white flowers with yellow-tinged crests.

Eulalia or Silver Grass

(*Miscanthus sinensis* 'Morning Light', Zones 5–9, 9–2)

'Morning Light' is an aptly-named, beautiful ornamental grass with white-variegated margins on its very fine leaves. Like most grasses, it performs best in well-drained soil and sun, where it will stand tall and flower prolifically. Yet this plant will take almost any soil in sites from full sun to part shade. It will flop a bit in a shady spot, to a degree commensurate with the amount of shade.

'Morning Light' becomes a five-foot-tall clump that expands slowly in circumference. The late summer to fall flowers—satiny, ruby plumes—gradually turn silver and, along with foliage that becomes almond color, persist throughout winter.

In addition to *Miscanthus*, another grass that thrives in drought conditions is fountain grass (*Pennisetum alopecu-*

oides, Zones 5–9, 9–2), a true workhorse in the garden. Surprisingly, variegated Hakone grass (*Hakonechloa macra* 'Aureola', Zones 5–9, 9–2), native to the cool mountains of Japan, also displayed no obvious signs of distress. I have it growing in a partly shaded spot, which probably made all the difference.

Peonies (*Paeonia* spp.)

Peonies, along with asparagus and daffodils, are one of the resilient plants often found growing on old homesteads long after those who planted them have gone. Long-lived and unpalatable to deer, peonies, once established, endure the infinite vicissitudes of weather. In fact, it's hard to get rid of peonies. If you try to transplant one, the following spring you are almost sure to find that a bit of root inadvertently left behind is sprouting a new little plant.

It's hard to find a peony selection, either herbaceous or tree-form, you won't like. Flowering when spring is settled, the dark green, bushy clumps of herbaceous peonies (*P. lactiflora*, Zones 3–8, 8–1) grow



Paeonia 'Postillion'

two feet tall and increasingly wide while shrubby tree peonies (*P. suffruticosa*, Zones 5–8, 8–5) reach five feet tall. Both kinds of peonies grow best in full sun to part shade.

Rosemary

(*Rosmarinus officinalis*, Zones 7–9, 10–1)

Technically rosemary is a subshrub rather than a perennial, but I'm including it because its heartwarmingly splendid appearance makes it the poster child for all herbs. Despite months of heat and drought, rosemary still stood upright in my garden, bursting with good health and bright green vigor; the drought must have reminded it of its native Mediterranean region.

I grow the cultivar 'Arp', which is hardier than most, but still susceptible to wet feet in winter. Mine is sited on a hill with excellent drainage where it will grow, hopefully, to its six-foot potential.

Several of rosemary's fellow herbs fared almost as well. Purple sage (*Salvia offic-*



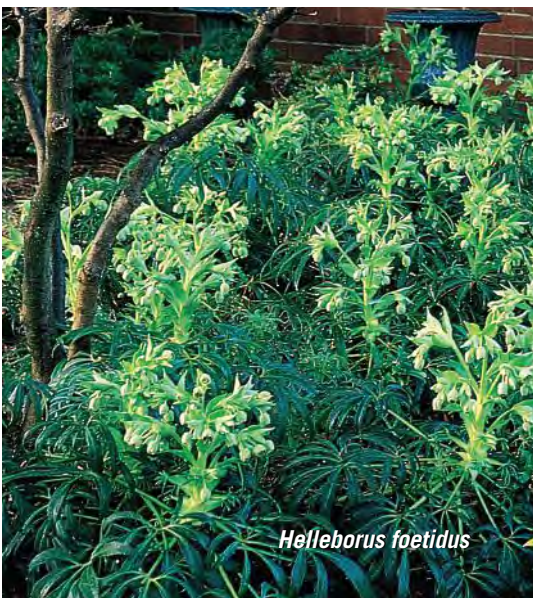
Rosmarinus officinalis

nalis var. *purpurea*), lemon thyme (*Thymus ×citriodorus*), Italian oregano (*Origanum ×majoricum*), lesser calamint (*Calamintha nepeta*), and lavender (*Lavandula* spp.), were all presentable when I returned. Cardoon (*Cynara cardunculus*), a silvery Mediterranean plant related to artichoke, had grown berserk—sending up six-foot flower stalks all over the garden.

Hellebores (*Helleborus* spp.)

Deer-resistant, shade-tolerant, evergreen, and early-blooming, hellebores (*Helleborus* spp.), are as near perfection as plants can be. True to expectations, they survived the long, dry summer, but some did so with more élan than others.

A few of the Lenten roses (*Helleborus ×hybridus*, Zones 6–9, 9–6) in the worst sites—on a slope under a large, thirsty sycamore, for instance—had collapsed. Still alive, however, they revived after a thorough soaking. I plan to move those hellebores elsewhere and replace them with



Helleborus foetidus

low-growing Siberian cypress (*Microbiota decussata*) to augment healthy and, apparently, deer- and drought-tolerant specimens already growing under the sycamore.

Unlike the Lenten roses, the stinking or bear's-foot hellebores (*H. foetidus*, Zones 6–9, 9–6), were as perky as ever, showing off their neat, two-foot mounds of two-tone (dark and light green) bear-claw-shaped leaves. This may have been due to their more hospitable sites.

The stinking hellebores were impressive in their drought tolerance, but they paled



Dryopteris erythrosora

in comparison to a specimen of Corsican hellebore (*H. argutifolius*, Zones 6–9, 9–6), which was absolutely vigorous.

PERENNIALS FOR SHADE

Autumn Fern

(*Dryopteris erythrosora*, Zones 5–8, 9–5) People tend to think of ferns as delicate inhabitants of moist woodlands. While the “moist woodland” part of that statement is mostly true, ferns are anything but delicate. Among the oldest plants on earth, ferns are true survivors. In forms almost identical to those of today, they’ve been around for more than 300 million years. Once established, they make it in shade that isn’t always moist.

Autumn fern, a bold, two-foot-tall, evergreen plant with shiny fronds, is one of the toughest. Situated under a big yellowwood (*Cladrastis kentukea*) a ground-covering mass of these ferns defies drought and deer. The fern gets its name from the red-orange color of the new fronds emerging in spring. It spreads slowly into big clumps and works well underplanted with

spring- or early summer-blooming bulbs such as camas lilies (*Camassia* spp.).

Other ferns in my garden that came through the drought unscathed include Christmas fern (*Polystichum acrostichoides*), Makino’s holly fern (*P. makinoi*), sun-tolerant southern shield fern (*Thelypteris kunthii*), holly fern (*Cyrtomium falcatum* ‘Rochfordianum’), Goldie’s wood fern (*Dryopteris goldieana*), Mexican male fern (*D. pseudo filix-mas*), and the spectacular, evergreen, thick-stemmed wood fern (*D. crassirhizoma*). However, maidenhair fern (*Adiantum pedatum*) and ostrich fern (*Matteuccia pensylvanica*), responded to drought by going dormant.

Nippon Lily

(*Rohdea japonica*, Zones 6–9, 9–6) Nippon or sacred lily is the outdoor gardener’s answer to cast iron plant (*Aspidistra elatior*), the houseplant that’s famous for thriving on neglect. Both are members of the lily family and even look alike. Nippon lily has the thick, dark, rigid, evergreen leaves of its relative and

Sources

Bluestone Perennials, Madison, OH.
(800) 852-5243. www.bluestoneperennials.com.

Digging Dog Nursery, Albion, CA.
(707) 937-1130. www.diggingdog.com.

Forestfarm, Williams, OR. (541)
846-7269. www.forestfarm.com.

Klehm's Song Sparrow Farm & Nursery, Avalon, WI. (800) 553-3715.
www.songsparrow.com.

Plant Delights Nursery, Inc., Raleigh, NC. (919) 772-4794. www.plantdelights.com.

Wayside Gardens, Hodges, SC.
(800) 845-1124. www.waysidegardens.com.



grows into a foot-tall sculptural clump. Given a few companions, it will spread outward to form a striking groundcover. It seems to thrive on division and transplanting.

Perennial references report that Nippon lily produces white flowers in the fall, but I have grown this plant for years and never noticed one. Not that it matters; what's eye-catching are the fall clusters of bright crimson berries that show to great effect against the dark green leaves. Nippon lily thrives with benign neglect in part to full shade in a spot with good drainage.

Miniature Dwarf Sweet Flag

(*Acorus gramineus* var. *pusillus*,
Zones 6–9, 9–5)

It seems odd that a member of a genus that takes to waterlogged soil should have survived an ordeal by drought. But miniature dwarf sweet flag did more than that in my garden—it appeared to have actually grown! On the edge of a bed in part shade, the fans of tiny, irislike leaves had spread out over a few more inches of territory.

Apparently, heat and deer are no threats. Where there is no competition to overshadow it, this two-inch-tall, plain



green sweet flag—with a botanical name that's bigger than the plant—is a mighty survivor that provides fantastic texture. Easier to locate from nurseries is the equally lovely, foot-tall, bright yellow selection of *A. gramineus* called 'Oborozuki', another tough perennial that, though it didn't grow much during the drought, stubbornly stayed put in extremely dry shade.

Likewise, several sedges (*Carex* spp.)—all located in shade—seemed unfazed by the prolonged lack of moisture. These include palm sedge (*Carex muskingumensis*, Zones 3–8, 8–1), a native of the eastern and central United States that will grow in standing water; pretty little variegated Japanese sedge (*Carex conica* 'Snowline', Zones 5–9, 9–5); and evergreen, variegated *Carex morrowii* (Zones 5–9, 12–1).

A LESSON LEARNED

Now, as the memory of that killing drought fades and a wetter-than-normal spring plumps plants to luxuriance, it's easy to drop one's guard. But I learned the hard way that a garden needs a backbone of tough, reliable plants that can take pretty much anything our climate can dish out. Over the next few years, I intend to add more of the plants that did well, and seek out other resilient gems that will offer my garden both durability and diversity.

Carole Ottesen is a contributing writer for The American Gardener. Her gardens in Maryland and Nova Scotia are thriving in benign neglect.

REGIONAL CHOICES FOR TOUGH PERENNIALS

We checked in with experts from around the country and got their recommendations for tough, drought-tolerant plants. More extensive lists of plants for each region can be found on a web special linked to the online version of this article (www.ahs.org).



Coreopsis verticillata 'Moonbeam'

■ SOUTHEAST

Native plant expert Jan Midgley, whose Alabama garden (USDA Zone 7, AHS Zone 8) also weathered a prolonged drought, recommends these plants:

- Tickseed (*Coreopsis* spp., Zones 4–8, 9–1)
- Black Sampson, coneflower (*Echinacea angustifolia*, Zones 4–9, 9–1)
- Swamp sunflower (*Helianthus angustifolius*, Zones 6–9, 9–4)
- Grass-leaved blazing star (*Liatris graminifolia*, Zones 5–9, 12–2)
- Wild quinine (*Parthenium integrifolium*, Zones 4–8, 8–3)
- Indian grass (*Sorghastrum nutans*, Zones 4–9, 9–1)
- Smooth blue aster (*Symphotrichum laeve* var. *concinnum*, syn. *A. laevis* var. *concinnum*, Zones 5–8, 9–4)

■ MIDWEST

Neil Diboll of Prairie Nursery in Westfield, Wisconsin (USDA Zone 4, AHS Zone 4), offers this list of reliable performers in full sun.

- Nodding pink onion (*Allium cernuum*, Zones 3–9, 12–1)
- Blue false indigo (*Baptisia australis*, Zones 3–9, 9–1)
- Pale purple coneflower (*Echinacea pallida*, Zones 3–9, 8–1)
- Rattlesnake master (*Eryngium yuccifolium*, Zones 4–9, 12–1)

- Prairie blazingstar (*Liatris pycnostachya*, Zones 3–9, 9–2)
- Yellow coneflower (*Ratibida pinnata*, Zones 3–9, 12–1)
- Compass plant (*Silphium laciniatum*, Zones 5–9, 9–5)
- Prairie dropseed (*Sporobolus heterolepis*, Zones 3–8, 10–2)

■ GREAT PLAINS

Harlan Hamernik of Bluebird Nursery, a wholesale nursery in Clarkson, Nebraska (USDA Zone 5, AHS Zone 6), recommends these plants for the Great Plains.

- Light poppymallow (*Callirhoe alcaeoides* 'Logan Calhoun', Zones 4–9, 12–2)
- Prairie lode (*Calylophus serrulatus*, Zones 4–7, 12–1)
- Stemmy four nerve daisy (*Tetraneuris scaposa* var. *scaposa* 'Prairie Sunshine', syn. *Hymenoxys scaposa* Zones 4–9, 9–4)
- Snakeroot (*Liatris punctata*, Zones 3–9, 9–1)
- Ozark sundrops (*Oenothera macrocarpa* 'Comanche Campfire', Zones 5–8, 8–3)
- Large beardtongue (*Penstemon grandiflorus* 'War Axe', Zones 3–9, 9–1)
- Sticky skullcap (*Scutellaria resinosa* 'Smoky Hills,' Zones 4–9, 9–4)
- Aromatic aster (*Symphotrichum oblongifolium* 'Dream of Beauty', syn. *Aster oblongifolius*, Zones 4–8, 8–1)

■ NORTHERN CALIFORNIA

Bob Tanem, author of *Perennials for Northern California*, lists the following tough plants that thrive on neglect in northern California (USDA Zones 6–8, AHS Zones 8–4):

- Bear's breeches (*Acanthus mollis*, Zones 7–10, 12–7)*



Salvia leucantha

- Bergenia (*Bergenia cordifolia*, Zones 4–10, 8–1)
- Jupiter's beard (*Centranthus ruber*, Zones 4–9, 8–5)
- Santa Barbara daisy (*Erigeron karvinskianus*, Zones 5–7, 7–5)**
- Four o'clock (*Mirabilis jalapa*, Zones 9–11, 12–1)
- Mexican sage (*Salvia leucantha*, Zones 8–11, 12–4)

■ SOUTHWEST

Scott Calhoun, a garden designer and author who lives in Tucson, Arizona (USDA Zone 8, AHS Zone 11), recommends the following perennials and subshrubs for the Southwest.

- Hartweg's sundrop (*Calylophus hartwegii*, Zones 9–12, 12–2)
- Gray damianita (*Chrysactinia mexicana*, Zones 8–10, 12–5)
- Chuparosa honeysuckle, California beloperone (*Justicia californica*, Zones 5–9, 9–5)
- Blackfoot daisy (*Melampodium leucanthum*, Zones 6–9, 12–2)
- Firecracker penstemon (*Penstemon eatoni*, Zones 4–9, 9–1)
- Mexican oregano (*Poliomintha maderensis*, Zones 9–11, 12–2).
- Autumn sage (*Salvia greggii*, Zones 7–9, 9–4)
- Tetraneuris (*Tetraneuris acaulis*, Zones 3–6, 6–1)

*goes dormant in drought; will revive with water

** self sows

RON MCKITRICK is the first to admit he didn't set out to establish a hardy cacti collection. He and his wife, Jean, simply wanted to find more space for a houseplant collection that was overrunning their living room in Yakima, Washington. There just happened to be a few cacti in the collection.

Ron's solution was to build a 16-by-24-foot greenhouse and move the houseplants into it. "The first winter the only plants that did really well were the cacti. The rest of them suffered because of the low temperatures, even though the greenhouse was heated," he says. "So I got interested in cacti."



That was in 1978.

It wasn't long before chance finds at local stores gave way to boxes of plants ordered from specialty nurseries. He built a second 18-by-32-foot greenhouse in 1981, and it was full by the end of that summer. Since a third greenhouse was out of the question, he tried planting tree chollas (*Cylindropuntia imbricata*) outdoors on a south-facing wall where nothing else would survive Yakima's summer heat.

Not knowing just how hardy tree chollas were, he opted to cover them with a clear plastic tent during the winter. After three years of repeatedly putting the plastic back up after storm damage, he decided to let the plants fend for themselves. Somewhat to his surprise, he discovered they did just fine.

The rest is history. This first outdoor bed was quickly joined by others built around the greenhouses. When McKitrick



BY PAT MUNTS PHOTOGRAPHS BY MARK TURNER

Desert Bloom *in the Northwest*

In Washington State, a garden featuring thousands of hardy cacti surprises many visitors.

ran out of room there, he began removing some of the 200 dwarf apple trees, planted by the previous owner, to build more beds. Today, his Hillside Desert Botanical Gardens features 20 large raised beds on a third of an acre filled with a cactus collection numbering sev-

eral thousand individual plants and representing hundreds of genera.

THE SETTING

To the uninitiated, Washington State may seem like an unlikely location to grow cacti, but it turns out McKitrick's

Above left: Ron and Jean McKitrick in their garden. Above right: Rosy flowers and decorative spines adorn Leding's hedgehog cactus.

garden is in the perfect place to experiment with hardy cactus. The Cascade Mountains effectively block much of the rain and the mild maritime climate of the coast. As a result, Yakima gets an average of only six to eight inches of rain a year, mostly between December and March. It is dry enough that native forms of prickly pear (*Opuntia* spp.) and river cactus (*Pediocactus* spp.) grow among the rocks, sagebrush, and bunchgrasses of the region's shrub-steppe environment.

Yakima is located in USDA Zone 5 to 6 and AHS Heat Zones 3 to 4. Summer temperatures regularly get over 100 degrees and winter temperatures average into the low 20s. Sunlight is abundant and the humidity is relatively low year round.

McKitrick's garden is located on the north-facing slope of Ahtanum Ridge above the Yakima Valley floor. "It's three or four degrees warmer here than it is down another 150 feet (in elevation) in the bottom of the valley," he says. The extra heat helps his cacti bloom two to three weeks ahead of a friend's down in the valley.

Visiting Hillside Gardens

Hillside Desert Botanical Gardens is open to the public from April 1 through September 30 by appointment only. For information about tours, e-mail hillsidecacti@nwinfo.net or visit www.hdbgi.com.

McKitrick has learned to rely on species native to regions north of the border between Mexico and the United States. "It is rare that a plant from Mexico could tolerate our temperature minimums," he says. However, he has also had success with cacti native to southern South America, especially the Patagonia region. "The further from the equator you go, the better the chances that a plant will be winter-hardy in our region," he observes.

SHARING THE WEALTH

McKitrick enjoys sharing his garden and his passion for cacti with others. "Why would you have a garden and then hide

it?" he asks rhetorically. "The more you can get other people excited about it, the more it does for the idea of growing cacti." During the spring flowering season, the garden draws a variety of local and regional community groups to see the plants at peak bloom.

As a member of the Cascade affiliate of the Cactus and Succulent Society of America (CSSA), McKitrick also promotes cacti by sharing his knowledge and plants across the region. In 2007, he helped establish the cacti garden at the King County Master Gardener Demonstration Garden at the El Centro de la Raza Community Center in Seattle's Beacon Hill area. "His generosity to us has just been incredible," says Gene Solyntjes, the Master Gardener who spearheaded the project. This past spring, McKitrick donated plants to a new garden going in at the Point Defiance Zoo in Tacoma, Washington.

"Ron is a real student of the cactus and succulent world—otherwise, he wouldn't be able to do what he does," says Peter Gammarano, a long-time cacti collector



Cacti and succulents of all shapes, sizes, textures, and shades create a three-dimensional effect in the McKitricks' garden

TIPS FOR GROWING HARDY CACTI

Hardy cacti withstand freezing temperatures because they are able to remove water from their fleshy stems prior to the onset of winter. The upright pads of prickly pears (*Opuntia* spp.) wilt flat to the ground, giving the



Beavertail prickly pear cactus

impression they are dead. The round stems of chollas (*Cylindropuntia* spp.), hedgehogs (*Echinocereus* spp.) and river cacti (*Pediocactus* spp.) simply shrivel up.

Keeping cacti dry in wetter climates can be a challenge. In such regions, cacti plantings may need to be located on slopes or mounds so the excess water can drain away. From experience, Ron McKitrick has learned that the true hardiness of individual cactus plants is directly linked to how much rain the plant receives during the winter. The more moisture around the crown of the plant, the greater the chance that low temperatures will prove damaging.

McKitrick recommends covering beds with landscape cloth and then half an inch of gravel to help speed drainage and reduce weed germination. Instead of the sheet plastic McKitrick uses, it may be necessary to erect a clear shelter, open to the air, over the plants. In regions that get lots of winter rainfall, planting in pots that can be moved under cover may be the only way to successfully grow hardy cacti.

—P.M.

and a fellow member of the Cascade CSSA. “He knows all the tricks and is willing to try things. There is a big difference between 33 degrees and 32 degrees, and managing that successfully is what distinguishes someone like Ron from those who are still trying and learning.”

IT'S ALL ABOUT DRAINAGE

Cacti need a very porous soil mix to keep water from collecting around the crown of the plants and rotting them. McKitrick uses a mix of weed-free native soil, coarse sand, and pumice to achieve the proper drainage. Because of Yakima's proximity to the volcanic peaks of the Cascades, pumice is readily available.



To avoid bodily injury, Ron McKitrick uses a shop vacuum to clean up debris among plants.

To contain this relatively heavy mix, he built his beds out of railroad ties. Within the beds, he mounds the soil mix to a depth of about a foot-and-a-half in the center, which further improves drainage.

McKitrick places a basketball-sized rock close to each plant to help shade the soil and provide a water reserve for the plant. The rocks, which he and Jean collect on their trips around the Northwest, also serve as a heat sink that holds heat near the plant on cold nights and helps warm up the soil in the spring.

In the wild, cactus spines protect the plants from marauding animals looking for a drink or food. In the garden, the spines mean that cactus gardeners have to

use unusual methods for maintenance.

Weeding is the biggest issue. “I patrol the garden virtually every morning, and if anything germinated overnight, I pop it out of there,” McKitrick says. “I don't let anything get to the size where it's going to drop seeds.”

He uses an old butcher knife to reach under the spines and cut the roots of any offending weeds. A shop vacuum comes in handy several times a year to suck up stray leaves, spent fruits, and dead branches. The rocks serve as stepping stones to the center of the beds for maintenance.

Moving and handling cacti calls for long-handled tools and sturdy gloves.

Since most cacti are shallow-rooted, a digging fork or shovel easily lifts a plant out of the ground. Barbecue tongs are useful for handling small plants. Very thick leather or rubber-coated gloves are essential to keep from getting spines in your hands.

McKitrick waters his plants about three times during the summer, starting in late May. A 10-second drink for each plant is enough to keep them looking good in the garden setting. Instead of fertilizing his cacti, McKitrick relies on the nutrients available in the amended native soil. “Too much fertilizer makes them grow erratically and unnaturally,” he says. “They can't be pampered, because it affects their winter hardiness.”

RON MCKITRICK'S FAVORITE CACTI

The following plants are a few of Ron McKitrick's favorites. USDA Hardiness Zones are estimates based on the plants not receiving any additional winter protection from moisture. Temperatures are minimums in degrees Fahrenheit the plants have been known to survive, based on the experience of Cactus and Succulent Society of America members.

Green-flowered hedgehog (*Echinocereus viridiflorus*, USDA Zone 6 (-10 degrees))

Among the first to bloom in mid-April in McKitrick's garden, this small, low-growing, clump-former bears chartreuse flowers that have a lemony scent.

King's cup (*Echinocereus triglochidiatus* var. *gonacanthus*, Zone 8 (10 degrees))

This upright cactus develops into large clumps over time. McKitrick's measures five feet across and two-and-a-half feet tall after 15 years. The dark green stems are deeply lobed with clusters of tan spines on the stem ridges. It is a very free, early-season bloomer with flowers in shades of orange to red.

Leding's hedgehog (*Echinocereus ledingii*, Zone 8 (15 degrees))

An open, clumping cactus with pale magenta flowers and densely clustered decorative spines. It grows to one-and-a-half feet tall.

Maihuen (*Maihuenia poeppigii*, Zone 8 (10 degrees))

Native to the windy Patagonia region of South America, this cactus forms a ground-hugging mat of small stems that can reach four inches tall with stars of white spines. Its large, pale yellow blooms open above the stems. It will spread to a diameter of several feet in a few years, making it a great groundcover.

Mohave mound cactus (*Echinocereus polyacanthus*, Zone 8 (10 degrees))

Native to the American Southwest, this beautiful clustering plant has pale pink flowers that bloom profusely. Its upright stems have a similar shape and color to King's cup, but it grows about two feet across and slightly less tall.

Prickly pear cactus (*Opuntia* spp., variably hardy down to Zone 3 (-40 degrees))

Members of this large group of flat-padded, upright cacti can grow between a foot and three feet tall, depending on the species. They bloom in shades of pink, yellow, white, burgundy, and orange.

River cactus (*Pediocactus simpsonii*, Zone 4 (-25 degrees))

These baseball-sized clumping plants feature magenta flowers. Native to the Yakima area, they are the earliest cacti to bloom in McKitrick's garden.

Tree cholla (*Cylindropuntia imbricata*, Zone 4 (-25 degrees))

This freely branching, tree-forming cholla grows to eight feet tall and several feet wide. It bears pale magenta flowers.



Mohave mound cactus



Maihuen



River cactus

WINTER MANAGEMENT

McKitrick prepares his plants for winter by stopping supplemental watering by late September. The plants begin drawing moisture out of their stems and pads, wilting and shriveling up for the winter, which makes them less likely to suffer freeze damage later.

In late October, when the first hard freeze is forecast, he covers his marginally hardy plants with sheets of clear plastic to

keep excess water off and provide some warmth. Winter moisture and humidity levels are low enough in Yakima that moisture build-up under the plastic is usually not a problem. The rest of the plants rely on snow for insulation.

All this protection is no assurance that the marginally hardy plants won't be winter damaged. "There's no guarantee from one year to the next that you won't have damage on the same plant that got through

the winter before," he says. "When I uncover the plastic in the spring, I always find a few that didn't make it or have some damage." Observing which species make it and which ones don't is part of the learning curve for growing hardy cacti.

About the end of March, after the worst of the winter temperatures have passed, he removes the plastic and begins his spring clean-up. The solar effect under the plastic usually guarantees a crop of



The diverse shapes of cacti and succulents such as, clockwise from bottom, kingcup cactus, Utah agave, crested tree cholla, and soapweed yucca create intriguing design options.

weeds that now need to be pulled.

By early April, the cacti begin their bloom cycle. The river cacti (*Pediocactus* spp.) bloom first in pale shades of cream, pink, and magenta followed by the hedgehogs (*Echinocereus* spp.) in reds, pinks, and white. These are followed through June with a progression of different genera in brilliant shades of pink, apricot, white, red, burgundy, and orange. The exact colors range widely because many varieties readily cross pollinate and produce offspring that have flowers in colors very different from the parent plants. “Another reason to grow winter-hardy cacti is that cold weather brings on far more blooms than constant warm temperatures,” notes McKitrick. At the end of the season, cacti fruit replaces the flowers in shades of yellow, red, and purple.

CACTI COMPANIONS

Any garden looks better with some com-

panion plants to add different textures and structure. Among the companion plants McKitrick grows to highlight his cacti is soapweed yucca (*Yucca glauca*, Zone 3, -40 degrees F), which develops a spiky clump of gray green pointed leaves that grow three feet tall and four or more feet across. It makes a nice specimen for background planting.

He also integrates century plant (*Agave neo-mexicana*, which is hardy to Zone 8 with protection (10 degrees F). It forms an upright clump of thick gray-green leaves with black teeth on the edges.

McKitrick uses ground-huggers such as hens-and-chicks (*Sempervivum tectorum*) and white stonecrop (*Sedum album*) liberally to fill in spaces between cacti and add texture and color to his garden. White stonecrop has a white flower in the spring and its foliage turns reddish green in the winter. Both are hardy to Zone 3 (-40 degrees F).

Resources

Cactus & Succulent Society of America, Pahrump, NV. (775) 751-1320. www.cssainc.org.

The Cactus Family by Edward F. Anderson. Timber Press, Portland, Oregon, 2001.

Growing Winter Hardy Cacti in Cold Wet Climate Conditions by John N. Spain (self-published, available through online vendors), 1997.

Sources


High Country Gardens, Santa Fe, NM. (800) 925-9387. www.highcountrygardens.com.

K & L Cactus Nursery, Lone, CA. (209) 274-0360. home.inreach.com/klcactus.

Mesa Garden, Belen, NM. (505) 864-3131. www.mesagarden.com.

PUSHING THE ENVELOPE

According to Jon Rebman, curator of botany for the San Diego Natural History Museum, gardeners in many regions can embrace McKitrick’s garden style. “He’s providing inspiration for people in other cold parts of the United States to widen their plant palette and selection.”

McKitrick is aware his garden is influencing peoples’ perception of cacti. And he continues to try to push the envelope. “For me, the challenge is trying to find new species that are not regarded as winter-hardy and getting them through the winter and into glorious bloom the next year,” he says. As interest in xeric landscaping grows, he hopes what he has learned and shared will find its way into gardens of others who are willing to experiment with these barbed beauties. 

Pat Munts is a freelance garden writer and editor based in Spokane, Washington. She writes for the Spokesman-Review in Spokane and Master Gardener magazine.

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lighting up the summer Shade Garden

BY BARBARA ELLIS



In late summer, variegated toad lily (*Tricyrtis hirta* 'Variegata') and Japanese painted fern intermingle to light up a shady spot at the New York Botanical Garden.

Create a welcoming retreat in the heat of summer by adding plants with brightly colored flowers or foliage to your shade or woodland garden.

IN SPRING, flowers are easy to come by in shade gardens. Not only do hardy bulbs such as daffodils produce drifts of bright color, early blooming wildflowers and many spring-blooming perennials thrive in shade. By midsummer, though, shade gardens typically fade to green and become overlooked.

This is unfortunate, because there's no better place to while away a summer afternoon than in the garden under a canopy of leaves. In my garden on Maryland's Eastern Shore, chairs or benches—along with tables to set a book or a cool glass of iced tea—are always positioned in the shadiest patches where they overlook the rest of the garden.

Shade gardens don't have to turn dark and boring once spring bloomers have faded away. A variety of plants will brighten shady spots and keep them appealing throughout the summer season.

SITE ANALYSIS

Before selecting plants for your shady site, consider two major factors: soil moisture levels and pH. The former will have the biggest impact on plant selection, and if you live in an area that tends to have alkaline soil (including parts of the Southeast and many areas in the West), you will need to take pH into account as well. If you haven't had your soil tested recently, this gives you a good reason to go ahead and do it.

Most of the plants covered in this article grow best in fairly rich, well-drained, acidic



Colorful annuals such as impatiens and begonias, above left, and coleus 'Green Giant', above right, are great for filling in bare spots in shady beds.

to neutral soil that either stays moderately moist year-round or gets regular watering in periods of drought. A few are tolerant of either soggy conditions or fairly dry shade, and I have indicated those as needed.

EASY COLOR FOR SHADE

Annuals and tender perennials lighten up a shade garden from summer right to frost for a minimum of effort and expense.

For sites in full shade, impatiens (*Impatiens walleriana*, USDA Zones 10–11, AHS Zones 12–1) are one of the best bets, because the flowers are held above the foliage and reflect the maximum amount of light. White-flowered and pale pink selections lighten shady spots most effectively, but reds and orange-reds add a shock of color that's otherwise hard to come by in shade. To give the garden maximum texture and interest, interplant impatiens in drifts among perennials such as ferns and hostas that have variegated leaves. Garden balsam (*Impatiens balsamina*, Zones 0–0, 12–1) and wax begonias (*Begonia Semperflorens* group, Zones 11–11, 12–1) also bloom in full shade.

Provided with dappled light or morning sun, a number of other annuals flower all season. These include Madagascar periwinkle (*Catharanthus roseus*, Zones 9–11, 12–1) and four-o'clock (*Mirabilis jalapa*, Zones 10–11, 12–1), both of which grow in average well-drained soil. Browallia (*Browallia speciosa*, Zones 10–11, 8–1) and edging lobelia (*Lobelia erinus*, Zones 10–11, 9–1) also bloom in part shade and

need rich, moist, well-drained soil. White-flowered selections stand out better in the shadows than blue ones. Pink-flowered edging lobelias are also shade standouts.

Shade-loving annuals with colorful foliage are another great choice. Coleus (*Solenostemon scutellarioides*, Zones 11–11, 12–1) tops the list with a variety of shapes and patterns that rival most flowers. My friend Ray Rogers, author of *Coleus: Rainbow Foliage for Containers and Gardens* (Timber Press, 2007), suggests yellow- or chartreuse-colored selections such as 'Dappled Apple', 'Copacetic Yellow', and 'Sunn's Green and Gold'. Other foliage annuals for shade include polka-dot plant (*Hypoestes phyllostachya*, Zones 10–11, 12–4) and variegated plectranthus (*Plectranthus forsteri* 'Marginatus', Zones 10–11, 12–1).

COLOR FROM FOLIAGE

Of the many perennials with stunning foliage that can brighten shady beds and borders, variegated and chartreuse-leaved hostas (*Hosta* spp., Zones 3–8, 9–2) top my list of favorites. All grow in full shade, although leaves color up best when the plants are given part or dappled shade—or, ideally, a spot with morning sun and afternoon shade.

My favorites include giant cultivars such as 'Sagae' (formerly *H. fluctuans* 'Variegata') which has blue-gray leaves edged in yellow, as well as 'Regal Splendor', which features vase-shaped clumps of gray-green leaves edged with creamy white or yellow.

I also love variegated forms of *H. ventricosa*, including 'Aureomarginata' and 'Variegata'. In addition to their green leaves marked with yellow and/or white, they produce tall, exceptionally showy scapes of purple flowers in late summer.

Other hosta standouts include chartreuse-leaved 'Zounds' and 'Sum and Substance', along with white-margined 'Francee', 'Wide Brim', and 'Patriot'. 'Paul's Glory' and 'Gold Standard' feature green-edged leaves with yellow to chartreuse in the center.



Variegated hostas such as 'Ginkgo Craig', foreground, and 'Golden Tiara' offer texture.

For edging shady beds, few plants are better than ‘Golden Tiara’, a medium-sized, vigorous hosta with gold-edged green leaves and showy lavender flowers on upright stalks in summer. Petite hostas such as white-edged ‘Ginkgo Craig’ and chartreuse-and-green ‘Kabitan’ add color and finer texture to hosta plantings.

My friend and fellow garden writer Linda Askey, who lives in Alabama, loves combinations that “rely on foliage and use flowers as accent.” We agree that textural combinations are essential for adding interest to summer shade gardens. “Using chunky hostas with delicate ferns is classic, but there are wonderful intermediate textures to add,” says Askey. She recommends barrenworts (*Epimedium* spp.) for dry shade.

According to Askey, in shade “the effect of plants that feature lime-green and golden foliage is like a streak of sunlight through the tree canopy above. I love all the different species and cultivars of sedges (*Carex* spp.), as well as dwarf sweet flag (*Acorus gramineus* ‘Ogon’, Zones 6–9, 9–5). These add light, color, and with the right combination, drama.” Both sedges and dwarf sweet flag thrive in moist soils and will tolerate seasonally soggy sites.

Askey maintains that the most overlooked plants for lighting up dark areas are groundcovers. “Ajuga, particularly the variegated ones, is delightful,” she says. “I also like creeping Jenny (*Lysimachia nummularia* ‘Aurea’, Zones 4–8, 8–1) and variegated liriopse, which has the added benefit of flowering in August. Planted en masse, they are rather dull, but a clump of golden edged liriopse becomes a vertical form in a composition with a gold/green variegated hosta, southern maidenhair fern (*Adiantum capillus-veneris*), and creeping Jenny.”

Warm-climate gardeners such as Askey can also grow outdoors a plant that I treasure as a houseplant: cast-iron plant (*Aspidistra elatior*, Zones 7–11, 12–4), which makes a fine groundcover for full shade south of USDA Zone 8 in moist, well-drained soil. The leaves burn if exposed to too much sun. The cultivar ‘Variegata’ features yellow-striped green leaves.

Richly colored variegated Hakone grass (*Hakonechloa macra* ‘Aureola’, Zones 5–9, 9–2) is another plant some gardeners grow as a groundcover, although I’ve had



For dramatic color in part shade, few plants surpass variegated Hakone grass, top, and European red elder ‘Sutherland Gold’, above, with delicately filagreed leaves.

better luck keeping this stunning ornamental grass in a large pot. Either way, the plant’s handsome mounds of arching green-and-yellow striped leaves add a splash of sunshine to shady spots in summer, and it combines well with hostas.

Another favorite is Japanese painted fern (*Athyrium niponicum* var. *pictum*, Zones 5–8, 8–1), which features silvery fronds flushed with red. Plants spread nicely to form a broad mound and grow

in part to full shade. They thrive in rich, well-drained soil, and also survive brief dry periods. Another foliage favorite is variegated Solomon’s seal (*Polygonatum odoratum* var. *pluriflorum* ‘Variegatum’, Zones 3–8, 9–1), which bears arching, upright leaves with leaflets edged in white. It, too, prefers part to full shade, although full sun is fine in northern zones. Give plants a site with rich, moist, well-drained soil. Unlike many perenni-

als, this species also features handsome clear yellow fall color.

When adding color to their summer shade garden, Karyn and Nick Bischoff of Stargazer Perennials in Summerville, Oregon, prefer big and bold. A favorite is the European red elder (*Sambucus racemosa* ‘Sutherland Gold’, Zones 3–7, 7–1), a large shrub with “fantastic golden foliage that brings real architecture and contrast” to the summer garden. Plants reach 10 feet in height and spread eight to 10 feet in average to rich, moist soil. If they get too large, prune them back to the base in late winter and new shoots will emerge in spring.

FLOWERING PERENNIALS

Several native wildflowers head the list of useful plants for summer shade gardens. Among the showiest are the cimicifugas or bugbanes (*Cimicifuga* spp., syn. *Actaea* spp.), which produce stately one- to two-foot wands of white flowers in midsummer to fall. Of these, earliest to bloom is black cohosh (*C. racemosa*, Zones 3–8, 8–3), which produces flowers in midsummer atop five-foot-tall mounds of foliage. American bugbane (*C. americana*, Zones 3–8, 8–3), another native, bears its branched flower clusters atop four-foot-tall mounds of foliage from late summer to fall. Autumn snakeroot (*C. simplex*,



Black cohosh’s cream-colored, fragrant flower spikes offer midsummer fireworks.

Zones 4–8, 8–4), native to Russia and the Far East, blooms in fall. All will thrive in moist, rich soil and, for best bloom, a partly shaded spot.

Native asters (*Aster* spp.) and goldenrods (*Solidago* spp.) also contribute cheery flowers to the summer and fall garden. White wood aster (*Aster divaricatus*, Zones 4–8, 8–1) produces an abundance of small white daisies from midsummer to mid-fall. Plants grow in nearly any soil,

thrive in sun or shade, and reach one to two feet in height. They can spread vigorously by rhizomes and self-sowing, so they are best used in spots with poor, dry soil and full shade. Two other fall-blooming, shade-loving native asters to look for are blue wood aster (*A. cordifolius*, Zones 4–8, 8–1) and large-leaved aster (*A. macrophyllus*, Zones 3–8, 8–1).

For delicate-looking, bright yellow late-summer flowers, consider wreath goldenrod (*Solidago caesia*, Zones 4–8, 9–1) and zig-zag goldenrod (*S. flexicaulis*, Zones 3–9, 8–1). Both grow in sun or shade and tolerate moist to dry soil. Wreath goldenrod is a one- to four-foot-tall clumper with arching stems; zigzag goldenrod grows to two feet tall and spreads to three feet or more.

Karyn and Nick Bischoff also suggest goatsbeard (*Aruncus dioicus*, Zones 3–7, 7–1) for midsummer bloom. Native from Siberia to North America, goatsbeard grows four or five feet tall and produces white astilbelike plumes. “*Aruncus* looks great and shines like a lantern when planted behind and blooming above *Ligularia dentata* ‘Othello’,” says Nick.

To keep his late-season shade gardens in New Jersey bright and colorful, Ray Rogers depends on toad lilies (*Tricyrtis* spp.), an often-overlooked genus of sum-

MORE BRIGHT FOLIAGE PLANTS FOR SHADE

Name	Height/Width (feet)	Description and Culture	Origin	USDA, AHS Zones
<i>Carex elata</i> ‘Aurea’ Bowles golden sedge	2/2	Clumping, deciduous species with chartreuse leaves. Moist to wet soil.	Europe	5–8, 8–3
<i>Carex morrowii</i> ‘Variegata’ Variegated Japanese sedge	1/1–2	Clumping, evergreen; leaves variegated with silver. Rich, moist, well-drained soil.	Japan	5–9, 12–1
<i>Carex siderosticha</i> ‘Variegata’	1/1	Rhizomatous, deciduous species. White-striped leaves. ‘Lemon Zest’ has extra-wide yellow to yellow-green leaves. Moist soil.	eastern Asia	6–9, 9–6
<i>Hydrangea quercifolia</i> ‘Little Honey’ Oakleaf hydrangea	4–6/4–6	Bears yellow leaves that turn red in fall. White summer flowers.	southeastern United States	5–9, 9–5
<i>Lamium maculatum</i> ‘Beacon Silver’ and ‘White Nancy’ dead nettle.	1/2–3	These cultivars have silver, green-edged leaves. Dappled or part shade.	Europe, northern Africa	4–8, 8–1
<i>Pulmonaria</i> spp. Lungworts	1–2/2–3	Many hybrids feature green silver-spotted leaves. Part shade with rich, moist soil.	Europe	4–8, 8–1
<i>Tradescantia</i> ‘Sweet Kate’ Spiderwort	1–2/1–2	Violet-blue flowers summer to fall and chartreuse leaves. Light, all-day shade with average soil.	hybrid origin	6–9, 9–5



In late summer to early fall, add color with zigzag goldenrod, above, and 'Little Carlow' blue wood aster, growing with *Clematis viticella* 'Polish Spirit', right.

mer- to fall-blooming perennials. Hardest of these is *T. hirta* (Zones 4–9, 9–6), which blooms in early fall. Plants bear upward-facing, star-shaped flowers that range from white to pinkish purple with reddish-purple spots. For the best effect in shade, look for pure white-flowered *T. hirta* 'Alba'. Give plants rich, moist, well-drained soil and part to full shade. Rogers also recommends yellow wax-bells (*Kirengeshoma palmata*, Zones 5–8, 8–5), which bears pale yellow bell-shaped flowers from late summer to fall.

Hardy begonia (*Begonia grandis* ssp. *evansiana*, Zones 6–9, 9–5) is another late-season stunner for shade. Plants produce arching, two-foot-tall cymes of pink or white flowers in summer. Tiny bulbils that form in the leaf axils can be collected in fall and used to propagate them (sow them like seeds) in early spring.

Aconites or monkshoods (*Aconitum* spp.) are showy perennials that produce their erect clusters of late summer to fall flowers in part shade. Late-blooming selections include *A. ×cammarum* 'Bicolor' (Zones 3–7, 8–3) with violet-blue and white flowers, violet-flowered *A. carmichaelii* (Zones 3–8, 8–3), and wolf's bane (*A. lycoctonum*, Zones 3–8, 8–3), with yellow flowers. All thrive in rich, moist, cool soil. All parts of monkshoods are poisonous, so take care when work-



ing around them and reconsider planting them if children play in your garden.

SHRUBS AND VINES

One of my favorite plants for lighting up the shade is smooth hydrangea (*Hydrangea arborescens*, Zones 4–9, 9–1), especially 'Annabelle', which bears huge corymbs of white flowers in summer. Another hydrangea worth trying is 'Lime-light' (Zones 3–9, 9–4), a cultivar of the paniced hydrangea (*H. paniculata*). Its large flower clusters are creamy white to chartreuse in summer, turning pink in fall.

Vines are also an option, including some of the clematis (*Clematis* spp.) that have late-season flowers. Look for late, large-flowered hybrids such as 'Gravetye Beauty' or 'Betty Corning' as well as late-blooming species such as *C. ×jouiiniana*

Sources

Busse Gardens, Big Lake, MN. (800) 544-3192. www.bussegardens.com.

Digging Dog Nursery, Albion, CA. (707) 937-1130. www.diggingdog.com.

Forestfarm, Williams, OR. (541) 846-7269. www.forestfarm.com.

Klehm's Song Sparrow Farm & Nursery, Avalon, WI. (800) 553-3715. www.songsparrow.com.

Pine Ridge Gardens, London, AR. (479) 293-4359. www.pineridgegardens.com.

Wayside Gardens, Hodges, SC. (800) 845-1124. www.waysidegardens.com.

Resources

The Complete Shade Gardener by George Schenk, Timber Press, Portland, Oregon. 1984 (revised 2002).

Foliage: Astonishing Color and Texture Beyond Flowers by Nancy J. Ondra, Storey Publishing, North Adams, Massachusetts, 2007.

'Praecox' and *C. viticella* (Zones 4–11, 9–1). All need light to part shade. Another outstanding vine for part shade is *Schizophragma hydrangeoides* 'Moonlight' (Zones 6–9, 9–6) which has creamy flowers and silvery foliage that will gleam against the trunk of a tree.

So whether your garden is large or small, there are countless ways you can add sparkle to shade plantings all summer long. The plants listed here are just a starting point; as you visit botanical gardens or the homes of friends, you are bound to spot new favorites and combinations that will work well in your shady site. 🌿

Garden writer Barbara Ellis's most recent book is Covering Ground: Unexpected Ideas for Landscaping with Colorful, Low-Maintenance Ground Covers (Storey, 2008).

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Roger Doiron: Kitchen Gardening for a Better Future

by Mary Yee

IN THIS election year, the presidential candidates have been busy campaigning on myriad issues of importance to the American people. One issue that Roger Doiron would like them to address hasn't made it into any speeches: He would like the next president to turn the White House lawn into the country's most high-profile food garden. This idea, which he recently posted on a politically-oriented website, has received much favorable reader response, but no bite yet from politicians. A self-described optimist, Doiron remains hopeful.



Politics and gardening are rarely joined in conversation, but Doiron, a 41-year-old environmental advocate and founder of Kitchen Gardeners International (KGI), a non-profit web-based community for promoting home food gardening, believes that backyard food production has positive ramifications beyond fresher, healthier meals—he sees it as a way to save money and take care of the planet. He says last year, at his home in Scarborough, Maine, he turned \$85 worth of vegetable seeds into half a year's supply of produce for his family of five—and no fossil fuel was used to transport this food to the table.

According to Doiron, not enough Americans actively participate in the food process, and he is on a mission to change that. Mary Yee, managing editor and art director for *The American Gardener*, talked to Doiron about the power of the home garden to help solve global problems and ways everyone can participate in this movement.

Mary Yee: What inspired you to found KGI in late 2003?

Roger Doiron: The idea began when I was living in Belgium, where I worked for 10 years for a global environmental group. There I saw people making the connection between food and the environment, and I felt there was a need for a new group that would encourage people to make this connection in as direct and personal a way as possible. What better way than through growing and preparing some of one's own food?

KGI has grown into a network of 6,000 gardeners from 100 countries. What does this tell you about the level of interest in food gardening today?

Well, clearly, that it's growing and expand-

ing from its original core of gardening enthusiasts into a larger social movement. It's fun seeing the diversity of people who are taking up kitchen gardening—young people fresh out of college who see it as the most environmentally responsible form of food production, parents who are concerned about what their young children are eating, seniors who see it as a way of staying physically active, city dwellers who are looking to connect with the earth and their community members.

What differences do you see between the European and American approaches to food and gardening?

I think we've lost touch with the culture of food. In the U.S., we tend to think of food as a *product*, but in Europe, people see

food as a *process*. Many Americans in recent generations have asked themselves, "If I can get my food in other ways, why should I garden?" Europeans, however, ask, "If I can have the freshest, tastiest, and most economical foods by growing some of them myself, why do anything else?"

There are a lot of forces that have contributed to the decline of home gardening in the U.S., but the convenience factor is one of the most important. We're rich in money and "stuff" but poor in time and therefore always looking for shortcuts.

You've offered two ideas for helping get more Americans involved in food gardening: The "Eat the View" proposal calls for the White House lawn to be turned into a vegetable garden. You also

suggest that tax breaks be given to people who grow their own food. What's behind these ideas?

As I wrote when I posted the idea of planting a food garden on the White House lawn, the White House is "America's House" and should set an example.

The idea of a tax break for gardeners originated from my own annual income tax filing ritual. Since I work from home, I can claim a tax credit for the amount of space I use for income generation. This got me thinking: Why shouldn't we also get a tax break for the part of our yards used for food generation? The government offers tax credits to people for putting solar pan-

nels in the forms of gas and oil-derived fertilizers and pesticides—to produce 1 calorie of food energy.

Many reputable geologists feel that we're fast approaching "peak oil"—that point in time when we've pumped out more oil than remains in the earth. Although it's only possible to know that with certainty in retrospect, rising global oil prices suggest that demand is outstripping supply—and as oil prices rise, food prices rise with them.

All of our oil won't suddenly run out, of course, but the stuff that's cheap and easy to get will, and we need to be planning for what comes after oil is depleted.

For more information about Kitchen Gardeners International, visit www.kitchengardeners.org.

such an educational opportunity.

We leave it up to our supporters to decide how they want to recognize the day. The tradition in my neighborhood is to organize a walking tour of three to four gardens—including a school garden—followed by a community potluck meal.

What advice do you have for novice gardeners who would like to begin a food garden?

Start small, grow what you enjoy, and build on your successes. I also recommend finding a garden mentor in your community, but if that's not possible, there are lots of good garden books for guides.

How can people without gardens get involved in the local food movement?

Fortunately, there are more and more options. I was in New York City last year for a garden celebration and was excited to hear New Yorkers tell me about their community, rooftop, and balcony gardens. It's amazing to see how much food can be produced in a little space, even in containers.

For people with no space at all, farmers markets and Community Supported Agriculture farms—CSAs—offer excellent opportunities for getting locally grown food.

One of the oft-heard criticisms of food gardens in suburbia is that they don't look good. Are aesthetics important?

Aesthetics matter a great deal. A garden, whether it's ornamental, edible, or a mixture of the two, should be an inviting space. In our garden, we have an appealing mix of mature trees, shrubs, flower beds, and beds for edibles, including a brand new one smack dab in the middle of our front lawn. Since putting it in, we've had nothing but praise from our neighbors, including from one who asked if we could help her do the same thing in her yard.

Suburbia is changing, and so is the suburban aesthetic. In the future, beauty and utility won't be seen as mutually exclusive gardening goals, but as part of the same continuum.

Mary Yee is managing editor and art director of The American Gardener.



Roger Doiron recently installed this new vegetable bed in his suburban front yard.

els on their houses and hybrid vehicles in their garages, so why not offer incentives for growing our own food?

There's been great support in the gardening community for both ideas. The more people that push for these ideas, the more politicians will need to listen.

You've written about home gardening as a solution to the problem of rising oil prices and our dependence on it. Could you explain the connection between oil and our food?

The short answer is that in our current highly-industrialized food system, it takes 10 calories of fossil fuel energy—in

I see organic gardens playing a huge role in feeding a post-oil world.

KGI has designated the fourth Sunday each August (August 24 this year) as Kitchen Garden Day. What do you suggest people do that day?

Creating a culture of gardens and gardeners requires that we bring people together at the local level to teach one another. In the past, people learned to grow and cook foods primarily through family members, but with gardening's decline over the past 50 years, that educational structure has been weakened. Kitchen Garden Day is meant to offer

Understanding Slugs is Key to Control

by Kathryn Lund Johnson

LIKE SNAILS, LIMPETS, whelks, and conchs, slugs are gastropods—the largest class of mollusks. Some 500 million years ago, virtually all gastropods were gilled marine creatures. By the Mesozoic era, 248 million years ago, many had acquired terrestrial adaptations such as lungs. Although slugs do not have the snails’ protective coiled shell, some slug species do have platelike or chalky remnants within their bodies—vestiges of the shells they sported centuries ago.

SLUG ANATOMY

Gastropod means “stomach-foot”—an odd yet apt moniker, since the slug’s mouth faces downward in the front part of its muscular foot. The chewing mechanism is a rasplike instrument called a radula, which contains upwards of 27,000 tiny teeth that shred food. James W. Atkinson, a professor of zoology at Michigan State University in East Lansing, explains, “The radula is a species-specific structure; that is, each slug species has its own characteristic number and shape of teeth.”

Two pairs of tentacles and a bundle of nervous tissue are located in the slug’s head. The tips of the upper pair of tentacles contain simple eyes that cannot see color or details, but can distinguish light from dark; the lower tentacles accommodate taste. Both sets have olfactory sensory pads at the tips. According to Atkinson, some studies indicate that the upper, or “optic,” tentacles are used for distance smell and the lower tentacles for close up smell, including slime trail detection.

LOCOMOTION AND REPRODUCTION

Slug locomotion occurs through a remarkably elaborate process of contraction and relaxation of muscle fibers in the foot. Lubricating the slug on its way are copious amounts of mucus secreted by glands in the foot. Mucus helps the slug glide along, leaving the familiar slime trail in its wake. Atkinson describes locomotion mucus as “complex stuff, changing consistency depending on the amount of pressure put on it by the snail’s foot—sometimes providing traction, sometimes lubrication.” The slime trails contain pheromones and other



The European black slug is a common pest in North American gardens.

chemicals that help slugs locate each other for mating purposes, assist them in finding their way home, and possibly alert one another to the presence of predators.

The majority of gastropods have male and female reproductive structures on separate animals, but most slugs are hermaphroditic—having both male and female parts. It is physically possible for a slug to mate with itself, but this generally occurs only if another slug of the same species is not available.

The reproductive cycle begins with hours of contact prior to copulation. Mating culminates when each of the two slugs gives and receives sperm.

Eggs number from three to 50, depending on the species, and are deposited in crevices beneath rotting material and in

other moist, shady locations. Tiny hatchlings appear in three to eight weeks and mature to adulthood within a few months.

TROUBLESOME NON-NATIVE SPECIES

Our native slugs are not garden pests. They are important members of the soil food web, abiding in our forests, fields, and wetlands. They consume decaying material, fertilize the soil with their rich wastes, and disperse seeds and spores. Several non-native slugs, however, including the great gray garden slug (*Limax maximus*), greenhouse slug (*Milax gagates*), milky slug (*Deroceras reticulatum*), and European black slug (*Arion ater*) are common garden pests.

Some plants, including violas, bleeding hearts (*Dicentra* spp.), phlox, impatiens,



Slugs are partial to hostas, especially those with green and variegated foliage.

coral bells (*Heuchera* spp.), and rhododendrons, are less appealing to slugs; others—lettuce, strawberries, tuberous begonias, and primroses—are among their favorites. As for hostas, Bill Symondson of the Cardiff School of Biosciences at the University of Wales in Cardiff, notes that colors of the popular plants are factors in slug-resistance. “I am not alone in observing that green, and especially, variegated hostas are more appealing to slugs than are the blue varieties,” he says.

CULTURAL DETERRENENTS

Since slugs require moist, shady environments, remove debris under which slugs can hide. When mulching, avoid using large chips and do not exceed three inches in depth. Water your garden early in the day so dampness is gone by nighttime, when slugs are on the move. Ensure adequate ventilation in the garden by spacing plants appropriately, removing lower plant leaves, and staking tall plants. Grow lettuce and beans, plants that slugs find very tasty, as trap crops to entice slugs away from other plants.

Encourage slug predators such as ground beetles, rove beetles, firefly larvae, snakes, turtles, frogs, salamanders, birds, and small mammals. Mulching helps build up populations of the beneficial beetles. Invite birds and additional predators by creating ponds and providing protective and berry-rich shrubs.

MECHANICAL CONTROLS AND BARRIERS

Handpicking also helps control slugs. Night is a good time for a slug hunt, and

Resources

Slug Anatomy 101, oregonstate.edu/dept/nurspest/slug_anatomy.htm.

Snails and Slugs: Management Guidelines, www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7427.html.

a headlamp is helpful. Use forceps or garden gloves since the mucus is difficult to wash off. If the mucus does get on your hands, rub them with a towel before washing, or roll the mucus off as you would rubber cement. Drop collected slugs into a jar of soapy water.

Slugs can be trapped under newspapers or boards. Check under them periodically and dispose of the slugs you find. Beer traps will also snare the pests. Bury a shallow pan with the rim just above ground surface, pour in beer plus a little baker’s yeast. Slugs, attracted by the odor of fermentation, will climb into the liquid and drown. Empty the traps regularly.



A strip of copper edging in this flower bed serves as a barrier for slugs.

Rough-topped edging, lava rock, and copper bands will deter slugs. Of these approaches, the copper bands are the most expensive, but possibly most effective. Place the band, no less than three inches wide, around slug-susceptible plants, with the top bent outward. Copper is toxic to slugs; the mucus on a slug’s foot interacts with the copper, so the animal avoids it.

Diatomaceous earth, created from the exoskeletons of ancient aquatic algae, is often suggested as an abrasive and caustic barrier, but it is most effective in dry conditions, not in the damp nooks where slugs reside. If inhaled, diatomaceous earth is toxic to animals, including humans, so it should be used with extreme caution.

USE CHEMICALS AS LAST RESORT

Until a few years ago, most chemical slug control products contained active ingredients such as metaldehyde and carbamate that are toxic to a wide range of animals, including people.

Newer products based on less-toxic active ingredients such as iron phosphate, are now available. Tests have shown these to be just as effective as the older, more toxic chemicals, so if you are unable to remedy your slug problem with earth- and animal-friendly cultural or mechanical methods, you may want to try one of these.

“Iron phosphate is a relatively reasonable way to try to control pest slugs. It is, however, easily washed away, necessitating frequent re-applications,” says Atkinson. Among the products using iron phosphate are Sluggo, Slug Magic, and Escar-Go!

HELP FROM NEMATODES

A biological approach to slug control may one day be available to American gardeners. The larva of a parasitic nematode, (*Phasmarhabditis hermaphrodita*), currently available only in Europe, enters the slug and releases a bacterium. In the United States, Parwinder Grewal, an entomologist with Ohio State University’s Ohio Agricultural Research and Development Center, is carrying out studies to determine if one of our native North American nematode species might already be contributing to the control of slug populations.

However you view these creatures, they are part of the garden ecosystem. This is why using cultural methods rather than chemical ones is more beneficial to you as well as wildlife as you slug it out.

Based in Middleville, Michigan, Kathryn Lund Johnson enjoys delving into the links between nature and gardens.

Horticultural News and Research Important to American Gardeners

EPA RECALL FOR MISLABELED SCOTTS MIRACLE-GRO PRODUCTS

In April, the Environmental Protection Agency (EPA) barred several unregistered or improperly labeled pesticide and herbicide products sold by Scotts Miracle-Gro. The labels on some of the products indicated, incorrectly, that they had been registered. According to regulation, in



One of the Scotts products being recalled by the Environmental Protection Agency.

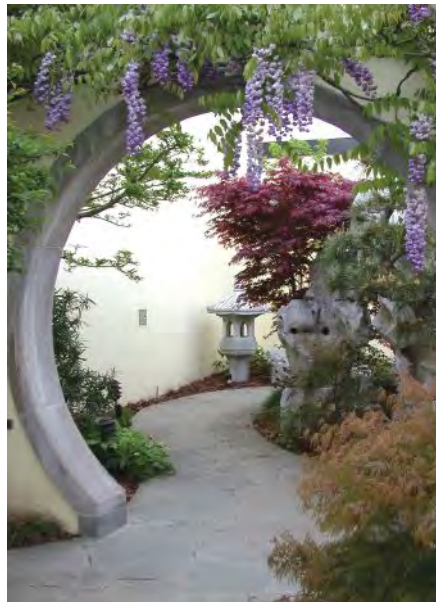
order for a product to be purchased by consumers, it must be tested and registered with the EPA. In response, the chairman of Scotts, Jim Hagedorn, says the company recently learned that a now-terminated employee had “deliberately circumvented company policies, caused invalid product registration forms to be submitted to Federal and state regulators, and then hid those actions from co-workers and managers.”

In compliance with the EPA’s recall, Scotts has posted instructions on its website for consumers who may have purchased any of the following products: Miracle-Gro Shake ‘n Feed Plus Weed Preventer; Scotts Bonus S Max Southern Weed & Feed And Fire Ant Killer; Scotts Turf Builder Max Plus 2 Weed & Feed and Crabgrass Preventer; and Scotts LawnService Fertilizer with .28 Halts.

Consumers are advised to send these products back to Scotts. According to the EPA, these products pose no more risks to consumers than similar products on the market. For more information on the recall, consult the Scotts website (www.scotts.com) or call (888) 295-0671.

NATIONAL ARBORETUM BUDGET FACES CUTS

Public programming at the United States National Arboretum in Washington, D.C., faces a more than \$2 million funding cut in the proposed 2009 Federal budget. The money is slated to come directly from the Gardens Unit and Education and Visitors Services Unit, whose combined operating budget totals approximately \$3 million.



Budget cuts may affect the Arboretum’s National Bonsai and Penjing Museum.

According to the Friends of the National Arboretum (FONA), a volunteer organization that supports the arboretum, consequences of the cuts are likely to include “deep and massive staff layoffs, abandonment or extreme neglect of many of the plant collections and garden

displays, and even, possibly, a failure to maintain the original national Capitol Columns which were relocated to the grounds of the National Arboretum and represent a vital part of American history.” Part or all of the National Bonsai and Penjing Museum may be closed to the public, as well. In addition, without the support of the Federal government, other funding may be lost, simply because so many cost-sharing trusts and endowments require matching funding for public outreach. What may result is a closing of doors of this green space to the public.

The National Arboretum was established in 1927 with a mission to “serve the public need for scientific research, education, and gardens that conserve and showcase plants to enhance the environment.” Scientific research will continue as a priority of the arboretum.

FONA is collecting names for an online petition to Congress that argues against the proposed cuts. FONA encourages people to contact their Congressional representatives and/or sign the petition in support of the arboretum. Visit www.fona.org or call (202) 544-8733 for more information.

GRANT TO FUND NEW NATIVE PLANT GARDEN

The New York Botanical Garden (NYBG) will create a three-and-a-half-acre Native Plant Garden thanks to a \$15 million grant awarded in May by the Leon Levy Foundation. A living laboratory for study and display of plants native to the Northeast, the garden will be part of a larger 250-acre project at NYBG and will increase visitor exposure to the interplay between plants and other organisms in a native ecosystem. The garden will be located in the center of the Bronx public garden, next to the Rock Garden and large native forest.

According to Todd Forrest, NYBG vice president of horticulture and living



A conceptual drawing offers a glimpse of NYBG's planned Native Plant Garden.

collections, the new Native Plant Garden is scheduled to open in May 2012. Construction is planned to begin in early 2010. Shelby White, who is vice chair of the NYBG board of directors and wife of the late Leon Levy, played a key role in securing funds for the native garden. For more information on NYBG, visit www.nybg.org or call (718) 817-8700.

POLLUTION AND POLLINATION DON'T MIX

A new study at the University of Virginia, published in the March 2008 issue of the online journal *Atmospheric Environment* and funded by the National Science Foundation, has found that air pollution can have a detrimental effect on the scent of flowers. The study used a mathematical model of how flower scent

travels in the wind and analyzed how pollutants such as ozone, hydroxyl, and nitrate radicals in the air destroyed those molecules of scent.

The scientists measured scent levels and the distances they traveled under certain conditions. The scents traveling through polluted air were altered and therefore destroyed. "The scent molecules produced by flowers in a less polluted environment, such as in the 1800s, could travel for roughly 1,000 to 1,200 meters [3,300 to 4,000 feet]; but in today's polluted environment downwind of major cities, they may travel only 200 to 300 meters [650 to 980 feet]," says Jose D. Fuentes, a professor of environmental sciences at the University of Virginia



Butterflies such as this monarch use scent to locate nectar-rich flowers.

and co-author of the study. This finding could partially explain why pollinators dependent on using scent as a way to find nectar are declining.

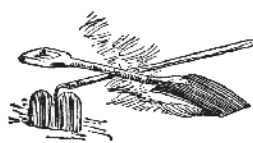
"We find that pollination, attraction of natural enemies of plant pests, aggregation pheromones, and mate attraction are likely to be affected," says Fuentes. "New research should investigate whether air pollution deleteriously affects populations of organisms that rely on scent trails."

PLANT CONSERVATION AND CLIMATE CHANGE

In May, the Botanic Gardens Conservation International (BGCI), the world's largest plant conservation network, published a report titled "Plants and Climate Change: Which Future?" that compiles existing research on the effects of climate change on plants. While it is clear that changing environmental conditions affect plants, especially crop species, the report



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PEOPLE and PLACES in the NEWS

Heronswood Preservation Uncertain

In June, a non-profit group investigating the purchase and preservation of the original Heronswood nursery and garden site in Kingston, Washington, announced it was abandoning its attempt to acquire the property. In announcing its deci-



The Chanterelle fountain at Heronswood in Kingston, Washington

sion, the Pacific Northwest Horticultural Conservancy (PNHC) cited the limiting factors as insufficient funding and waning community support. The group indicated fundraising efforts also may have been affected by the difficult economic climate.

Heronswood was a five-acre retail nursery and internationally renowned showcase garden founded by plantsman Dan Hinkley and architect Robert Jones. The nursery was purchased in 2000 by the W. Atlee Burpee & Company, but maintained its original independent status and staff. In 2006, Burpee abruptly fired the Kingston staff, moved the Heronswood nursery stock to Pennsylvania, and announced plans to sell off the original property to developers. In order to counter this plan, the PNHC was created with the goal of preserving the grounds and extensive plant collection.

“This group of amazing women and men,” Hinkley says of PNHC, “worked diligently and selflessly on behalf of the preservation of Heronswood for two years with undying spirit and determination in spite of extremely long odds at success.”

George Ball, owner of Burpee and Heronswood, says he is “personally committed to trying to find a buyer who will maintain the magnificent Heronswood Gardens, one of the region’s greatest works of art, as I have been since moving the Heronswood nursery fulfillment operations to Pennsylvania.”

For more about the history of Heronswood and the PNHC, visit www.pnhc.org.

Garden Club of America 2008 Medalists

The Garden Club of America (GCA) awarded 10 medals at its convention in May, one of which went to American Horticultural Society Board member Steve Still for his outstanding service to horticulture. For more than 30 years, Still was a horticulture professor at Kansas State University and Ohio State University, and he is the author of the *Manual of Herbaceous Ornamental Plants* (Stipes, 1994). He is also the founder and executive director of the Perennial Plant Association, a trade organization dedicated to “improving the perennial plant industry by providing education to enhance the production, promotion, and utilization of perennial plants.”



Steven Still

Other medal winners include writer and activist Wendell E. Berry for his outstanding achievements in environmental protection; garden writer Tovah Martin for outstanding literary achievement; and Kathryn Kennedy for her distinguished service to conservation as executive director of the Center for Plant Conservation.

Nominations for this prestigious award are due February 1 each year. For more information about the medal winners, contact the GCA at (212) 753-8287.

concluded that further data are needed on what exactly these impacts might mean for humans and all life that depends on plants. In particular, more research is needed on “how future climate conditions will impact the most vulnerable species so that current and future management actions can be most effectively targeted.”

As a result, BGCI is proposing a “groundbreaking international scientific effort” to study the plants and climate change issue. From this data, the organization aims to create an early warning sys-

tem that “could be used by agronomists to plan which species are most likely to be suited in areas most affected by climate change.” Additionally, this system could help to focus conservation efforts on wild plant populations “that may result in the saving of the next most important medicinal drug, or a species that holds the key to breeding improved food crops.”

To follow the progress of this project or learn more about BGCI’s programs, visit www.bgci.org. A full copy of the original report is also available on the website.

WHAT’S IN A NAME?

Since the Swedish botanist Carolus Linnaeus created a system for binomial nomenclature more than 250 years ago, much has changed in the realm of identifying and properly naming the vast array of living things on earth. Breeders create new crosses, scientists discover new species, living things mutate and evolve.

The naming of plants in particular is a dynamic process, so a new organization was launched last October to address the issue. The International Association for

Cultivated Plant Taxonomy (IACPT) will foster international cooperation in the science of naming plants by sponsoring symposia, publishing a journal, and developing databases and online resources.

“With so much in flux right now, and with whole naming systems competing for adoption by various registrars,” says John Friel of Yoder Brothers nursery, who often lectures on plant taxonomy, “the question is whether a new organization can accomplish the noble goal of bringing some semblance of order to the chaos, or simply become another layer of confusion confounding the non-academic’s attempts to use currently-accepted nomenclature.”

For those interested in more information or membership in the IACPT, visit www.iacpt.net.

PLANTS INCREASE WORKPLACE SATISFACTION

Increasing your job satisfaction could be as simple as placing a few plants around the office, according to a new study published



A recent study reinforces plants' role in contributing to workplace satisfaction.

in the February 2008 issue of the journal *HortScience*. The researchers surveyed approximately 450 people in the Midwest and Texas about “environmental preferences, elements of job satisfaction, overall life quality, physical workplace, and demographics,” then compared the results of those in offices with live plants or windows with a view of plants to offices without. They found that plants made a noticeably

positive difference—especially for men—regardless of salary, position, or other working conditions.

“This study reinforces other studies, which have indicated that adding live greenery and plants absolutely has a positive effect on the employees and overall working environment,” says MJ Gilhooley of Green Plants for Green Buildings (GPGB), an organization that advocates for the inclusion of plants in the work environment. GPGB is “dedicated to collecting this kind

of research in order to communicate to the decision makers for indoor work environments that this measured effect can no longer be ignored if they are to have more effective workers as well as efficient building structures,” Gilhooley adds.

For tips and resources for “Giving Plants a Chance” in your workplace, visit the GPGB website at www.greenplantsforgreenbuildings.org.

Written by Associate Editor Viveka Neveln and Editorial Intern Kirsten Winters.

KIRSTEN WINTERS



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Environmentally-Friendly Mowers

by Rita Pelczar



SINCE THE middle of the 18th century, when formal lawns first became fashionable in France and England, maintaining a manicured lawn has occupied a great deal of time and energy. Initially, grazing animals helped with large areas; scythes, sickles, grass shears—and considerable effort—were employed elsewhere.

A tool specifically engineered for mowing lawns was invented and patented by Edwin Beard Budding of Gloucestershire, England, in 1830. The design for this first lawn mower was based on a tool used to cut the nap of carpet to an even length. Since then, new designs, materials, and technologies have enhanced the arsenal of tools available to keep your turf in line.

THE INCREDIBLE SHRINKING LAWN

Although the average size of a new house has grown significantly in the past 25 years, lawns are shrinking. The National Association of Home Builders (NAHB) reports that the average lot size for a new home dropped from 10,000 square feet in 1990 to 8,500 square feet in 2006. Another trend re-

ported by NAHB is the inclusion of more landscaping features—decks, patios, pools, gazebos—which often reduce the lawn to little more than a series of paths.

While gasoline-powered mowers may still be the most practical choice for large expanses of turf, there are some very good alternatives for today's smaller lawns.

To better assess the merits of non-gasoline powered mowers, we asked our readers who have used them to share their experiences. We received quite a few responses—excerpts of some are included in this article.

REEL MOWERS

Today's reel mowers are based on Budding's 1830s design, although lighter,

stronger materials and improved engineering have made them more efficient and easier to use. Depending on the model, three to seven blades rotate around a cylinder and pass over the “bed knife”—a stationary blade at the base of the mower—to cut grass blades like scissors. This can provide an extremely clean cut.

Although golf courses and highway departments often use reel mowers that are pulled behind a tractor, most sold for home use are manual. That means no emissions, no gasoline to store—or spill—and no engine noise.

Brill manufactures what some consider the Mercedes of reel mowers. I have used its **Razorcut 38**; it performs superbly on level ground and, weighing only 17 pounds, it is easy to maneuver. It has five welded steel blades and a mowing width of 15 inches. The non-contact blades reportedly need sharpening only after five to eight years. My only complaint with the Brill is its limited mowing height: it is adjustable, but only within 0.7 and 1.8 inches, which is a bit short for my fescue. The **Sunlawn LMM-40** has a 16-inch cutting width, weighs just under 20 pounds, and



The Neuton mower, above, and the Brill Razorcut reel mower, right, cut grass without gasoline.

can be adjusted to mow between 0.4 and 2.2 inches. Two larger models, **Scotts Classic** and **Lee Valley 20-inch**, weigh 30 and 34 pounds respectively; both have 20-inch mowing widths and a three-inch maximum mowing height.

Lee Cassin of Aspen, Colorado, loves his Scotts reel mower, which he has used for more than 10 years. "I'm not contributing to global warming or causing air pollution, and I'm keeping myself in shape," he says. "It's also nice that it's not loud like gasoline-powered mowers."

"A push mower provides great exercise," says Shelley Cohen of Washington, D.C. She concedes that it "requires some effort, especially with turning, so it is not for someone who appreciates the ease of a conventional mower. It also takes more time to get the full lawn mowed."



Sunlawn reel mower

Brill also makes a battery-powered reel mower called the **Accumower 380**, and Sunlawn has a similar model, the **EM-2**; both are a bit pricier than manual reel mowers. David Temple, founder of People Powered Machines, a company located in Ipswich, Massachusetts, that specializes in reel and electric mowers, says that Brill's manual Razorcut or battery-powered Accumower are both "fine for lawns of 8,000 square feet, but if you want to use the Accu for cutting this size lawn, you would want a second battery."

Most reel mowers do not do a very good job on zoysia, Bermuda, or evergreen St. Augustine grass. However **Sunlawn's LMM-40 Push Reel Mower** and **EM-2** are recommended by the manufacturer for all North American lawn types. Also, reel mowers are difficult to use when the grass gets too tall. Temple suggests that if you are transitioning to a reel mower and your

SMALL ENGINE EMISSIONS

The good news about gasoline-powered lawn mowers is that they produce significantly less exhaust emissions than they did 15 years ago, a trend that should continue with the adoption of increasingly tough emissions standards for small engines. The bad news is that in 2007, the Environmental Protection Agency estimated that hour for hour, an average walk behind gasoline-powered mower still produces as much emissions as 11 cars; hourly emissions from a riding mower jump to as much as 34 cars. The evaporation and spillage of gasoline during fueling is another significant source of air and ground pollution attributed to the use of gasoline-powered mowers.

grass is high, you'd be wise to borrow a neighbor's electric mower for the first cut. After that, mow frequently, before grass length exceeds four inches (for more mowing tips, see the web special linked to this article at www.ahs.org).

Bob Potts of Alexandria, Virginia, offers a word of caution regarding reel mowers. "If you have a normal lawn, not a perfect lawn, with some weeds, and uneven surfaces, the push mowers do not do a very good job. Instead of cutting through weeds, the mower just pushes them down." The bottom line: if you have a relatively small, level lawn, you appreciate outdoor exercise, and can mow often, a reel mower is worth considering.

ROTARY MOWERS

The blade of a rotary mower spins horizontally to the ground at high speeds, cutting the grass as it passes over. Most rotary mowers are gasoline-powered, but electric mowers are gaining popularity. Electric rotary mowers are relatively lightweight, quiet, require no gasoline, oil, or spark plugs, are easy to start, and produce almost no emissions. Some come with a grass-catching attachment, some are equipped with mulching blades that cut the grass into small pieces.

The downside of the plug-in electric mowers is that you must always be conscious of the cord's whereabouts—if you aren't careful, you can run over it and sever your power connection.

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13 HYDROPONICS	19 PROPAGATION	23 INTERIORS CAPING
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Battery-powered mowers are not limited by access to a power outlet. But they are somewhat heavier and more expensive than plug-in electric mowers, and they only run as long as the battery holds its charge. The length of time the batteries remain charged—the run time—for most cordless electric mowers ranges from 45 minutes to a little over an hour. And that varies depending on the length and thickness of your grass, whether or not it is wet, and the roughness of your terrain. Some mowers have removable batteries, so a spare, charged battery can be inserted if you need more time to finish the job.

The batteries need to be replaced every few years. Since mowers use sealed, lead acid batteries, be sure to return old batteries to the retailer—some home improvement stores offer battery recycling—or your local recycling center for proper disposal.

Consumer Reports lawn and garden product reviewer Peter Sawchuck prefers the electric mowers—either corded or cordless—to the manual reel mowers, and advocates using them for smaller urban lawns. “They give a nicer cut,” he says, “and you can keep the grass at the height you want.” Sawchuck considers Black & Decker electric mowers the best of the lot—both their corded and cordless models—although **American Lawn Mower’s Earthwise** models and **Sears Craftsman** models are not too far behind.

When Lorrie Siftar and her husband lived in an urban area about 10 years ago, they bought a Black & Decker corded electric mower. “It was about the same price as the very cheapest gas mower,” recalls Siftar, now in Bethlehem, Pennsylvania. “It always started, had absolutely no maintenance requirements, my husband could carry it down the cellar steps to store it, it never leaked any fluids, and we did not have to buy or store gas. His only complaint was having to keep the cord out of his way while mowing.”

Bob Kelly of Trenton, Michigan, recently purchased a second Black & Decker electric mower when his first one—“a fine machine with many years of service”—needed replacement. “I like not having to worry about the maintenance, gas, and the like. Cleaning is easy, set up likewise, plug it in and go,” says Kelly. “It is a clean and quiet system.”

Sources

American Lawn Mower Co. (800) 633-1501. www.reelin.com.

Black & Decker. (800) 544-6986. www.blackanddecker.com.

Clean Air Gardening. (214) 370-0530. www.cleanairgardening.com.

Environmental Elements, LLC. (888) 326-6693. www.ecomowers.com.

Freepower Systems. (303) 651-3184. www.freepowersys.com.

Gardener’s Supply. (888) 833-1412. www.gardeners.com.

Lee Valley Garden Tools. (613) 596-0350. www.leevalley.com.

Neuton Cordless Electric Mower. (800) 687-6575. www.myneuton.com.

People Powered Machines. www.peoplepoweredmachines.com.

Sunlawn. (970) 493-5284. www.sunlawn.com.

Black & Decker’s CMM1200 is a powerful cordless mulching mower that is recommended for flat lawns up to one-third acre in size. It has a 19-inch mowing width and its mowing height is adjustable between 1.5 and 3.5 inches. It comes with both a mulching plate and a rear grass catcher. It has a folding handle and can be stored in an upright position



The Black & Decker CMM1200 cordless electric mower also mulches.

minimizing necessary storage space; its battery is not removable.

The Neuton mower from Country Home Products is another popular battery-powered model. The **Neuton CE 5.2** has a cutting width of 14 inches, a maximum mowing height of three inches, and is recommended for mowing lawns up to a quarter acre with a single

charge. “We have used a Neuton mower for several years now,” says Frances Mahncke of Washington, D.C. “It mows our small city lawn quite effectively in one charge.” This year Neuton has added a larger model, the **CE 6.2**; it has a 19-inch mowing width, and the battery should be sufficient to mow up to a third acre. To extend running time, the battery can be replaced with a fresh one.

Freepower Systems, a company located in Longmont, Colorado, that manufactures solar-powered lawn-and-garden equipment, offers a solar-powered lawn mower called the **Sun Whisperer**. It has a 19-inch mowing width and its photo voltaic panels can either be attached to the mower or placed on your garage roof so you can recharge the mower indoors. Although it costs more than most electric mowers, its power is free!

WEIGHING YOUR OPTIONS

The manual and electric mowers available today make a lot of sense for small- to medium-sized, relatively flat lawns. Reel mowers perform best on flat lawns with few weeds; battery-powered and corded mowers are less particular. All of these require frequent use when grass is actively growing.

If your lawn seems to fit the profile and you enjoy outdoor exercise, consider one of these quiet and clean machines that will keep your lawn in shape and your carbon footprint small.

Rita Pelczar is a contributing editor for The American Gardener.

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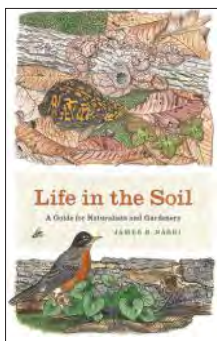
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Recommendations for Your Gardening Library

Life in the Soil: A Guide for Naturalists and Gardeners

James B. Nardi. University of Chicago Press, Chicago, Illinois, 2007. 293 pages. Publisher's price, softcover: \$25.

BIRDERS HAVE LOTS of identification books, so do lovers of butterflies, mammals, amphibians, and reptiles, but where is the guide to help gardeners identify what is in their soil? Finally, we have one, thanks to James Nardi, a biologist at the University of Illinois. Every gardener will surely find *Life in the Soil* a much needed and very valuable reference.



The book's obligatory first section on soil itself is a bit dry and contains information that is absolutely necessary but covered in other books. Don't become discouraged, however, because it's merely a lead-in to Part Two—the bulk of the

book—on “Members of the Soil Community.” Here the microbial and animal kingdoms, from fungi and insects to toads and gophers, are represented and fascinatingly described.

For each group of organisms, Nardi includes a fact box that lists the scientific classification, size, common names used to refer to the group, their place in the soil food web, and their impact on gardening. If the book consisted of these boxes alone, I think it would still be worth owning.

However, Nardi is also a skilled scientific illustrator. Almost every page has a detailed drawing, with size reference, of the soil-dweller he is describing. Gardeners will surely recognize animals they have seen before while working the beds or turning the compost pile but just were not able to identify. Some of Nardi's drawings also depict the organism in its habitat along with those it eats or those that eat it. Several pages of color photographs and drawings in the center of the book help to further illustrate the informative text.

A final section runs through a few of the main “soil abuses” such as erosion, excessive fertilizer use, and invasive exotic species, and explains how to avoid or mitigate them. The book wraps up with a brief appendix on how to collect and observe life in the soil for those who would like to take a closer look.

Life in the Soil is chock full of interesting natural history and fascinating—even stunning—facts about the individual critters a gardener may encounter in and on the soil. It is a great read and will be a reference this gardener turns to often.

—Jeff Lowenfels

Jeff Lowenfels is the author of Teaming With Microbes (Timber Press, 2007). He gardens and hosts a radio show in Anchorage, Alaska.

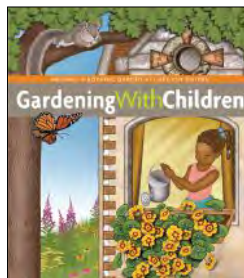
Gardening With Children

Monika Hannemann, Patricia Hulse, Brian Johnson, Barbara Kurland, and Tracey Patterson. Brooklyn Botanic Garden, Brooklyn, New York, 2007. 120 pages. Publisher's price, softcover: \$9.95.

A Child's Garden: 60 Ideas to Make Any Garden Come Alive for Children

Molly Dannenmaier. Timber Press, Portland, Oregon, 2008. 176 pages. Publisher's price, softcover: \$19.95.

YOUNG PEOPLE ARE becoming increasingly disconnected from nature, which has been linked to numerous detrimental ramifications such as obesity and depression. Yet many people are finding a way to remedy this by exposing kids to meaningful garden experiences. Two noteworthy, affordable books that provide useful, fun ideas for involving children in gardening and nature are *Gardening with Children* and *A Child's Garden*.

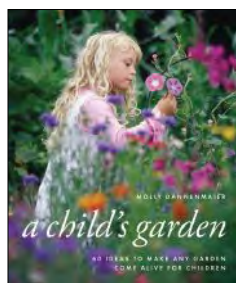


I was pleasantly surprised when I opened the Brooklyn Botanic Garden's All-Region Guide, *Gardening with Children*. What a sweet book! Set up with five primary chapters, it addresses nature's cycles in terms children can grasp and explores basic ecological concepts through more than 40 hands-on activities. The step-wise instructions are clear and the colorful illustrations are inviting and inspiring. The activities range from science experiments to keeping a nature journal, as well as food and art projects. The over-arching aim is to guide children to be earth stewards, and to appreciate the garden setting.

Perhaps most importantly, this book seems ideally suited for an often neglected audience: caregivers and parents. It doesn't smack of the dense curriculum, and is very approachable for the caregiver who wants some structure, and yet doesn't require a detailed “materials needed, time required, learning standards addressed” sort of guide. I especially appreciated the thoughtful sections at the end that provide guidance for adult caregivers interested in maximizing the experience of taking children outside. This would be a wonderful addition to any child care center, home, or after-school setting for primary- and elementary-school-aged children.

Molly Dannenmaier's *A Child's Garden*, first published in 1998, has now been released in a new paperback format. Like *Gardening with Children*, this book aims to motivate parents and caregivers who are concerned about children's lack of connection to the outdoors, and it offers 60 ideas for weaving areas geared for children into existing landscapes. Dannenmaier fo-

cuses on unstructured play, which is too often overlooked by educators determined to *teach* children about nature. As she points out in the preface, this book “looks at what children really do when they step outside, unlike what we adults think or wish they might do.”



The introduction provides a detailed historical context for children’s gardens, and then rapidly moves into exploring practical, and often whimsical, gateways back to nature. Ideas revolve around things that naturally

attract children to the outdoors, such as water, creatures, dirt, and make-believe. If you’re looking for detailed, step-by-step instructions, you won’t find them here; *A Child’s Garden* is long on inspiration and beautiful photography, short on very detailed instruction.

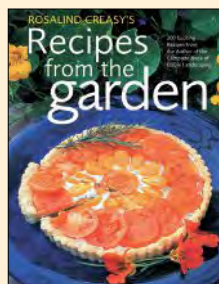
Both of these books will provide the parent, caregiver, and anyone interested in engaging children in nature through the garden with all they need to enliven the backyard, existing garden, or intimate public setting.

—Marcia Eames-Sheavly

Marcia Eames-Sheavly is the children and youth program leader for the Cornell Garden-Based Learning Program in Ithaca, New York. She was the 2005 recipient of the American Horticultural Society’s Jane L. Taylor Award.

Garden-Fresh Cooking

Rosalind Creasy’s *Recipes from the Garden* (Tuttle Publishing, 2008, \$34.95) is not just another pretty-face cookbook. This one has depth. Spend five minutes with it and your cooking energies will be revitalized. Spend a half-hour and you’ll be dreaming of a far more extensive vegetable garden for next year.



Innovative, easy-to-make recipes set this book apart. Consider bell pepper ribbon cheesecake—a savory cheesecake with a corn tortilla crust and a pepper-, cumin- and coriander-flavored

cheese filling. This dish is unusual, but uses familiar ingredients. Likewise, golden gazpacho gets its uncommon sunny color from yellow tomatoes and peppers. Other refreshing recipes include flower confetti salad, pork stew with purslane, carrot pie, and lemongrass tea.

Photos throughout are big, beautiful, and serve as how-to plans for the structure and presentation of the colorful dishes. Creasy’s cooking instructions are clear and include warnings born of experience to help the reader avoid pitfalls. This is a cookbook to be trusted and used again and again.

—Carole Ottesen, Contributing Writer

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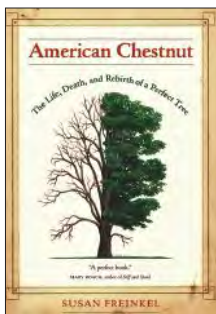
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Summer Reading

ONCE YOU'VE had your fill of weeding and watering, summer's long days offer a great opportunity for a relaxing read in the garden. If you're anything like me, enjoying a book outside until late in the evening is as good as it gets. I find this setting especially fitting for absorbing works of natural history and plant-lore, of which I am particularly fond. Varying in complexity and length, the following recently published books offer a healthy dose of both of these topics and may inspire pilgrimages into the forest, a local history museum, or even around the world!

American Chestnut: The Life, Death, and Rebirth of a Perfect Tree (University of California Press, 2007, \$27.50) by

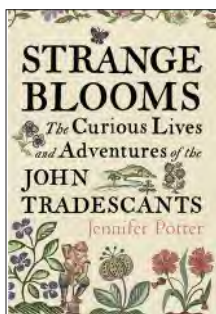


Susan Freinkel opens like a novel. "Early McAlexander looks through the window of his granddaughter's car onto a wide open hill fringed by a line of white pines," the first chapter begins, welcoming readers into a tale of the American chestnut's history. The antagonist is the fungal blight that has nearly driven this species to extinction over the last century. The book includes both the voices of tree lovers and the vocabulary of plant breeders, entwining heartfelt nostalgia with details about the determined scientific quest to renew this tree's population. Freinkel's assertion that "Appalachia mourned the loss of the chestnut because it was, for mountain dwellers, a true and trusted member of their community" resonates with the book's main message: hope for humankind might just lie in efforts to save a native tree.

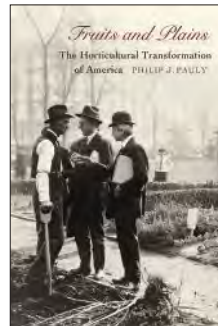
Those partial to biographies may enjoy ***Strange Blooms: The Curious Lives and Adventures of the John Tradescants*** (Atlantic Books, 2008, \$35) by Jennifer Potter, about the Tradescants family—father and son—and their plant exploring and collecting expeditions as well as their lives in general. The story of the two Tradescants acts as a vehicle for exploring culture and progress in England and other countries during the 17th century. "This is a book for people who like to get their hands dirty," writes Potter, "in which dung is measured by the hat-

ful, silkworms nestle between women's breasts, only palm trees have sex in the vegetable kingdom, and dead dogs are shredded for fertilizer." So readers beware: this biography contains marvels, monsters, and muck!

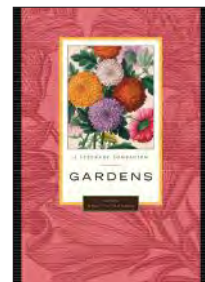
For an edifying look at the historical importance of horticulture and its influence on the American landscape, there's ***Fruits***



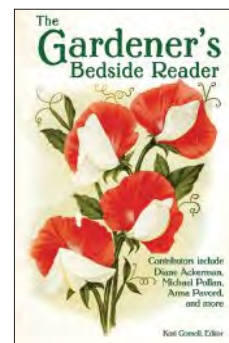
and ***Plains: The Horticultural Transformation of America*** (Harvard University Press, 2008, \$39.95). Author Philip J. Pauley, late professor of history at Rutgers University, meticulously chronicles the shaping of the American landscape during the last 250 years. He addresses topics such as tree planting, invasive species, plant breeding, backyard gardening, and the start of botanic gardens in America. Perhaps a little denser than the average summer reading selection, nonetheless this book is imbued with Pauley's infectious passion for his topic, which will draw you in and may leave you wondering about the consequences of your own gardening practices as well as the future of our ever-changing American landscape.



Gardens: A Literary Companion (Greystone Books, 2008, \$22.95), an anthology with 28 authors ranging from poet Stanley Kunitz to garden designer Gertrude Jekyll, includes voices spanning centuries and continents. In the introduction, editor Marilyn Simmons points out that the term anthology "derives from two Greek words: anthos (flowers) and logy (to speak of)." So it is particularly fitting that this collection also literally has to do with flowers. In addition to this subject, the authors write about their connection to plants: in the wild, in the garden, or, as in Jamaica Kincaid's "Monet's Gardens," in their own imaginations. This book lends itself well to being sampled at random or read from cover to cover.



Another anthology to consider is ***The Gardener's Bedside Reader*** (Voyageur Press, 2008, \$27.95). Editor Kari Cornell brings together familiar contemporary voices on plants, gardening, and natural history such as Anna Pavord, Diane Ackerman, Dan Hinkley, Tovah Martin, and Ann Lovejoy. This prose celebrates the backyard garden and might even inspire a little digging, especially after excerpts such as Lee May's that starts, "In this year's first blushes, promise springs eternal. This is the year I keep a vow to my father and myself; I'll be growing vegetables again." This collection is inspiring, funny, and at times lofty: a good primer to the entertaining range of voices that are contributing to modern garden writing.



—Kirsten Winters, Editorial Intern

REGIONAL HAPPENINGS

Horticultural Events from Around the Country

NORTHEAST

CT, MA, ME, NH, NY, RI, VT

RAP THROUGH NOV. 2. **Moore in America.** Exhibition. New York Botanical Garden. Brooklyn, New York. (718) 817-8700. www.nybg.org.

JULY 12–OCT. 31. **Pollinators, Predators, and Plants—They're Back.** Exhibit. Garden in the Woods. Framingham, Massachusetts. (508) 877-7630. www.newenglandWILD.org.

RAP JULY 23. **Persian Gardens.** Lecture. Coastal Maine Botanical Gardens. Boothbay, Maine. (207) 633-4333. www.maine-gardens.org.

JULY 26. **Garden Club of Mount Desert Open Garden Day.** Mount Desert Island, Maine. (207) 276-0745. www.gcmdgardenday.com.

RAP JULY 27. **Daylily Society Flower Show.** Planting Fields Arboretum. Oyster Bay, New York. (516) 922-9200. www.plantingfields.org.

RAP AUG. 9. **Massachusetts Marketplace Festival.** Massachusetts Horticultural Soci-

ety at Elm Bank. Wellesley, Massachusetts. (617) 933-4900. www.masshort.org.

Events sponsored by or including official participation by AHS or AHS staff members are identified with the **AHS** symbol.

Events hosted by botanical gardens and arboreta that participate in AHS's Reciprocal Admissions Program are identified with the **RAP** symbol. Current AHS members showing a valid membership card are eligible for free or discounted admission to the garden or other benefits. Special events may not be included; contact the host site for details or visit www.ahs.org/events/reciprocal_events.htm.

RAP AUG. 11–15. **Painting the Garden Landscape.** Class. Cornell Plantations. Ithaca, New York. (607) 255-2400. www.plantations.cornell.edu.

AUG. 23. **Creating Home Outside.** Landscape design workshop. Vermont Academy. Saxtons River, Vermont. (802) 869-1470. www.jmmds.com.

Looking ahead

RAP SEPT. 14. **Hudson River Ramble Tour.** Mountain Top Arboretum. Tannersville, New York. (518) 589-3903. www.mtarbor.org.

MID-ATLANTIC

PA, NJ, VA, MD, DE, WV, DC

RAP THROUGH OCT. 13. **Architectural Wonders of the World.** Garden railway display. Morris Arboretum. Philadelphia, Pennsylvania. (215) 247-5777. www.morrisarboretum.org.

JULY 18. **Woody Plant Conference.** Scott Arboretum. Swarthmore, Pennsylvania. (610) 388-1000 ext. 507. www.woodyplantconference.org.

JULY 20–26. **Perennial Plant Symposium and Trade Show.** Sheraton City Center Hotel. Philadelphia, Pennsylvania. (614) 771-8431. www.perennialplant.org.

RAP JULY 30. **Garden in the Classroom.** Teacher training. Hahn Horticulture Garden. Blacksburg, Virginia. (540) 231-5970. www.hort.vt.edu/hhg.

Blithewold Celebrates Centennial

WITH THE VISION OF creating a horticultural sanctuary, the original owners of Blithewold mansion, Augustus Van Wickle and his wife, Bessie Pardee Van Wickle, hired John De Wolf, superintendent and landscape architect of New York Parks, to help manifest this plan in 1896. Just 10 years later, the original mansion in Bristol, Rhode Island, burnt down. De Wolf managed to save the garden plantings near the house by covering them with wet sacking cloth. By 1908, a new house was erected, and the gardens were still intact. This year's centennial celebration at Blithewold Mansion, Gardens and Arboretum will focus on the events of 1908 and the family's first summer in the house. With that, a campaign is underway to conserve and restore the present house and its collections, which are open for visitors.

Blithewold was not always open to the public. In the 1970s, Marjorie Van Wickle Lyon, who had inherited the historic estate, designated it as a public garden and funded it with an endowment. By

1998, however, years of deficit operations nearly forced the property to close. At the eleventh hour, a group of concerned community members banded together to save Blithewold, raising the necessary funds to preserve it.



The mansion at Blithewold is 100 years old.

Today, Blithewold is one of the largest tourist attractions in the state, garnering 32,000 visitors a year. The gardens and arboretum offer a horticultural resource year-round for plant lovers, including a collection of exotic and native trees; 50,000 daffodils each spring; display gardens; and a 10-acre lawn. In addition to its regular workshops and activities, Blithewold will hold its "Celebration of a Century Gala" on August 16. As a participant in the Reciprocal Admissions Program, Blithewold offers AHS members free admission and a discount in its gift shop. For more information, call (401) 247-4220 or go to www.blithewold.org.

—Kirsten Winters, Editorial Intern

JULY 30. **Plants for the Garden.** Tour. U.S. Botanic Garden. Washington, D.C. (202) 225-1116. www.usbg.gov.

AUG. 20–21. **Grasses, Sedges and Rushes.** Course. Wetland Learning Campus. St. Michaels, Maryland. (410) 745-9620. www.wetland.org.

RAP AUG. 23–31. **Baltimore Bonsai Club Exhibit.** U.S. National Arboretum. Washington, D.C. (202) 245-2726. www.usna.usda.gov.

Looking ahead

SEPT. 15 & 16. **Biennial Symposium.** Thomas Jefferson Center for Historic Plants. Charlottesville, Virginia. (434) 997-6140. www.monticello.org.

SOUTHEAST

AL, FL, GA, KY, NC, SC, TN

JULY 21–24. **American Society for Horticul-**

tural Science Annual Conference. Rosen Plaza Hotel. Orlando, Florida. (703) 836-4606. www.ashs.org.

JULY 23–26. **Cullowhee Conference on Native Plants in the Landscape.** Western Carolina University. Cullowhee, North Carolina. (828) 227-7211. nativeplantconference.wcu.edu.

JULY 26. **Plumleaf Azalea Hike.** Callaway Gardens. Pine Mountain, Georgia. (800) 225-5292. www.callawaygardens.org.

AUG. 7–9. **Green Industry Nursery and Landscape Tradeshow.** Southern Nursery Association. Atlanta, Georgia. (770) 953-4411. www.sna.org.

Looking ahead

SEPT. 13 & 14. **Dahlia Society Show.** North Carolina Arboretum. Asheville, North Carolina. (828) 665-2492. www.ncarboretum.org.

NORTH CENTRAL

IA, IL, IN, MI, MN, ND, NE, OH, SD, WI

RAP THROUGH AUG. 31. **Degas in Bronze.** Art exhibit. Frederik Meijer Gardens & Sculpture Park. Grand Rapids, Michigan. (888) 957-1580. www.meijergardens.org.

RAP JULY 16–AUG. 10. **Olbrich's Blooming Butterflies.** Olbrich Botanical Gardens. Madison, Wisconsin. (608) 246-4550. www.olbrich.org.

RAP AUG. 2. **Mosaic Stepping Stone Workshop.** Fernwood Botanical Garden & Nature Preserve. Niles, Michigan. (269) 695-6491. www.fernwoodbotanical.org.

RAP AUG. 13. **A Year in Herbs.** Walk and lecture. Gardens of the Fox Cities. Appleton, Wisconsin. (920) 993-1900. www.gardensfoxcities.org.

RAP AUG. 15. **An Evening in the Garden.** Class. Michigan 4-H Children's Garden. East Lansing, Michigan. (517) 355-5191. www.4hgarden.msu.edu.

RAP AUG. 16 & 17. **Malott Japanese Green Summer Festival.** Chicago Botanic Garden. Glencoe, Illinois. (847) 835-5440. www.chicagobotanic.org.

RAP AUG. 17. **Japanese Lantern Lighting Festival.** Como Park Zoo and Conservatory. St. Paul, Minnesota. (651) 487-8272. www.comozooconservatory.org.

AUG. 17. **Southeast Michigan Bromeliad Society Show and Sale.** Matthaei Botanical Gardens and Nichols Arboretum. Ann Arbor, Michigan. (734) 647-7600. www.lsa.umich.edu.

AUG. 22 & 23. **Central Region Perennial Symposium.** Perennial Plant Association. Madison, Wisconsin. (614) 771-8431. www.perennialplant.org.

Looking ahead

RAP SEPT. 10. **Edible Landscapes.** Workshop. Slayton Arboretum. Hillsdale College. Hillsdale, Michigan. (517) 437-7341. www.hillsdale.edu.

SOUTH CENTRAL

AR, KS, LA, MO, MS, OK, TX

JULY 21–25. **Floral Design Workshop.** Mississippi State University. Starkville, Mississippi. (662) 325-3585. www.theuniversityflorist.com.

RAP JULY 24. **Summer Interest and Herbs.** Garvan Woodland Gardens. Workshop. Hot Springs National Park, Arkansas. (501) 262-9300. www.garvangardens.org.

RAP AUG. 30–DEC. 7. **Terrific Treehouse**

Milestones in Minnesota

DEDICATED TO education and research, the Minnesota Landscape Arboretum and its partner, the Horticultural Research Center (HRC), celebrate individual milestones this year. Located in Chanhassen, both are part of the Department of Horticultural Science at the University of Minnesota.

A century of research has been conducted at the HRC since its inception in 1908, originally focusing on fruit breeding. This has resulted in the development of more than 100 fruit cultivars adapted to northern temperatures and growing seasons, as well as cold hardy trees and shrubs.

Celebrating its 50th anniversary this year, the Minnesota Landscape Arboretum comprises display gardens for homeowners, trails for all seasons, a well-stocked library, a therapeutic horticultural classroom, and facility rental space. "Visitors receive friendly, helpful, and informational service when they come here," says Peter Olin, who retired on July 1 after 24 years as director of the arboretum. "This includes video imaging, handouts, and interpretive signage, as well as expert staff."

In addition to regular programming and events, this year's seasonal exhibit, "Treeology," runs this summer until October 12. Public art installations will line a one-and-a-half-mile trail in the exhibit's "Art'n'Trees Trail." Also, living furniture made from willow will wow garden viewers. Audio and posted descriptions of trees cultivated by the university will be available around the arboretum grounds. And for the practical tree-lover, a discovery lab will provide tips on tree-planting. Supported by Bailey Nurseries, the "Treeology" exhibit is an important part of the celebration of the arboretum's "roots."

For more information about the arboretum and research center, call (952) 443-1400 or visit www.arboretum.umn.edu. AHS members receive free admission to the arboretum, which participates in the Reciprocal Admissions Program.

—Kirsten Winters, Editorial Intern



"Tree-Fi-Fo-Fum" by Dan Sjodal and Westwood Professional Services, part of the Treeology exhibition.

Exhibit. San Antonio Botanical Garden. San Antonio, Texas. (210) 207-3250. www.sabot.org.

Looking ahead

RAP SEPT. 13. **Tulsa Area Iris and Daylily Societies Shows and Sales.** Tulsa Garden Center. Tulsa, Oklahoma. (918) 746-5125. www.tulsagardencenters.com.

SOUTHWEST

AZ, NM, CO, UT

RAP JULY 24. **Best of Must Haves.** Lecture. Betty Ford Alpine Gardens. Vail, Colorado. (970) 476-0103. www.bettyfordalpinegardens.org.

JULY 24. **In Search of Dragonflies.** Field trip. Tucson Botanical Gardens. Tucson, Arizona. (520) 326-9686. www.tucsonbotanical.org.

AUG. 1-3. **Home and Garden Show.** University of Phoenix Stadium. Phoenix, Arizona. (602) 485-1691 ext. 107. www.MaricopaCountyHomeShows.com.

RAP AUG. 16. **Beauty's Only Skin Deep: James Rose's Modern Landscape Aesthetic.** Lecture. Denver Botanic Gardens. Denver, Colorado. (720) 865-3500. www.botanicgardens.org.

WEST COAST

CA, NV, HI

RAP JULY 21 & 28. **Create a Garden Path.** Lecture. Descanso Gardens. La Cañada Flintridge, California. (818) 949-7980. www.descansogardens.org.

RAP JULY 25-27. **Giant Summer Cactus and Succulent Sale and Orange County Cactus and Succulent Society Show.** Fullerton Arboretum. Fullerton, California. (714) 278-3407. www.arboretum.fullerton.edu.

AUG. 11. **Growing and Harvesting Winter Crops.** Lecture. San Diego Horticultural Society. Del Mar Fairgrounds. San Diego, California. (760) 295-7089. www.sdhortsoc.org.

AUG. 22. **Early Childhood Education in the Garden.** Educator workshop. Life Lab Garden Classroom at UCSC Center for Agroecology and Sustainable Food Systems. Santa Cruz, California. (831) 459-5476. www.lifelab.org.

Looking ahead

SEPT. 6 & 7. **Southern California Plumeria Society's Annual Show and Plant Sale.** Balboa Park, Casa del Prado. San Diego, California. (619) 461-5942. www.socalplumeriasociety.com.

Portland a Fall Destination for Garden Industry

THIS AUGUST and September, Portland, Oregon, will roll out the red carpet when it hosts three top-notch green industry events: The Farwest Show produced by the Oregon Association of Nurseries, the Association of Specialty Cut Flower Growers (ASCFG) National Conference and Trade Show, and the Garden Writers Association's annual symposium.

The **Farwest Show** will take place from August 21 to 23 at the Oregon Convention Center, with companion seminars starting a day earlier. The highlight of the show will be bus tours to 26 local growers, emphasizing Oregon's prodigious contribution to the nursery industry: the state produces more nursery stock than any other, and 75 percent of the trees grown there are shipped out of the state. The Farwest Show gathers professionals with expertise in a wide range of horticultural topics to speak or participate in panel discussions. The seminars cover topics such as plant breeding, company development and marketing, technology, pest management, and energy-efficient greenhouses. Visit www.farwestshow.com or call (503) 682-5099 for more information.

From September 8 to 11, the Portland Crowne Plaza will host the **ASCFG National Conference and Trade Show**, which will feature a design competition; a grower's school, where experts can impart their experience to attendees; and seminars on various aspects of the high-end flower industry. Also included are tours of several local growers, showcasing state-of-the-art facilities and new plants introduced in the Willamette Valley. The grand finale, a dinner cruise on a sternwheeler, will give participants the opportunity to explore the sights, smells, and sounds of Portland and the Columbia Gorge. Visit www.ascfg.org or call (440) 774-2887 for more information.

Finally, from September 19 to 22, the **Garden Writers Association (GWA)** holds its annual symposium at the Doubletree Lloyd Center. The GWA symposium includes a trade show on September 19 and 20 at which horticultural companies and organizations exhibit plants, products, and services. The symposium features a combination of educational programs, garden tours, and special events, including an entertaining "Plant Nerd Night," workshops on many formats of writing, and insights into the science of gardening. Attendees can choose from three concurrent program tracks: Horticulture & Gardening, Technology & Professional Development, or Writing Skills Development. Members of GWA include newspaper columnists, Extension service communicators, and photographers. For more information, visit www.gardenwriters.org or call (703) 257-0213.

—John Fiege, *Editorial Intern*

NORTHWEST

AK, ID, MT, OR, WA, WY

THROUGH AUG. 1. **Outdoor Adventure Summer Camp.** Mount Pisgah Arboretum. Lane County, Oregon. (541) 747-1504. www.efn.org/~mtpisgah.

RAP JULY 26. **Bamboo Festival.** Hoyt Arboretum. Portland, Oregon. (503) 865-8733. www.hoytarboretum.org.

RAP JULY 28. **Latin for Gardeners.** Class. Idaho Botanical Garden. (208) 343-8649. www.idahobotanicalgarden.org.

RAP AUG. 13. **Anchorage Garden Club's Flower Show.** Alaska Botanical Garden. Anchorage, Alaska. (928) 566-0539. www.alaskabg.org.

RAP AUG. 16 & 17. **Eastside Fuchsia Society Show and Plant Sale.** Bellevue Botanical Garden. Bellevue, Washington. (425) 452-2750. www.bellevuebotanical.org.

CANADA

JULY 28-31. **Turf Producers International Summer Convention and Field Day.** Calgary, Alberta. (847) 649-555. www.TurfGrassSod.org.

JULY 31-AUG. 4. **Third International Heather Conference.** Victoria, British Columbia. (250) 746-1994. www.northamericanheathersoc.org.

RAP AUG. 11-15. **Landscape Watercolour Workshop.** Royal Botanical Gardens. Hamilton, Ontario. (905) 557-1158. www.rbg.ca.

Looking ahead

SEPT. 4-JAN. 10. **Master the Skills of Sustainable Gardening.** Course. Glendale Gardens & Woodland. Victoria, British Columbia. (250) 479-6162. www.hcp.bc.ca.

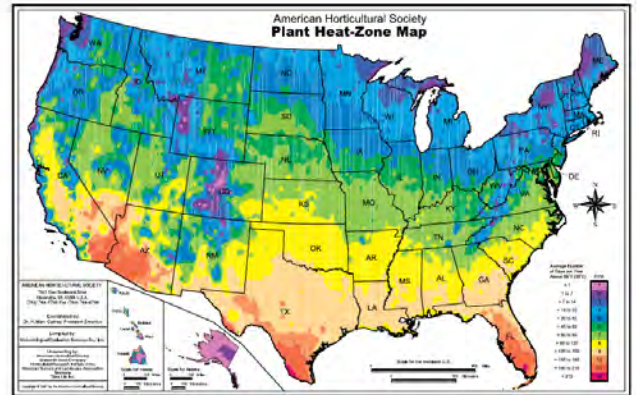
SEPT. 13. **Plant Sale.** University of Guelph. Guelph, Ontario. (519) 824-4120 ext. 52113. uoguelph.ca/arboretum. ☪

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 codes tend to be conservative; plants may grow outside the ranges indicated. A USDA zone rating of 0-0 means that the plant is a true annual and completes its life cycle in a year or less.

To purchase a two-by-three-foot glossy AHS Plant Heat Zone Map for \$9.95, call (800) 777-7931 or visit www.ahs.org.



A-B

- Acorus gramineus var. pusillus** AK-or-us grah-MIN-ee-us var. pyew-SIL-us (USDA Zones 6-9, AHS Zones 9-5)
- Adenophora triphylla** ah-deh-NOF-or-uh try-FIL-luh (4-7, 8-3)
- Adiantum capillus-veneris** ad-dee-AN-tum kah-PIL-us-VEN-er-iss (7-10, 11-7)
- A. pedatum** A. peh-DAY-tum (3-8, 8-1)
- Amorphophallus bulbifer** uh-mor-fo-PHAL-lus BUL-bih-fer (7-10, 10-7)
- A. henryi** A. HEN-ree-eye (7-9, 9-7)
- A. konjac** A. KON-jak (7-11, 12-6)
- Amsonia ciliata** am-SO-nee-uh sil-ee-AH-tah (6-10, 10-6)
- A. hubrichtii** A. hew-brik-TEE-eye (5-9, 9-5)
- A. tabernaemontana** A. tab-ur-nee-mon-TAN-uh (3-9, 9-1)
- Arisaema triphyllum** air-ih-SEE-muh try-FIL-lum (4-9, 9-1)
- Arum italicum** AIR-um ih-TAL-ih-kum (6-9, 9-3)
- A. maculatum** A. mak-yew-LAY-tum (6-9, 9-6)
- Aruncus dioicus** uh-RUN-kus die-o-EE-kus (3-7, 7-1)
- Asclepias incarnata** as-KLEE-pee-us in-kar-NAY-tuh (3-9, 9-2)
- A. tuberosa** A. too-bur-O-suh (4-9, 9-2)
- Aspidistra elatior** as-pih-DIS-truh ee-LAY-tee-or (7-11, 12-4)
- Aster cordifolius** ASS-tur kor-dih-FO-lee-us (4-8, 8-1)
- A. divaricatus** A. dih-vair-ih-KAY-tus (4-8, 8-1)
- A. macrophyllus** A. mak-ro-FIL-lus (3-8, 8-1).
- Athyrium niponicum var. pictum** uh-THIH-ree-um nih-PON-ih-kum var. PIK-tum (5-8, 8-1)

- Begonia grandis ssp. evansiana** beh-GOWN-yuh GRAN-dis ssp. eh-van-see-AN-uh (6-9, 9-5)

C-H

- Carex conica** KAIR-eks KON-ih-kuh (5-9, 9-5)
- C. muskingumensis** C. mus-king-yew-MEN-sis (3-8, 8-1)
- Cimicifuga americana** sih-mih-SIF-yew-guh uh-mair-ih-KAN-uh (3-8, 8-3)
- C. racemosa** C. ras-eh-MO-suh (3-8, 8-3)
- C. simplex** C. sim-pleks (4-8, 8-4)
- Colocasia esculenta** kol-o-KAY-see-uh es-kyew-LEN-tuh (10-11, 12-4)
- Cotinus coggygria** ko-TY-nus ko-JEE-gree-uh (5-9, 9-3)
- C. obovatus** C. o-bo-VAY-tus (4-8, 9-3)
- Cynara cardunculus** SIN-uh-ruh kar-DUN-kyew-lus (7-10, 9-1)
- Cyrtomium falcatum** sur-TOH-mee-um fal-KAY-tum (6-11, 12-10)
- Dracunculus vulgaris** dru-h-kun-KYEW-lus vul-GAIR-iss (7-10, 10-7)
- Dryopteris crassirhizoma** dry-OP-ter-iss krah-sih-RHY-zo-mah (6-9, 9-6)
- D. erythrosora** D. air-ih-THRO-sor-uh (5-8, 9-5)
- D. goldieana** D. gol-dee-AH-nah (6-8, 8-5)
- D. pseudofilix-mas** D. soo-doh-FIL-iks-mahs (4-8, 8-1)
- Eupatorium maculatum** yew-puh-TOR-ee-um mak-yew-LAY-tum (5-11, 9-1)
- E. purpureum** E. pur-PUR-ee-um (3-9, 9-1)
- Hakonechloa macra** ha-kon-ee-KLOH-uh MAK-ruh (5-9, 9-2)
- Helleborus argutifolius** hel-eh-BOR-us ar-GEW-tih-FO-lee-us (6-9, 9-6)
- H. foetidus** H. FEE-tih-dus (6-9, 9-6)

- H. x hybridus** H. HY-brih-dus (6-9, 9-6)
- Hosta fluctuans** HAHS-tuh fluk-TEW-anz (3-8, 9-2)
- H. ventricosa** H. ven-trih-KO-suh (3-8, 9-2)
- Hydrangea arborescens** hy-DRAN-juh ar-bo-RES-enz (4-9, 9-1)
- H. paniculata** H. pan-ik-yew-LAY-tuh (3-9, 9-4)

I-L

- Impatiens balsamina** im-PAY-shenz ball-suh-MEEN-uh (0-0, 12-1)
- I. walleriana** I. wal-ler-ee-AN-uh (10-11, 12-1)
- Iris tectorum** EYE-riss tek-TOR-um (5-9, 9-3)
- Kirengeshoma palmata** kee-reng-geh-SHO-muh pal-MAY-tuh (5-8, 8-5)
- Lobelia cardinalis** lo-BEEL-yuh kar-dih-NAL-iss (2-8, 8-1)
- L. erinus** L. AIR-ih-nus (10-11, 9-1)
- L. fulgens** L. FUL-jenz (8-9, 9-8)
- L. x gerardii** L. jeh-RAR-dee-eye (8-9, 9-8)
- L. sessilifolia** L. ses-sih-ih-FO-lee-uh (5-8, 8-3)
- L. siphilitica** L. sih-fih-LIH-tih-kuh (4-8, 8-1)
- L. x speciosa** L. spee-see-O-suh (5-8, 8-5)
- Lysichiton americanus** ly-sih-KITE-on uh-mair-ih-KAN-us (5-8, 7-1)
- L. camtschatcensis** L. kam-shat-CHEN-sis (5-9, 9-1)

M-R

- Matteuccia pensylvanica** muh-TEW-key-uh pen-sil-VAN-ih-kuh (2-8, 8-1)
- Mirabilis jalapa** mih-RAB-ih-liss jah-LAP-ah (10-11, 12-1)

- Miscanthus sinensis** miz-KAN-thus sy-NEN-siss (5-9, 9-1)
- Monarda didyma** muh-NAR-duh DID-ih-muh (4-10, 10-1)
- Monstera deliciosa** mon-STEh-ruh deh-lih-see-O-suh (11-11, 12-10)
- Osmunda regalis** ahz-MUN-duh ree-GAL-iss (2-10, 9-1)
- Paenonia lactiflora** pee-O-nee-uh lak-tih-FLOR-uh (3-8, 8-1)
- P. suffruticosa** P. suh-frew-tih-KO-suh (5-8, 8-5)
- Polystichum acrostichoides** pah-LIS-tih-kum uh-kros-tih-CHOY-deez (3-8, 8-1)
- P. makinoi** P. MAK-ih-noy (3-8, 8-1)
- Rohdea japonica** RO-dee-uh jah-PON-ih-kuh (6-9, 9-6)

S-Z

- Sambucus nigra** sam-BOO-kus NY-gruh (4-7, 7-1)
- S. racemosa** S. ras-eh-MO-suh (3-7, 7-1)
- Sauromatum venosum** saw-ro-MAY-tum veh-NO-sum (6-10, 11-7)
- Silphium terebinthinaceum** SIL-fee-um tair-eh-bin-thih-NAY-see-um (3-9, 9-1)
- Solidago caesia** sol-ih-DAY-go SEEZ-ee-uh (4-8, 8-1)
- S. flexicaulis** S. flex-ih-KAW-liss (3-9, 9-1)
- Symplocarpus foetidus** sym-plo-KAR-pus FEE-tih-dus (3-7, 8-2)
- Thelypteris kunthii** theh-LIP-ter-iss KUHN-thee-eye (6-9, 10-5)
- Tricyrtis hiata** try-SUR-tiss HUR-tuh (4-9, 9-6)
- Yucca glauca** YUK-uh GLAW-kuh (3-9, 10-1)
- Zantedeschia aethiopica** zan-teh-DES-kee-uh ee-thee-O-pih-kuh (8-10, 10-4)

GARDEN MARKET

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A Jewel for Urban Gardens: American Smoketree

by Eva Monheim

THREE YEARS AGO, while teaching a woody plants class at Temple University in Philadelphia, I came across a tree in the university's arboretum that I had heard about but never seen in the landscape: the American smoketree or chittamwood (*Cotinus obovatus*, USDA Zones 4 to 8, AHS Zones 9 to 3).

I was initially drawn to the tree by its large, oval leaves, approximately four to six inches in length, which created a tropical appearance in contrast to the finer-leaved plants in the surrounding landscape. Its two-inch-long, rose-colored petioles also caught my eye.

Cotinus obovatus is in the sumac family (Anacardiaceae), which includes many desirable food crops such as mangos and cashews. Other plants in the family such as poison ivy and poison oak contain the skin irritant urushiol, but the American smoketree is not considered poisonous.

Native from Tennessee to Alabama, and west to the Edwards Plateau of Texas, American smoketree had an even greater range before the Civil War, but because the yellow-orange heartwood and resinous sap were used to create the dye for Confederate troop uniforms, overharvesting almost led to the tree's extinction. In the wild, it is generally found at an altitude of 700 to 2,000 feet on steep rocky hill-sides and ravines with limestone-based soils. It tends to develop a short, squat trunk, but, in some cases, will form multiple trunks.

As an arborist, I am always looking for trees suitable for urban landscapes, and *Cotinus obovatus* adapts well to drought, heat, and cold. It grows best in poor soils and has minimal insect and disease problems. American smoketree may grow to 80 feet tall but generally grows to 20 to 30 feet in both height and width, making it ideal for smaller gardens.

American smoketree is dioecious—that is, male and female flowers are found on



American smoketree produces airy clusters of pinkish flowers in late spring, left. Its foliage provides vivid fall color, above.

separate trees. In bloom, male trees are showier than female trees. The smoketree gets its name from the feathery plumelike flower clusters known as panicles, which appear in late spring and remain into fall. The filamentous structures in massed abundance resemble smoke hovering about the plant. The seeds, many of which are sterile, ripen in fall on female trees.

Cotinus obovatus is particularly prized for its amazing fall color, which varies from yellow-apricot to red depending on

Sources

Forestfarm, Williams, OR. (541) 846-7269. www.forestfarm.com.

Rare Find Nursery, Jackson, NJ. (732) 833-1965. www.rarefindnursery.com.

Shooting Star Nursery, Georgetown, KY. (866) 405-7979. www.shootingstarnursery.com.

genetic variation, environmental conditions, and fall nighttime temperatures.

The species is hard to find in the trade, but Michael Colibraro of Colibraro Nurseries and Landscape, Inc., in Horsham, Pennsylvania, says several good cultivars are available. According to Colibraro, 'Grace' is a highly desirable landscape tree that more people should consider. It is a cross between *Cotinus obovatus* and a cultivar of *C. coggygia*. Another notable cultivar is *C. obovatus* 'Red Leaf', bred for its consistent red fall color.

Propagation of this tree is best done with softwood cuttings taken in the spring, just before the new season's growth hardens. Consider planting American smoketree in a large container, small garden plot, or as an espalier. Though its characteristic brittle wood might suffer storm damage, smoketree will regenerate if stems are pruned to the ground. Locate this plant where you can enjoy its wonderful characteristics in all four seasons.

A certified arborist, Eva Monheim teaches in the Department of Landscape Architecture and Horticulture at Temple University.

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