

REPELLING INSECTS: TAKING THE STING OUT OF SUMMER

# THE AMERICAN GARDENER

A Publication of the American Horticultural Society

July/August 1999 \$4.95

## ODE TO THE ORDINARY

10 classic annuals

## ACADIA

Maine's botanical wonderland

## NATIVE FERNS

Lush choices for the Northwest

## MINTS WITH MANNERS

Well-behaved and ornamental

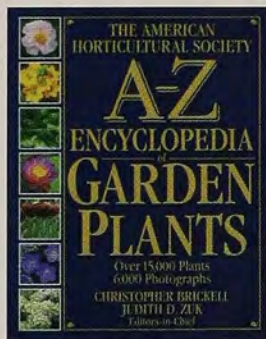
## SOUTHWESTERN REVOLUTION

Redefining the desert garden



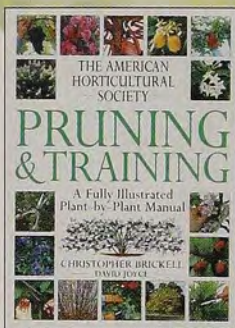
**DK PUBLISHING AND THE AMERICAN HORTICULTURAL SOCIETY, TWO TOP NAMES IN GARDENING, BRING YOU A FULL RANGE OF BOOKS**

*There's something for everyone!*



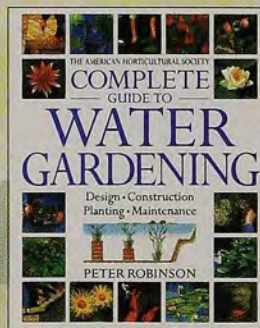
**AHS A-Z Encyclopedia of Garden Plants**  
Christopher Brickell, Judith Zuk  
\$79.95

Over 15,000 plants in 6,000 photographs and illustrations  
"Finally, one-stop sleuthing for almost any plant, anywhere."  
—Better Homes and Gardens



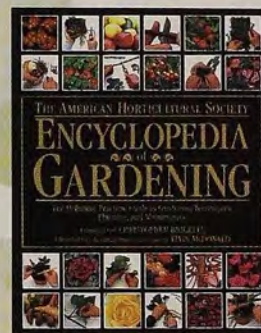
**AHS Pruning and Training**  
Christopher Brickell, David Joyce  
\$34.95

A fully illustrated, step-by-step manual with high-quality pruning and training diagrams and photographs



**AHS Complete Guide to Water Gardening**  
Peter Robinson  
\$34.95

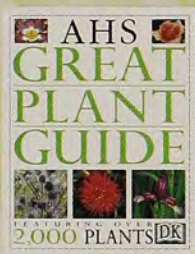
Covers every aspect of water gardening building technique, with expert advice and ideas.



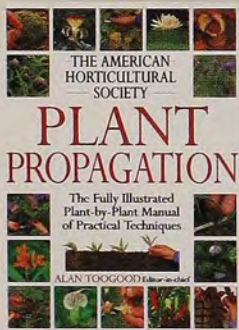
**AHS Encyclopedia of Gardening**  
Christopher Brickell  
\$59.95

The definitive guide to gardening techniques, planning and maintenance.  
"The standard in the field is set by the American Horticultural Society's invaluable Encyclopedia of Gardening."  
—People Magazine

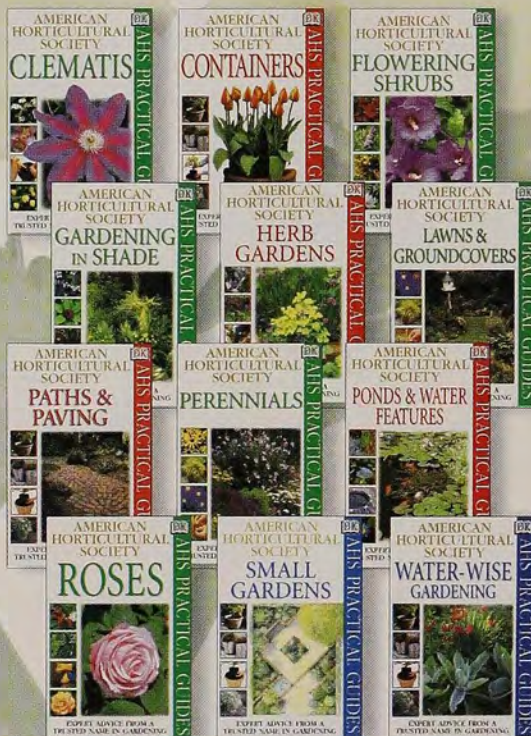
**AVAILABLE NOW**



**AHS Great Plant Guide**  
\$16.95  
A handy compact guide to the best 2,000 noteworthy plants with concise descriptions and over 1,000 full-color photographs.



**AHS Plant Propagation**  
Alan Toogood  
\$34.95  
A beautifully illustrated guide on how to reproduce plants in the garden by seeds, cuttings, grafting and much, much more.



**The AHS Practical Guides**  
\$8.95 each  
A new series of practical, illustrated guides that condense essential know-how of top garden experts into compact attractive, guides that deal with planting, planning and building.



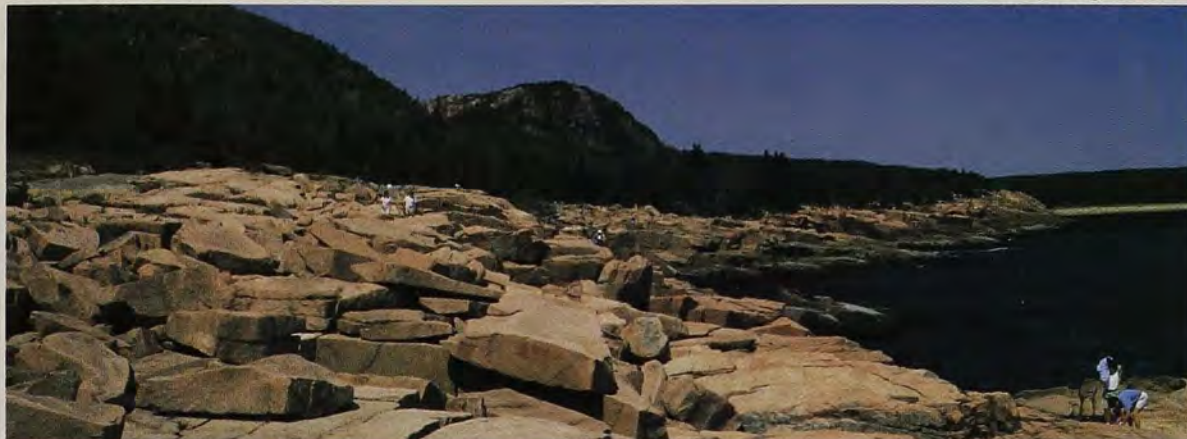
**Where Learning Comes to Life**

Available wherever books are sold or call 1-888-DIAL DKP  
[www.dk.com](http://www.dk.com)

# c o n t e n t s

Volume 78, Number 4

July/August 1999



## DEPARTMENTS

- An Inside Look** 4  
**Members' Forum** 5  
*Deserving of credit, Oregon grape, David Douglas.*
- News from AHS** 7  
*New York community gardens spared, phlox evaluation, invasive species council.*
- Focus** 10  
*How to outsmart mosquitoes and summer's other stinging insects, Lyme disease update.*
- Gardeners Information Service** 15  
*Horseradish, Joe-Pye weed, fish meal and kelp.*
- Offshoots** 16  
*The war of the roses.*
- Planting the Future** 17  
*The Carolina Children's Garden.*
- Mail-Order Explorer** 18  
*Colvos Creek Nursery.*
- Natural Connections** 20  
*Beware of stinging caterpillars.*
- Book Reviews** 53  
*Heirloom flowers, the history of the tulip, other top choices for summer reading.*
- Regional Happenings** 58  
*Callaway Brothers Azalea Bowl, toy trains at New York Botanical Garden, children's garden in Atlanta, Master Gardeners at San Antonio.*
- Hardiness and Heat Zones** 62
- Pronunciations** 63

## FEATURES

- Medley of Mints** 22  
by Rand B. Lee  
*Invasive species such as spearmint and peppermint have given the mint family a bad reputation, but many of its members are truly garden-worthy.*
- Ron Gass** 27  
by Andy Wasowski  
*This plant explorer and nursery owner has helped southwestern gardeners embrace the desert landscape.*
- Ode to the Ordinary** 32  
by Karan Davis Cutler  
*An enthusiast explains why annuals—the Rodney Dangerfields of the plant world—deserve more respect.*
- Acadia** 40  
by Barbara S. Arter  
*Blessed with a diversity of habitats—from seashore to forest and mountain—this national park in Maine is a botanical wonderland.*
- Ferns of the Northwest** 47  
by Sue Olsen  
*The climate of the Pacific Northwest supports a variety of native ferns suitable for the shady garden.*
- On the cover:* Densely flowered *impatiens* form a colorful carpet beneath an ivy-covered trellis and sculpted stone water feature in this private garden in Washington, D.C. Photograph by Roger Foley.

# American Horticultural Society

7931 East Boulevard Drive  
Alexandria, VA 22308-1300  
(703) 768-5700 • www.ahs.org

*The American Horticultural Society (AHS) educates and inspires people of all ages to become successful and environmentally responsible gardeners by advancing the art and science of horticulture.*

**PRESIDENT/CEO**  
LINDA D. HALLMAN

**BOARD OF DIRECTORS**  
Officers 1998-1999

KATY MOSS WARNER, **CHAIRMAN**  
Lake Buena Vista, Florida

NANCY S. THOMAS, **FIRST VICE CHAIRMAN**  
Houston, Texas

PAUL ECKE JR., **SECOND VICE CHAIRMAN**  
Encinitas, California

WILLIAM A. PUSEY, **SECRETARY**  
Washington, D.C.

CHARLES HENRY SMITH JR., **TREASURER**  
Middleburg, Virginia

SHERMAN ADLER  
West Palm Beach, Florida

L. M. BAKER JR.  
Winston-Salem, North Carolina

WILLIAM E. BARRICK, PH.D.  
IMMEDIATE PAST CHAIRMAN  
Pine Mountain, Georgia

KATHERINE MCKAY BELK  
Charlotte, North Carolina

JAMES L. CORFIELD  
Geneva, Illinois

ARABELLA S. DANE  
Boston, Massachusetts

JOHN ALEX FLOYD JR.  
Birmingham, Alabama

DOROTHY T. IRELAND  
Birmingham, Alabama

WILLIAM R. MARKEN  
Los Altos, California

THEODORE R. MARSTON  
Kirkland, Washington

EGON MOLBAK  
Seattle, Washington

DUDLEY MORGAN  
Nashville, Tennessee

CAROL C. MORRISON  
Palatine, Illinois

GEOFFREY L. RAUSCH  
Pittsburgh, Pennsylvania

VALERIE L. THOMAS  
Alexandria, Virginia

HOWARD TUCKER  
Washington, D.C.

SUSIE USREY  
Dayton, Oregon

ROBERT D. VOLK  
San Marino, California

**PRESIDENT EMERITUS**  
DR. H. MARC CATHEY

## an inside look

Every day I receive new requests to assign USDA Hardiness and American Horticultural Society (AHS) Heat Zone codes for plants to be listed in books, magazines, and nursery labels. After recently completing the coding for Dorling Kindersley's *AHS Great Plant Guide*, which describes 2,000 plants illustrated in full color and has 55 planning guides to help the reader find plants for specific interests, I have coded more than 20,000 plants.

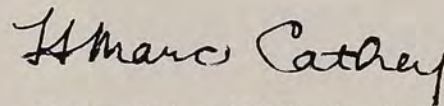
As I review each new list of plants to be coded, I am constantly amazed to find how much progress has been made with the ones we all know so well—even the familiar garden annuals our grandmothers grew. If you haven't grown any classic garden annuals for some time, you will enjoy Karan Davis Cutler's photo essay on 10 annuals that have stood the test of time. In recent years, new colors, species, hybrids, forms, and sizes have expanded the display potential for these easy-to-grow plants. Other than stock, which is a cool-weather crop (AHS Zones 5-1), these annuals will grow happily in all 12 heat zones.

Most of us get the wanderlust in late summer, so it's a good time to take a look at what's going on around North America. In this issue, Andy Wasowski profiles Ron Gass, owner of Mountain States Wholesale Nursery near Phoenix. Gass is expanding the plant palette available to southwestern gardeners by introducing and promoting new cultivars of native and adapted desert plants. We also take you on a hike in Maine's Acadia National Park with Barbara Arter to locate rugged plants suitable for northwestern coastal gardens. And you'll visit the Pacific Northwest, where fern expert Sue Olsen offers insight into the best native ferns for that region's moist, temperate climate.

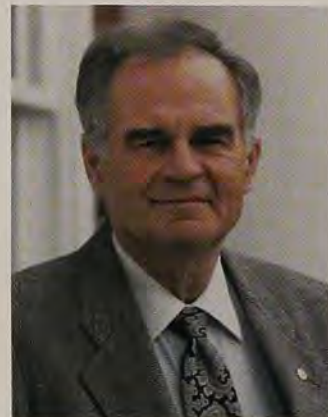
For me, no summer meal, beverage, or homemade candy would be acceptable without the flavor of fresh mint. A few shady characters have given the mint family a bad reputation for invasiveness, but Rand B. Lee introduces us to a wide range of underused or uncommon ornamental mints that will bring color and diversity to the summer garden. It's our salute to being "square-stemmed" in the garden.

Our Focus section this issue offers an update on the new vaccine for Lyme disease, as well as a review of products that protect you from the onslaught of mosquitoes and other biting insects that plague gardeners in summer.

Meanwhile, remember I'm coding more plants every day to help you and other gardeners select the best plant for any location. The list of codings for plants described in this issue are on page 62. On to 40,000 plants!



—H. Marc Cathey, *AHS President Emeritus*





members'  
forum



This garden in Spencerville, Maryland, was designed by owner Bill Harris.

#### CREDIT DUE

While reading the January/February issue of *The American Gardener*, I came across a picture in the "Bold Plants" article that didn't acknowledge who had created the garden. The picture on the left side of page 41 shows an artfully designed border. There is a photo credit, but no credit to the gardener who created this beautiful combination of plants. It is remiss not to give credit for all the work done to create such beauty.

Jill Moran  
Berkeley Springs, West Virginia

Editor's note: *The photograph in question, reprinted above, was taken in the garden of Bill Harris, who lives in Spencerville, Maryland. Harris designed the garden himself.*

#### SUNNY SIDE OF OREGON GRAPE

I noted with interest the description in the article "Ahoy, Inland Gardeners!" (July/August 1998) of Oregon grape (*Mahonia aquifolium*) as a plant for moist or shady spots.

Here in the high desert of Reno, Nevada—USDA Hardiness Zone 6—Oregon grape thrives in full sun or shade and doesn't seem to mind a fairly low-water regime.

Catherine Hancock  
Reno, Nevada

Editor's note: *Thanks for your letter. While your description of Oregon grape thriving in full sun and fairly dry conditions contradicts the cultural recommendations provided by most horticultural references, it just goes to show why gardeners should always be willing to experiment. Oregon grape is native from British Columbia south to northern California, so in Reno you are just south and east of its native range. Reno's rather temperate climate (USDA Zone 6, AHS Zone 5-7) undoubtedly plays a role in moderating the effects of increased sun exposure.*

#### INTRIGUED BY DOUGLAS

I read your fascinating article on David Douglas by Susan Davis Price in the January/February issue of *The American Gardener*. It occurs to me that there must be some published work on Douglas, and I would be grateful to know which is the best biography.

Peter L. Newton  
San Francisco, California

Price replies: *Douglas was indeed a remarkable man, yet few accounts of his life have been published. The three main sources I consulted are all out of print but are available in many large libraries—A.G. Harvey's*

## THE AMERICAN GARDENER

EDITOR  
DAVID J. ELLIS

MANAGING EDITOR  
MARY YEE

ASSISTANT EDITOR  
CHRISTINA M. SCOTT

COMMUNICATIONS ASSISTANT  
MARK C. MOLLAN

DESIGN AND ART DIRECTION  
JOSEPH YACINSKI DESIGN

#### EDITORIAL ADVISORY BOARD

JOHN ALEX FLOYD JR., CHAIR  
Birmingham, Alabama

NINA L. BASSUK  
Ithaca, New York

RICHARD E. BIR  
Brevard, North Carolina

JOHN E. BRYAN  
San Francisco, California

JOHN L. CRECH  
Hendersonville, North Carolina

KEITH CROTZ  
Chillicothe, Illinois

PANAYOTI KELAIDIS  
Denver, Colorado

RICHARD W. LIGHTY  
Greenville, Delaware

ELVIN McDONALD  
West Des Moines, Iowa

#### ADVERTISING

AHS ADVERTISING OFFICE  
4350 DiPaolo Center, Suite B  
Glenview, IL 60025  
(847) 699-1707 • FAX: (847) 699-1703

COLOR SEPARATIONS  
MIDWEST PRE-PRESS

PRINTER  
BANTA PUBLICATIONS GROUP

*The American Gardener* (ISSN 1087-9978) is published bimonthly (January/February, March/April, May/June, July/August, September/October, November/December) by the American Horticultural Society, 7931 East Boulevard Drive, Alexandria, VA 22308-1300, (703) 768-5700. Membership in the Society includes a subscription to *The American Gardener*. Annual dues are \$35; two years, \$60. International dues are \$50. \$10 of annual dues goes toward magazine subscription. Periodicals postage paid at Alexandria, Virginia, and at additional mailing offices. Postmaster: Please send Form 3579 to *The American Gardener*, 7931 East Boulevard Drive, Alexandria, VA 22308-1300.

Botanical nomenclature is based on *A Synonymized Checklist of the Vascular Flora of the United States, Canada and Greenland* and on the *Royal Horticultural Society Index of Garden Plants*. Opinions expressed in the articles are those of the authors and are not necessarily those of the Society. Manuscripts, artwork, and photographs sent for possible publication will be returned if accompanied by a self-addressed, stamped envelope. We cannot guarantee the safe return of unsolicited material. Back issues are available at \$5 per copy.

Copyright © 1999 by the American Horticultural Society. Printed in the U.S.A.

## AHS PRESIDENT'S COUNCIL

AHS HORTICULTURAL PARTNER  
OKLAHOMA HORTICULTURAL SOCIETY

MR. & MRS. RICHARD C. ANGINO  
MRS. SUZANNE FRUTIG BALES  
DR. WILLIAM E. BARRICK  
MRS. JAMES L. BARTLETT  
JOANNE R. BEARÉ  
MRS. WILLIAM BECKETT  
MRS. KATHERINE MCKAY BELK  
MR. & MRS. DANIEL BELL  
MS. NORMA M. BENTON  
MR. & MRS. C. WILLIAM BLACK  
DR. SHERRAN BLAIR  
MRS. MARY KATHERINE BLOUNT  
MR. KURT BLUEMEL  
MR. BRUCE BORDINE  
MRS. NANCY H. CALLAWAY  
MRS. SUSAN M. CARGILL  
MS. BARBARA L. CARR  
DR. HENRY MARC CATHEY  
MR. & MRS. GLEN CHARLES  
MR. RUSSELL CLARK  
MRS. LAMMOT DU PONT COPELAND  
MR. JAMES L. CORFIELD  
MRS. MARGERY HALE CRANE  
MRS. ARABELLA DANE  
MS. MAUREEN DE ST. CROIX  
MR. RON DODD  
MRS. BEVERLEY WHITE DUNN  
MR. PAUL ECKE JR.  
ESTATE OF RUTH ALICE WILSON  
DR. JOHN ALEX FLOYD JR.  
MR. JOHN GEBERIN  
MRS. KARIN GELOTTE  
MS. CHARLOTTE GRANT  
MRS. MARION E. GREENE  
MR. GERALD T. HALPIN  
MRS. RICHARD W. HAMMING  
MR. & MRS. MAX HARTL  
MRS. ENID A. HAUPT  
MRS. SHIRLEY HEBENTON  
MRS. ELSIE HILLIARD HILLMAN  
MR. CLAUDE HOPE  
MR. PHILIP HUEY  
MRS. WILLIAM C. IRELAND  
MS. PATRICIA JODSAAS  
MRS. ROBERT E. KULP JR.  
MS. CAROL LAPORTE  
WILLIAM & DIANA LYCETTE  
MR. JOSEPH MARKO  
MRS. ELIZABETH MARSHALL  
MR. TED MARSTON  
MRS. FRANCES B. MCALLISTER  
MR. & MRS. JOHN MCDUGALL  
MRS. NORA M. MCGOWAN  
MRS. PAUL MELLON  
MR. EVERITT L. MILLER  
MRS. GENE MILLER  
MR. EGON MOLBAK  
MONROVIA NURSERY COMPANY  
MRS. DUDLEY MORGAN  
MS. CAROL C. MORRISON  
MR. MICHAEL PANAS  
MR. WILLIAM G. PANNILL  
MS. PATRICIA L. PIERCE  
MRS. JOSEPH POETKER  
MR. WILLIAM A. PUSEY  
DR. JULIA W. RAPPAPORT  
MR. & MRS. ALFRED G. RINDLER  
MR. HARRY A. RISSETTO, ESQ.  
MRS. DIANA CARTER SAMPLES  
MRS. LOUISA STUDE SAROFIM  
MR. & MRS. RICHARD SCHISSLER  
MRS. JOSEPHINE M. SHANKS  
MR. EMANUEL SHEMIN  
MR. CHARLES HENRY SMITH JR.  
SOUTHERN PROGRESS CORP  
MRS. HELEN H. SPALDING  
MR. WILLIAM M. SPENCER III  
MISS JANE STEFFEY  
MRS. NANCY S. THOMAS  
MRS. VALERIE THOMAS  
MRS. BENJAMIN W. THORON  
MRS. HARRY J. VAN DE KAMP  
MR. JAMES VAN SWEDEN  
MR. ROBERT D. VOLK  
MS. KATY MOSS WARNER  
MRS. HARVEY WHITE  
MR. JOHN W. WHITE  
MRS. M. WILDER  
MRS. MARILLYN B. WILSON  
DR. & MRS. WILLIAM H. WOODHAMS

Douglas of the Fir (*Harvard University Press, 1947*), *John Davies's* Douglas of the Forests (*University of Washington Press, 1980*), and *William Morwood's* Traveler in a Vanished Landscape (*Clarkson N. Potter, 1973*), a novelistic—and, some say, rather imaginative—account of his life.

Since I wrote the article, a new biography has been published in Scotland—*Syd House and Ann Lindsay Mitchell's* David Douglas (*Aurum, 1999*)—but is not yet available in the United States.

### MORE ON DOUGLAS

I read with great interest the article about David Douglas by Susan Davis Price. Prior to co-leading a naturalists' tour to Hawaii, I had read the journal of Sarah Joiner Lyman, one of the early missionaries to Hawaii. Her entries from January through July, 1834, give an account of the arrival and untimely death of "Mr Douglas, a Botanist and Geologist, who is employed by a society in England to explore the Pacific."

I am enclosing a copy of these pages, taken from *The Lymans of Hilo: A Fascinating Account of Life in 19th-Century Hawaii*, by MacKinnon Simpson, published by the Orlando H. Lyman Trust, Hilo, Hawaii, revised edition 1992.

Sara Williams  
University of Saskatchewan  
Saskatoon, Canada

*The following excerpts from the pages sent in by Sara Williams are published with permission of the Lyman Museum and Mission House in Hilo. With the exception of minor textual clarifications, the excerpts are reproduced verbatim.*

*January 6, 1834.* We now have Mr. Douglas boarding with us....With Honolii for a guide and several natives to carry baggage, he starts for Mauna Kea tomorrow morning.

*July 12, 1834.* ...Mr. Diell (the seamen's preacher), wife, and little one arrived in the vessel, to spend a few days at Hilo....Mr Douglas left Oahu in another vessel about the same time as they did, expects to land on the other side of this island and cross the mountain. He is hourly expected and will accompany them to the V[olcano].

*July 13, 1834.* This has been one of the most gloomy days I ever witnessed....Mournful to relate Mr. Douglas is no more. Two vessels were descried in the offing this morning and...Before they had anchored...we were informed that his

corpse was at the water's edge in a canoe.... His close are sadly torn and his body dreadfully mangled. Ten gashes on his head. At first we were disposed to credit the story of the native who brought the corpse. A carpenter was engaged to make a coffin and a foreigner to dig his grave under a bread fruit tree in Mr. Goodrich's garden. Whilst engaged in digging, the thought occurred to him that Mr. Douglas was murdered. He suggested it to Mr. Goodrich and Diell. Their suspicions were at once excited. They left digging the grave and concluded to preserve the body in salt and send it to Honolulu that it might be more satisfactorily determined how the wounds were inflicted....Poor man! He has endured incredible hardships by land and by sea and suffered every privation to increase his stock of knowledge and to collect information for the benefit of the world. He has lost his life in the cause in which he was engaged.

*July 16, 1834.* Our minds are greatly relieved to-day by hearing the circumstances of Mr. Douglas' death....Saturday morning he called at the house of an Englishman who resides on the mountain for the purpose of killing beef for the Gov. There he took his breakfast and received directions respecting his route and was cautioned to be aware of the [wild cattle] pits....He proceeded on his journey to our station before he slept. He came to the first and second pits and as appears from traces of his footsteps stooped and looked at them, and then left the pond and ascended a little eminence a few rods distant, laid down his bundle and, as we suppose, discovering the third pit, he returned to look at the bullock and whilst examining it, was so unfortunate as to fall in. Two natives passing along soon were attracted to the spot by seeing a piece of his coat by the side of the pit....They went immediately for the above named Englishman, who came and shot the bullock and took the body out....This is the story of the man and perhaps it is true. It looks very probable, but I must confess I am a little suspicious. The probability is the matter will be investigated by the English consul. The above-mentioned man is a convict from Botany Bay, who has resided in these islands several years.

*For more information about the book or the Lyman Museum, write to the museum at 276 Haili Street, Hilo, HI 96720; or e-mail to [lymanwks@interpac.net](mailto:lymanwks@interpac.net)*



# news from ahs

## BIG APPLE'S GARDENS SAVED

Eleventh-hour intercession by two environmental groups caused New York City Mayor Rudolph W. Giuliani to back down from the controversial sale of 115 of the city's beloved community gardens, which were to be sold to developers.

The two non-profit organizations that came up with \$4.2 million in early May to save the gardens are the Trust for Public Land and the New York Restoration Project, a local group founded by actress Bette Midler. A judge's ruling that the city had violated state law by ignoring the environmental impact of the garden sale helped sway Giuliani.

The sale ensures that the 115 gardens will be protected, but some 600 other community gardens may still be sold.

Donations to help preserve the gardens can be sent to: New York Restoration Project, 1290 Avenue of the Americas, Second Floor, New York, NY 10102-2465.

## PHLOX EVALUATION

Phlox are among the finest of the ornamental plant genera that are principally native to North America. These cheerful spring- and summer-blooming perennials are the latest plants to be rated by the Chicago Botanic Garden's Plant Evaluation Program. From 1993 to 1996, the garden, located in Glencoe, Illinois (USDA Hardiness Zone 5b, AHS Heat Zone 5), grew and tested 22 species and cultivars of phlox for use in midwestern gardens.

The primary objective of the study was to determine which selections of phlox were most resistant to powdery mildew, a fungal disease that weakens plants and causes unsightly white blemishes on foliage. Researchers also wanted to see how well shade-tolerant, spring-blooming phlox selections would hold up when grown in full sun. Low-growing and woodland species such as *P. divaricata*, *P. stolonifera*, and *P. subulata* were not included in the study.

The test plots received eight to 10 hours of sun per day and were exposed to the elements. The soil in which the phlox were



*Phlox paniculata* 'Katherine' is a top performer in evaluation studies.

grown was a slightly alkaline clay-loam amended with organic matter. No fertilizer was applied to the plants, but they were given supplemental water as needed.

Top performers in the study were *P. carolina* 'Reine du Jour', *P. 'Chattahoochee'*, *C. paniculata* 'Katherine', and *C. pulchra* 'Morris Berd'. According to program coordinator Richard Hawke, these selections "combine good health, strong habits, and high flower production in superior plants for a variety of landscape uses."



Purple coneflower (*Echinacea purpurea*), a top choice for butterfly habitat gardens.

Other phlox that performed well in the study were three cultivars of garden phlox (*P. paniculata*): 'Bright Eyes', 'David', and 'Franz Schubert'. These cultivars showed only fair resistance to powdery mildew, but otherwise exhibited excellent ornamental qualities.

For a copy of the garden's report on its phlox evaluation, send \$2 with your request to Plant Evaluation Notes, c/o Richard Hawke, Chicago Botanic Garden, 1000 Lake Cook Road, Glencoe, IL 60022.

## AUDUBON HABITAT COLLECTION

The National Audubon Society, headquartered in New York City, and Monrovia wholesale nursery in Azusa, California, have teamed up to put together a collection of 200 ornamental plants that offer food and shelter for birds and butterflies. Called the Audubon Habitat Collection, the plants include herbaceous perennials, shrubs, vines, and trees suitable for gardens throughout North America. Each plant in the collection was chosen because it provides a source of food, nectar, or shelter—or a combination of the three—to various types of birds and butterflies.

"We hope to introduce millions of people to birds and plants and the relationship between the two," says Jesse Grantham,

FULFILL



AN



INNER



CITY



CHILD'S



WILDEST



DREAMS.



*You can make a real difference in a child's life by supporting The Fresh Air Fund. The Fund sends thousands of inner-city children to the country to visit volunteer host families or experience life at camp. You can help. For only \$433 you can send a child to the country for two weeks. Give a child the priceless gift of summertime fun and hope.*

## The Fresh Air Fund

1.800.367.0003

The Fresh Air Fund, 1040 Avenue of the Americas, New York, NY 10018

Visit us at [www.freshair.org](http://www.freshair.org) to find out more.

A COPY OF OUR ANNUAL FINANCIAL REPORT MAY BE OBTAINED FROM THE FRESH AIR FUND, 1040 AVENUE OF THE AMERICAS, NEW YORK, NY 10018 (212)221-0900. INFORMATION FILED MAY ALSO BE OBTAINED FROM THE STATE DIVISION OF CONSUMER AFFAIRS, DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, P.O. BOX 1163, RICHMOND, VA 23209. REGISTRATION DOES NOT IMPLY ENDORSEMENT.

© 1999 The Fresh Air Fund

executive director of Audubon's Mississippi office. "Birders are interested in learning how to attract birds to their backyards, and gardening enthusiasts can add diversity to their gardens with plants that help attract birds and butterflies."

To locate the garden center nearest you that carries the Audubon Habitat Collection, call toll-free (888) PLANT IT. A free brochure about gardening for birds can be obtained by sending a self-addressed, stamped business-size envelope to Monrovia Audubon Habitat Collection, P.O. Box 1385, Azusa, CA 91702-1385.

### EXECUTIVE ORDER TARGETS INVASIVE SPECIES

In February, President Clinton signed an executive order allocating \$28 million in federal funding to help government agencies prevent the introduction of invasive plants and animals into the United States and to control invasive species that are already established here. The discovery of infestations of the wood-boring Asian long-horned beetle in Brooklyn, New York, and Chicago, Illinois, in the last two years apparently helped speed up the administration's response to an issue scientists have been warning about for more than a decade.

The executive order directed the establishment of an Invasive Species Council that will unify the efforts of the various state and federal agencies currently involved in controlling invasive plants and animals. The council—co-chaired by USDA Secretary Dan Glickman, Commerce Department Secretary William Daley, and Interior Department Secretary Bruce Babbitt—has been asked to come up with ways to prevent invasive species from becoming established in the United States and to reduce the economic and environmental impact of problem species.

By some estimates, more than 6,000 non-native plants and animals have taken up residence in the United States. Invasive exotic plants are reported to exist on as much as 100 million acres of land in this country, plaguing farmers, ranchers, and natural area managers. Among the worst offenders are kudzu (*Pueraria montana*) in the South, leafy spurge (*Euphorbia esula*) in the Great Plains, and salt cedar or tamarisk (*Tamarix* spp.) in the Southwest.

### SANTA ROSA UPDATE

In an article in the December 1995 issue of *American Horticulturist*, writer Yvette La Pierre described the dispute between conservationists and U.S. National Park Service officials over the management of Santa Rosa Island, the largest of the islands in southern

©1994 EDF

# BUY RECYCLED.

# AND SAVE.™

Thanks to you, all sorts of everyday products are being made from recycled materials. But to keep recycling working, you need to buy those products. For a free brochure, call 1-800-CALL-EDF.

Ad Council  
A Public Service of This Publication

EPA

ENVIRONMENTAL DEFENSE FUND EDF



California's Channel Islands National Park.

At that time, the Park Service was under fire for allowing cattle ranching and commercial hunting operations to continue on the island despite strong evidence that these activities were endangering the island's fragile native flora. In 1997, 13 plants that grow on the island were added to the federal endangered species list.

As a result of public pressure, lawsuits, and lobbying by several environmental and conservation groups, a settlement was negotiated for the livestock to be removed and the commercial hunting operations to be scaled back. The final boatload of cattle left the island last summer and the federal Fish and Wildlife Service is working with the Park Service to protect and restore the island's plant communities.

Part of the recovery plan will include removing the non-native plants that took advantage of the disturbance created by grazing to become established. Funding for a weed management program has been obtained and a long-term vegetation monitoring project has been initiated to study changes in the island's plant communities.

#### REGIONAL PLANTING GUIDES

The Ladybird Johnson Wildflower Center in Austin, Texas, is offering regional "Factpacks" that provide gardeners with information on selecting and planting natives appropriate to different areas of the country. The Factpacks cover nine regions, including the Northeast, Southwest, Rocky Mountains, and Northwest. Each package contains a list of recommended plants, seed sources, and instructions on how to integrate native plants into the garden and create wildflower meadows. Factpacks cost \$5 each for members of the non-profit group; \$10 for non-members. Order Factpacks through the Ladybird Johnson Wildflower Center, 4801 LaCrosse Avenue, Austin, TX 78739. For more information, visit the center's Web site at [www.wildflower.org](http://www.wildflower.org).

#### OAK CONFERENCE PRESENTERS WANTED

The International Oak Society is presenting its last conference of the millennium at the North Carolina State Arboretum in Asheville, North Carolina. The Third International Oak Conference is being held October 29-31, 2000, but paper presenters need to register topics with the conference by August 31 this year. For more information, write to the International Oak Conference, The North Carolina Arboretum, 100 Frederick Law Olmsted Way, Asheville, NC 28806-9135, or e-mail [rlance@ncarboretum.org](mailto:rlance@ncarboretum.org).



To Laura Johnson, the really beautiful thing about Preen is what she doesn't see.

Like most gardeners, Laura hates weeds. Which is why she loves Preen. With **Preen**, she never even sees them—**Preen** prevents weeds, before they even start, around nearly 200 bulbs, flowers, roses, shrubs, trees and vegetables.

And there's **Preen 'n Green**, which prevents weeds **and** fertilizes your existing plants. There's also new **Preen for Ground Covers**, a unique weed preventer created specifically for use with ground covers, like daylilies, pansies, ice plant and pachysandra.

They couldn't be easier to use—just sprinkle the granules into the soil or mulch, then gently water-in. No mess, no mixing, and no weeds for up to three months—guaranteed! And if you already have weeds, it's not too late—simply get rid of your existing weeds and then apply **Preen**.

So if, like Laura, your idea of a beautiful garden view doesn't include weeds, look for **Preen** products at your local gardening retailer. And discover the joys of weed-free gardening.



**Preen**

©1999 Greenview Lebanon PA

[www.preen.com](http://www.preen.com)

# focus july/august

# bugging off

*Every gardener has his or her own way of dealing with the swarms of mosquitoes, gnats, blackflies, and other assorted menaces that get in the way of having a perfect day of gardening. In this special section, we've reviewed some of the methods gardeners use to outsmart these pesky creatures. Also, for those readers who live in deer tick country, we've included an update on the vaccine that is now available for preventing Lyme disease.*



## insect tales

by Christina M. Scott

**A**s a full-time gardener growing and selling thousands of heirloom vegetable varieties in Tulsa, Oklahoma, Derrell Merrell spends the majority of each day outdoors. But you won't find any bug bites on this gardener's arms or legs, for Merrell just loves garlic. In fact, he loves it so much that he eats three or four raw garlic cloves every day when he sits down to lunch. "The bugs don't come near me," he says, adding with a laugh, "but then, nobody else does either." If you don't like the taste, Merrell suggests rubbing a garlic clove on the brim of your hat and around your collar and cuffs. "I guess it's a question of whether the cure is worse than the bite," he says. "But it does help keep the bugs away."

Don Barton, of Scurry, Texas, has a slightly sweeter-smelling method of protection against gnats. "Over the last couple of years, our springs have been very hot and wet," he explains, "so the gnats have been particularly bad." But you won't see Barton swatting at those pesky little insects while working the garden he tends with his wife, Judy. His secret? Vanilla extract. Using an old perfume spray bottle, Barton sprays vanilla extract "all over, but especially the tops of my ears where they really like to eat."

Barton, who works for a local utility company as a purchasing agent, says that his bug repellent has caught on. "A lot of the guys at work borrow it from me," he says. "It works for us." Of course, if you spray vanilla extract on yourself, be prepared to have cravings for fresh-baked goods. "My wife says I smell like a big chocolate chip cookie," he laughs. But no matter what he smells like, Barton is glad to be rid of the gnats. The smell is just the icing on the cake, so to speak.

AHS member Carol Howe, a garden writer living in Rockland, Maine, has dis-

covered an innovative method of protecting herself from the blackflies that call New England home. Howe once worked in a Vermont nursery—"real blackfly country," she says. "People would come into the nursery in spring asking, 'Where are the petunias?' while waving their arms to slap the flies away." This mad flailing of arms was commonly referred to as "the May salute." But Howe and her coworkers found that when they wore light-colored clothing, the flies stayed away. "There must be some scientific reason for it," she says, "but the blackflies just don't seem to pay attention to you if you're wearing light clothing."

So the next time you find yourself in the pharmacy reading the small print on the latest commercial bug repellent, check out your spice rack or even your own closet for an alternative. Who knows? You just may find your idea printed in the pages of *The American Gardener*. (See box on page 12.)

Christina M. Scott is assistant editor of *The American Gardener*.

## mosquitoes

by Mark C. Mollan

**E**.B. White probably did not consider a Charlotte the Mosquito character to befriend Wilbur the Famous Pig. Nor has there ever been a mosquito super-hero to save Gotham City or Metropolis. This lack of positive popular culture images of mosquitoes may stem from the fact that, for humans, mosquitoes are annoying, disruptive, and potentially deadly. We have been fighting the plagues of these virus carriers for centuries, and in some areas of the tropics they are still the leading cause of public health problems. Hundreds of years ago Chinese and European peasants burned mugwort (*Artemisia vulgaris*) to drive away hordes of mosquitoes; this method is still practiced in parts of China today. In many areas of the southern United States, mosquito-control units regularly spray insecticides such as malathion and permethrin throughout neighborhoods during summer to keep these buzzers at bay.

### REPELLENTS

Spraying programs may reduce mosquito populations in areas where the insects are particularly bothersome, but they do not offer complete control and they cause a number of environmental problems of their own. In 1997, for example, thousands of rockfish and other aquatic life were killed

on Maryland's Eastern Shore after permethrin was sprayed near a pond.

Repellents applied to the skin are a more targeted means of protection than resorting to burning herbs or spraying insecticides indiscriminately. However, many repellents have unwanted side effects as well. Problems caused by toxic products can be avoided, or at least minimized, by using natural-based products, instead. But buyers beware: Even natural substances hold potential dangers for users.

### DEET

The active ingredient of most popular forms of insect repellent on the market today is diethyl toluamide, commonly known as DEET. Found in such products as Cutter's and Off!, DEET offers effective, long-lasting protection from mosquitoes and other biting or stinging insects. Aside from fending off a host of pests, "the biggest advantage of DEET is that it keeps working even after it has dried, which is the major drawback to other forms of repellents," explains Andrew Spielman, professor of tropical public health at Harvard University.

But this popular means of pest control is not without drawbacks. According to a 1986 study published in the *Journal of Toxicology and Environmental Health*, when DEET products are applied to the skin as



much as 56 percent of the dose is absorbed through the skin and up to 17 percent can enter the bloodstream, causing symptoms such as muscle cramping, confusion, and insomnia. Other studies have also indicated that, in severe cases, allergies, dermatitis, and even seizures can result from regular use of products containing high concentrations of DEET.

While it is possible to apply DEET to clothing rather than directly on the skin, be aware that as much as five to 20 times the regular dose needs to be applied to clothes to achieve the same protection as treated bare skin.

Special care must be taken when applying DEET products to young children. Experts point out that children's lower body weights make them more vulnerable to the potentially dangerous effects of DEET. For this reason, the American Academy of Pediatrics recommends that children should not be exposed to any product with more than a 10 percent concentration.

### CITRONELLA

A less-toxic alternative to DEET is citronella oil, a common active ingredient in many natural insect repellents. Distilled from *Cymbopogon nardus*, a perennial grass native to southern India, Sri Lanka, and widely naturalized throughout Asia, citronella oil is a light yellow, aromatic oil that has been used

## Mosquito Species

**W**ith more than 150 different varieties of mosquitoes in the United States alone, humans are lucky not to be the only dish on the mosquito menu; some species prefer birds, frogs, or even plants to humans. The most annoying mosquitoes for gardeners are those in the genus *Aedes*. These mosquitoes—with a few exceptions—tend to attack during daylight hours, mostly during the peak gardening times of dawn and dusk.

*Aedes vexans* is prevalent throughout the country during all daytime hours in August, especially after heavy rains. Approaching their unsuspecting prey from below, they attack while gardeners bend over tending to summer plantings. The coastal mosquito (*A. sollicitans*), also known as the New Jersey mosquito, breeds in brackish waters and prefers to wait until nightfall to dive-bomb unsuspecting prey from above. Snow melt mosquitoes, also known as *A. excrucians*—for good reason—are troublesome in spring to gardeners who reside near rivers. Some *Aedes* species, such as *A. coquillettedia*, reside in cattail marshes throughout the United States and emerge during midday in midsummer. Other genera, such as *Anopheles* and *Culex*, are nocturnal species that prefer to emerge at dusk to search for blood, a time when most gardeners have retired from their chores for the day. Following the old dictum, "Know thy enemy," find out which species are most prevalent in your area and when they come out to attack, and you will be better prepared to avoid them.

—M.C.M.

# A World of Tranquility and Rejuvenation...



FELICITA

Golf ♦ Spa ♦ Garden Resort

Escape Weekends, Golf and Spa Packages

1-888-321-3713

Harrisburg, Pennsylvania

[www.FelicitaResort.com](http://www.FelicitaResort.com)

## SPRAY ON WILT-PRUF® AND SPRAY ON PROTECTION!

against water stress and winter  
kill on broad-leaf evergreens and  
against water stress during  
drought. Also great for keeping  
Christmas trees and wreaths  
green and healthy looking.

**THE PROVEN ANTI-TRANSPIRANT FOR OVER 50 YEARS.**

Write for free literature

**WILT-PRUF® PRODUCTS, INC.**  
P.O. Box 469 • Essex, CT 06426-0469

<http://www.wiltpruf.com>  
e-mail: [wiltpruf@wiltpruf.com](mailto:wiltpruf@wiltpruf.com)



for centuries to repel insects. Citronella is found in a variety of forms, from creams and sprays to candles and even citronella-treated wristbands. Perhaps the best-known citronella-based products are manufactured by Avon. The company's Skin-So-Soft line contains insect-repelling products that have consistently stood up to researchers' efficacy tests. Avon's product line is generally less potent than DEET-based repellents, but its pleasant odor and safety allows users to reapply it frequently if needed. Furthermore, many of the Skin-So-Soft products are combined with sunscreen.

Just because a product contains citronella, however, does not guarantee that it is an effective mosquito repellent. Some citronella-based sprays and lotions such as Buzz Away and Green Ban have been shown ineffective in a recent study published by the *Journal of Medical Entomology*. Citronella candles and incense have yielded mixed results: Research indicates that to provide true protection from mosquitoes, you would need to burn so many candles that the smoke and odor would be nearly intolerable.

Finally, many plants that contain citronella oils, such as lemon grass (*Cymbopogon citratus*) and *Pelargonium citrosum* 'Van Leenii'—although advertised as repelling mosquitoes through the constant release of citronella fragrance into the air—have also proved less than effective. This is because citronella's efficacy as a repellent is dependent on the volatilization of the essential oil into the air. Volatilization requires the heating or crushing and burning of leaves, and its effectiveness varies greatly according to environmental conditions. Unless you want to continuously crush pelargonium leaves in your fingers as you sit on your porch, seek out better repellents.

### NEEM

Deemed the "Ideal Mosquito Repellent" by the Bio-Integral Resource Center (BIRC)—a non-profit organization that

### Write Us!

We would like to know how you keep bugs at bay in your own garden. Send your stories to Bugs at Bay, *The American Gardener*, 7931 East Boulevard Drive, Alexandria, VA 22308, or e-mail them to us at [editor@ahs.org](mailto:editor@ahs.org). We'll publish the three best anecdotes in a future issue and the writers will receive a gift bag of assorted natural insect repellents.

## Sources

### REPELLENTS

**AVON**, (800) FOR AVON. (Skin-Soft products)

**CONSEP, INC.**, 213 SW Columbia Street, Bend OR 97702-1013.

(800) 367-8727. (Bite Blocker)

**GARDENER'S SUPPLY COMPANY**, 128 Intervale Road, Burlington, VT 05401. (800) 955-3370. [www.gardeners.com](http://www.gardeners.com). (Bug repellent wristband)

**THE ORIGINAL NEEM COMPANY**, 2711 N.W. 6th Street, Suite B, Gainesville, FL 32609. (877) 890-6336. [www.neemaura.com](http://www.neemaura.com).

### MOSQUITO-EATING FISH

**NATURAL PEST CONTROLS**, 8864 Little Creek Drive, Orangevale, CA 95662. (916) 726-0855.

**RICHMOND FISHERIES**, 8609 Clark Road, Richmond, IL 60071 (815) 675-6545.

## Resources

**BIO-INTEGRAL RESOURCE CENTER (BIRC)** publishes *Common Sense Pest Control Quarterly*, *IPM Practitioner*, and a yearly *Directory of Least-Toxic Pest Control Products*. For membership information, write BIRC, P.O. Box 7414, Berkeley, CA 94707, or call (510) 524-2567.

**COMMON SENSE PEST CONTROL** by William Olkowski, Sheila Daar, and Helga Olkowski. Taunton Press, Newton, Connecticut, 1991.

**GLOSSARY OF PLANT-DERIVED INSECT DETERRENTS** by Martin Jacobson. CRC Press, Boca Raton, Florida, 1990.

**HANDBOOK OF PLANTS WITH PEST-CONTROL PROPERTIES** by Michael Grainge and Saleem Ahmed. John Wiley & Sons, New York, 1988.

**HERB RESEARCH FOUNDATION**, 1007 Pearl Street, Suite 200, Boulder, CO 80302. (303) 449-2265. [www.herbs.org](http://www.herbs.org).

evaluates and publicizes the latest information on less-toxic pest management—one natural repellent that has received high praise is oil from the neem tree (*Azadirachta indica*), a broad-leaved tree native to India that contains natural pesticides. In India, where at least two million cases of malaria are reported each year, neem oil is rapidly becoming the repellent of choice. There, the oil is mixed with kerosene and burned in lamps; the resulting smoke proves nearly 100 percent effective at keeping the deadly insects at bay.

In the United States and elsewhere, you are most likely to find neem in the form of a mosquito-repellent cream or spray, such as NeemAura Naturals Herbal Outdoor Spray from The Original Neem Company (see source box, above). Researchers concur that just two percent of neem oil in a base of coconut oil is effective for up to 12 hours against many types of mosquitoes. Although reportedly less-than-pleasant-smelling, neem oil is longer lasting and more effective than many popular chemical repellents on several mosquito species.

### OTHER CHOICES

Another bug repellent and sunscreen combination worth trying is the soybean oil-based product Bite Blocker, although some people find the scent unappealing.

BIRC also recommends using soaps formulated from alkylcyclopentanones or phenylalkanols, or trying the arthritis cream Ben Gay.

If you find applying lotions, oils, and ointments to your skin less than appealing, *The Doctor's Book of Home Remedies*, published by *Prevention* magazine, suggests two dietary supplements that can help repel mosquitoes. Taking the B vitamin thiamine chloride may repel mosquitoes and other insects as it is excreted through the skin. This remedy is not for everyone, however; in some cases hives and rashes result. Another alternative is taking a daily dose of at least 60 milligrams of zinc. Be aware that it takes about a month to build up enough zinc in your system to discourage insects. Take supplements such as these only after consulting your doctor.

Whatever method you choose to repel mosquitoes, it is important to remember that even natural repellents have inherent dangers, notes Don Barnard, research leader of the Mosquito and Fly Research Unit of the USDA's Agricultural Research Service in Gainesville, Florida. "Many natural repellents need high applications to be effective, and many natural oils in repellent products can cause burning, irritation, and even dermatitis," he explains. "Because it's natural does not mean it is completely safe."

## other biters

**M**osquitoes are not the only insects that trouble gardeners. Biting midges and blackflies are just a



## The Best Chinese Tree Peonies

- 135 Varieties in our Garden
- Guaranteed to Grow
- Priced from \$45
- Color Catalog \$2

Visit us online for one of the best gardening web site!

### Golden Port International

Dept. 106, 2255 Cedars Road,  
Lawrenceville, GA 30043  
1-877-PEONIES (1-877-736-6437)  
[www.goldenport.com/peony/](http://www.goldenport.com/peony/)



## Beautiful Perennials...

Our plants return to bloom season after season for years of easy pleasure - our specialty, perennials. We grow and ship over 500 varieties in the spring and fall - easy to plant and each plant guaranteed! Send for our **FREE** color catalog today!

**Bluestone Perennials**  
7225 Middle Ridge Road  
Madison, Ohio 43057  
1-800-842-5243  
<http://www.bluestoneperennials.com>

...at a price you will like!

**BLUESTONE PERENNIALS**

## Mosquito Prevention

One way to help keep your home and garden mosquito free is to create an environment that discourages mosquitoes from breeding on the premises.

Mosquito eggs need still water and high levels of humidity to develop and survive. Common areas around your home that collect water and provide suitable conditions for mosquitoes to breed include rain barrels, buckets, old cans, and drainage lines from rain gutters. The insides of old tires, pet water dishes, the bottoms of planters, and pools that form around water spigots are other favorite breeding grounds. Even water that collects around shrubs, in cavities in tree trunks, under ivy patches, and in mulch provides enough moisture for mosquitoes. Because these insects do not migrate far from where there is available moisture, eliminating moisture build-up in these areas will go a long way toward reducing mosquito visitations to your garden.



For bird baths, collecting pools, ponds, and other small water features around the home, some insecticide companies offer bacteria-releasing repellent rings that kill mosquito larvae without endangering wildlife, pets, or people. Another safe control method for ponds is to stock it with goldfish or mosquito fish (*Gambusia affinis*). (See box on page 13 for sources.) Be sure your pond is secure during times of high water levels to prevent accidental escape of these fish into local waters; these fierce competitors can threaten the survival of native aquatic species. To protect the fish from neighborhood cats or wandering wildlife, submerge sections of clay pipe in the pond to offer shelter.

—M.C.M.

few of the many pests that can ruin a day outdoors. Here are some less-toxic solutions to these and other nasty nuisances.

### FLIES

Biting flies can be a menace to anyone who spends time outdoors. And like mosquitoes, they can quickly move from being a simple nuisance to being downright dangerous. Blackflies, for example, will leave a painful welt on their unlucky victims, but their bites can also cause allergic responses that range from more prominent skin irritations to severe systematic illnesses that require hospitalization.

Though nothing has proven 100 percent effective in repelling biting flies—even DEET fails to protect against many species—some of the natural products already mentioned can help. According to *The Complete Guide to Pest Control*, by George W. Ware, Avon's Skin-So-Soft products again come to the rescue against blackflies and stable flies. And citronella oil, also a useful stable-fly repeller, may be useful against other kinds of biting flies.

Some varieties of biting flies do not respond to repellents. If avoiding them is not a possibility, put on loose-fitting clothing, followed by small amounts of repellents containing DEET.

### BITING MIDGES

Biting midges (*Culicoides* spp.) are tiny, blood-sucking insects often referred to as

“no-see-ums.” Despite their small size—these insects are a mere  $\frac{1}{25}$  to  $\frac{1}{8}$  inch long—they are capable of leaving a painful welt on the skin when they bite. These midges are difficult to repel; the best method of avoiding their bite is to apply products such as Skin-So-Soft or baby oil to the skin. The mineral oil in these products prevents midges from biting by trapping them like a saber-toothed tiger in a tar pit.

Mark C. Mollan is communications assistant at the American Horticultural Society.

## lyme disease update

by Christina M. Scott

Despite increased public knowledge about Lyme disease, the disease continues to spread (see *American Horticulturist*, November 1994). Currently, Lyme disease is the most commonly diagnosed vector-borne disease in the United States. Between 1982 and 1996, more than 99,000 cases were reported to the Centers for Disease Control and Pre-

vention (CDC). The number of reported cases is still increasing each year: from 8,257 in 1993 to more than 16,000 in 1996—the last year for which complete statistics are available.

But there's a new weapon for those in areas where the disease is most prevalent. In December, the Food and Drug Administration (FDA) approved the first vaccine to aid in the prevention of Lyme disease. Developed by Philadelphia-based SmithKline Beecham Pharmaceuticals, the vaccine is being marketed under the name LYMERix. Individuals receive three doses of the vaccine: An initial dose is followed by a second dose one month later, and a third dose 12 months after the initial dose. Studies are underway to determine whether full protection can be achieved with accelerated dosing.

The vaccine works by stimulating specific antibodies directed against *Borrelia burgdorferi*, the microorganism carried by the black-legged or deer tick (*Ixodes scapularis*) and the western black-legged tick (*I. pacificus*) that cause the disease. Researchers hypothesize that when infected ticks feed on humans who have been vaccinated with LYMERix, the vaccine-induced antibodies are taken up by the tick and interact with the *B. burgdorferi* in the midgut of the tick, thereby preventing transmission of the organism.

A two-year clinical trial involving nearly 11,000 people between 15 and 70 years old, conducted in the Northeast and Wisconsin—areas where Lyme disease is most common—indicate that the vaccine is safe and effective against the transmission of the bacterium. Vaccine efficacy against

Lyme disease was 50 percent after two doses, and 78 percent after three doses. The second and third doses—at which point peak immunity is achieved—were administered several weeks prior to the onset of the *B. burgdorferi*-transmission season in the local geographic area. Researchers note that timing the vaccine injections to be optimally effective

during peak tick activity—usually May through June—is critical.

Although LYMERix shows great promise in preventing many cases of Lyme disease, researchers are quick to emphasize that it is not a cure or a treatment for the disease. “It's important for people to understand that the vaccine is not one hundred percent effective,” says Tom

*continued on page 52*





# gardeners information service

## ***We have horseradish in our garden. How should I harvest and store it?***

—K. M., Albany, New York

Hardy to USDA Zone 3, horseradish (*Armoracia rusticana*) is an herbaceous perennial native to eastern Europe and western Asia. It is grown for its thick taproot, which is grated to add pungency to sauces, relishes, and salads. A member of the mustard family (Brassicaceae), horseradish can spread aggressively in rich, loamy soil. You can control this tendency by harvesting it annually.

Annual harvesting also benefits flavor: Horseradish roots tend to lose their intense flavor and get stringy if left in the ground for more than one season. Harvest horseradish each fall after a few sharp frosts have stimulated the plant to begin storing starch in its roots. Dig up the entire plant and remove the foliage and any side roots. Sturdy six- to 12-inch-long side roots can be stored in moist sand or sawdust in a cool area over winter and planted the following spring.

Plant root cuttings two feet apart and four to six inches deep in fertile, well-drained soil and full sun. Set the cuttings at a slight angle in the soil, making sure the bottom end of each cutting is oriented downward. Horseradish should be included in a regular crop rotation to reduce the build-up of the soil-borne pests and diseases to which the mustard family is susceptible. Water regularly as needed during the season; the roots become woody if subjected to prolonged dry spells.

Karan Davis Cutler, author of *Burpee's Complete Vegetable and Herb Gardener: A Guide to Growing Your Garden Organically* (Macmillan, 1997), recommends grating and storing in the refrigerator only as much horseradish root as you will use in a month. The ungrated portion of the root can be stored in damp sand in a cool, dark location or in a perforated plastic bag in the refrigerator for up to three months.

## ***I have Joe-Pye weed in my garden that needs to be cut back. Although the roots are fairly close to the surface, they are thick and tough and I am having trouble getting them out. Do you have any suggestions?***

—S. C., via e-mail

Joe-Pye weed is the common name for several plants in the genus *Eupatorium*. The most commonly grown species are common Joe-Pye weed (*E. purpureum*), hollow Joe-Pye weed (*E. fistulosum*), and spotted Joe-Pye weed (*E. maculatum*).

A member of the daisy family (Compositae), this bold North American native perennial grows five to 10 feet tall—depending on species or cultivar—and up to five feet in diameter. Joe-Pye weed makes an architectural statement in the garden, and its clusters of purple flowers attract butterflies.

Joe-Pye weed can be dug and divided annually, preferably in the fall, to prevent its root system from spreading too far from the par-

ent plant or plants. There is, unfortunately, no real short cut to the digging process. Digging should become easier if you retain one main stem and dig and divide the plant every year.

If digging is not feasible, prune back unwanted new growth as soon as it appears in spring, or add a weed-blocking landscape fabric—camouflaged by mulch—around the plant's main stem.



## ***How does using fish meal or kelp benefit a garden?***

—M. O., Hortonville, Wisconsin

Fish meal and kelp belong to the group of fertilizers and soil amendments—generally referred to as organic—that are composed of natural plant and animal materials. Fish meal is made up of ground-up fish parts that are a byproduct of the seafood processing industry. Although some people find its odor disagreeable, fish meal is a slow-release fertilizer that contains relatively balanced proportions of the three major plant nutrients: nitrogen, phosphorous, and potassium, as well as small amounts of several trace minerals.

Kelp meal—made of ground-up seaweed—is relatively low in nitrogen and phosphorous but contains many vitamins, minerals, and soil conditioners. Kelp meal decomposes quickly to improve soil structure, but because of its low nutrient content, it is often classified as a soil amendment rather than a fertilizer. Fish and kelp meal are available in dry and liquid forms; some products combine fish and kelp. Check the labels of individual products for application rates.

Walt Benecki, owner of Walt's Organic Fertilizer Company in Seattle, Washington, says that using fish and kelp meal helps to improve soil fertility—a key to successful gardening. "Adding nutrient-rich organic fertilizer to the soil is like using a key to unlock those plentiful nutrients that are present in most soils but that are in forms that plants cannot use," Benecki says.

Many garden centers carry kelp and fish fertilizers. One mail-order source is Peaceful Valley Farm Supply in Grass Valley, California. Order its free catalog by calling (888) 784-1722, or visit its Web site at [www.groworganic.com](http://www.groworganic.com).

—Melanie Bonacorsa, Information Specialist

For answers to your gardening questions, call Gardeners Information Service at (800) 777-7931 ext. 31 between 10 a.m. and 4 p.m. Eastern time, or e-mail us anytime at [gis@ahs.org](mailto:gis@ahs.org).



# offshoots

## THE WAR OF THE ROSES

by Joseph E. Scalia

Pointing to the tangle of vegetation that marked the perimeter of our property, my wife said, “You know, if you could just cut back the rose bush a foot or two, the yard would get more sunlight, and everything would breathe and grow better.”

She made her suggestion in much the same detached tone that Dwight Eisenhower probably used when he announced during a D-Day planning session, “If we can just land a couple hundred thousand men on the beaches of Normandy—without the Germans finding out—maybe we can win this war.”

I bit my lower lip as she retreated into the house. I’ve hated roses since I was a kid, because I discovered they drew me in with their sweetness only to stick me with their thorns or shoot a Japanese beetle up my nose every time I stooped to take a sniff.

Since there was still plenty of daylight left in the afternoon, I went into the garage to take stock of my equipment. I passed over the chain saw and the electric hedge trimmer. They were useful for chopping yews down to size, but too cumbersome for selective pruning. Instead, I opted for my trusty Craftsman hand clippers, which I slipped into the pocket of my Bermuda shorts.

Next I rummaged the drawers of my workbench for gloves. All I could find was a pair of holey fleece-lined winter ladies gloves that my wife used when she potted plants and dug tulip bulbs. I stuffed my hands into the gloves, my fingers squirting through the holes like over-filled sausages.

Armed with pruner and gloves, I decided on a direct frontal assault on the rose bush. With luck, I would be in and out in minutes—and back inside watching the end of the baseball game before the rose knew what hit it.

Steadily I advanced toward the tangle of undergrowth along the fence, which had developed into a densely shaded bower after years of neglect.

I pushed aside a branch and ducked beneath the overhanging stems. Inside were the skeletal remains of a mimosa tree; a confusion of honeysuckle; and a wild cherry tree that I hadn’t known was there. The rose bush had wound around everything like barbed wire.

Carefully I reached out and tested the strength of the thorny stem—disturbing some nearby bees in the process. They rushed

out of the flowers and made warning passes at my eyes.

“Easy boys,” I said. “This is *my* garden.”

I eased the clippers from my pocket and laid it against a rose shoot. It was as thick as my thumb and studded with thorns.

*Snap, snap, snap.* I made three quick cuts. Instantly a rose tendril dropped from overhead and wrapped itself around my neck.

*Snap, snap.* Two more tendrils insinuated themselves up my sleeve and down my socks.

*Snap.* I could feel a tendril attaching itself to my waist.

Whirling to meet the advance, I only wrapped myself tighter in the razor coils. When a piece of the bush swung threateningly just inches from my nose, I panicked. Pulling, yelling, and swearing, I shook my arm free—and dislodged a squadron of bees.

I got stung four times before I reached the safety of the garage. Inside, I threw my clipper aside. I needed stronger ammunition: a can of bug spray, 100 feet of extension cord, and the 14-inch electric hedge trimmer. I wasn’t surrendering yet.

Thus armed, I charged through the door with the trimmer screaming and the bug repellent spraying. I emptied the can into the bush still teeming with bloodthirsty bees. Then I turned to the bush with the trimmer while the groggy but still-defiant bees continued to attack.

I fainted. I thrust. A branch from the rose bush jammed the trimmer, throwing the screaming motor into a hysterical pitch. Yanking with all my force, I freed the blade—only to have it catch in the electrical cord, severing it. Sparks exploded around me. A surge of 120 volts passed through my body.

When I recovered, I dropped the dead trimmer and ran again to the garage. This time I emerged pulling on the starter rope of my chain saw.

“Take *that*, and *that*, and *that*!” I shouted, swinging the saw.

It was dark when I finally staggered into the house reeking of gasoline, with my clothes tattered, cut and scratched from head to toe. My bee-stung face was swollen beyond recognition.

“What took you so long?” my wife asked nonchalantly, finishing a bowl of raspberry sherbert.

I just dragged myself past her and into the bedroom.

“You know,” she said to me later as I was soaking eyeball-deep in the bathtub in vinegar and baking soda, “I have *another* idea. If you could just move that pine tree by the side of the garage into that empty space you just made...”







# planting the future

## THE CAROLINA CHILDREN'S GARDEN

story and photograph by Arlene Marturano

The growing interest in youth gardening in the 1990s reflects our increasing awareness of how plants can benefit people's lives in many ways. Encouraging an early appreciation of plants in children helps prepare them to be responsible and sensitive future stewards of the world in which we live. One of the most effective ways to dramatize the importance of gardening with children is the demonstration garden, which focuses on themes that inspire, educate, and motivate people to garden with children at home and in their communities.

The Carolina Children's Garden in northeastern Columbia, South Carolina, serves just such a purpose, enabling visitors to experience gardening as a way to bring families in touch with nature and each other. As an additional benefit, it raises awareness of environmental issues and challenges in one's own backyard. Officially dedicated in October 1997, the garden is a two-acre collection of theme gardens at Clemson University's 1,000-acre Sandhill Research and Education Center.

### INSPIRATION FROM AHS

As chairperson for the children's garden planning committee at Sandhill Research and Education Center, my mission is to bring the issue of children's gardening to the community. The American Horticultural Society's annual Youth Garden Symposium—in which I have participated since its inception seven years ago—has been a continuing source of inspiration for me. I met two important players in the development of the Carolina Children's Garden at one of AHS's symposiums: Rick Anderson and Sharon Lovejoy. Anderson, a Columbia-based landscape designer with Ston Würks, drew the concept plan for the garden. Lovejoy—a nationally known author and illustrator—designed the garden's logo.

### PLAY AND LEARN

Because the Carolina Children's Garden was conceived to embrace a diversity of interests, planning and bringing it to life required a truly collaborative effort of many volunteers from the community, including Clemson University,

Ston Würks, various state governmental agencies and associations, local Master Gardeners, and nearby schools.

There are currently nine theme gardens, each with its own printed material that visitors can use for self-guided tours and take home for reference and inspiration.

One of the theme gardens, the Dinosaur Garden, features playground versions of dinosaurs on which kids can climb and play, set amid living plants such as ginkgos and various ferns, which are representative of those that flourished when dinosaurs roamed the earth.

Many species of birds visit the Bird Garden, designed to provide food, water, shelter, and nesting material. The plot has nectar plants for hummingbirds; sunflowers, millet, thistle, peanuts, and buckwheat for seed-eaters; and a strawberry patch and shrubs with berries for fruit-eaters. The garden even grows its own birdhouse gourds, and a dead tree has become a condominium for nuthatches.

Kids can learn about the region's agricultural past in the Historic Crops of South Carolina Garden, where a scarecrow oversees plantings of indigo, flax, peanuts, cotton, and rice. A millstone serves as an entrance stepping stone into a cedar playhouse. Young visitors here particularly enjoy working a plot of soil as farmers of old did, with a hand plow. This must be the most thoroughly plowed site in South Carolina!

And no children's garden should fail to pay tribute to the classic tales of childhood. The Three Bears Garden is occupied by three topiary occupants. Bear-paw stepping stones lead to a vine-covered house, a tree-stump table, and three stump chairs that kids can "try on for size."

Expansion plans for the Carolina Children's Garden include adding more theme gardens, such as a Native American Garden, and developing a schedule of special events and public programs. ●



An over-sized birdhouse is the focal point of the Bird Garden, designed and planted by local middle-school children.

Other theme gardens include the Growing Healthy Garden; the Butterfly Garden; Pooh's Corner; Mr. MacGregor's Garden, and the Alphabet Garden. The garden is daily open from 8 a.m. to dusk; admission is free. For more information, contact Sandhill Research and Education Center at (803) 788-5700.

*Arlene Marturano is an educator with the South Carolina Garden-Based Learning Network. She will be a presenter at the 1999 Youth Garden Symposium in Denver, July 22-24.*



# mail-order explorer

## COLVOS CREEK NURSERY

by Christina M. Scott

When Mike Lee opened Colvos Creek Nursery in 1975, he had no intention of going into the mail-order business. A full-time landscape architect in Seattle, Lee planned on growing large numbers of a few hard-to-find plants to build a successful wholesale nursery in the Seattle area. But sometimes you get a customer you just can't say "no" to. In Lee's case, this customer was the late J.C. Raulston, who at the time was director of the North Carolina State University Arboretum (now the J.C. Raulston Arboretum). In 1983, Raulston dropped into Colvos Creek during a whirlwind tour of the Northwest and, shortly thereafter, he placed an order for several plants, including the Australian tea tree (*Leptospermum scoparium*).

"I really wasn't set up for mail-order," Lee says. "But I went ahead and boxed up the plants and sent them on to North Carolina." A few days later, he received a phone call from Raulston. The plants had arrived intact, but had been rather shaken during their journey. "Raulston gave us some hints on how to pack plants for shipping," Lee recalls with a laugh. "From that point on we were a retail mail-order nursery."

In the intervening years, Colvos Creek has quietly emerged as an important resource for plant enthusiasts across the country. And although he still plans to expand into wholesale, Lee has taken on his role as the owner of a retail specialty nursery with a vengeance. Following his theory that if you grow an interesting plant "someone will want it," the nursery's catalog boasts an impressive array of rare trees and shrubs as well as a few uncommon northwestern native perennials.

## ISLAND TESTING GROUND

Located on Vashon Island, Washington—a 20-minute ferry ride from the coast of Seattle—Colvos Creek Nursery escapes the colder microclimates that many nurseries in the Northwest face. The island is within USDA Zone 9a, while Seattle falls into slightly cooler Zone 8. "The warmer, sunnier conditions here on the island allow me to play around with a wide variety of plants," Lee explains. A quick glance through the catalog supports his claim: Its pages feature an intriguing blend of native and exotic plants—from Lewis's monkeyflower (*Mimulus lewisii*), a perennial native to the Northwest—to an Appalachian shrub intriguingly named ratstripper (*Paxistima canbyi*). From South America comes the Chilean fire tree (*Embothrium coccineum*), a tender evergreen featuring showy red tubular flowers, while from southeastern Australia comes royal grevillea (*Grevillea victoriae*), a shrub in the protea family that has silvery green leaves and red flowers in pendulous terminal racemes. And from the Mediterranean comes rockroses (*Cistus* spp.), shrubs with aromatic evergreen leaves and delicate white, pink, rose, or lilac flowers.

Even within more familiar genera, gardeners will find a large assortment to choose from. Need an oak tree for the backyard? Take a look at Colvos's collection of 40 different species. Or would you rather have a maple? Choose one of the nursery's 32 *Acer* species. The nursery also stocks as many as 37 pine species—enough to satisfy even the most diehard collector.

Despite their varied origins, these plants have one thing in common: They all thrive in the Pacific Northwest. "I'm always on the lookout for plants that will grow here," Lee explains. Of course, just because the nursery's offerings are geared toward the northwestern gardener doesn't mean that those in other re-



Among the exotic plants available from Colvos is Chilean fire tree, left, the nursery's biggest seller, and rockroses, above, which are native to the Mediterranean.

For a catalog, send \$3 to Colvos Creek Nursery, P.O. Box 1512, Vashon Island, WA 98070. The nursery is located at the intersection of Point Robinson Road and SW 240th Street. Visitors are welcome on Fridays and Saturdays from 9 a.m. to 5 p.m. For more information, call (206) 749-9508.

gions can't find something for their backyards. Lee estimates that two-thirds of his plants are hardy to Zone 6 and many plants are worth trying in Zone 5 or colder. "People are always testing the limits of what will grow where," he notes.

"One of the great things about Colvos Creek," says Sue Marvin, a basket weaver in Tukwila, Washington, "is that you can afford to experiment with different plants because they are small and inexpensive." Since she discovered

Colvos Creek 10 years ago, Marvin has been a steady customer, purchasing new plants each year for her Zone 8 garden. "Somehow I ended up with an Australian theme," she laughs, explaining that her garden now boasts grevillea, several species of bottlebrush (*Callistemon* spp.), and more eucalyptus than she can count, including her favorite, snow gum (*Eucalyptus pauciflora* sp. *niphophila*), which has a twisted trunk mottled white, gray, and tan. "When I started gardening, I didn't want to grow the things you're supposed to plant around here," she says. "Fortunately, I learned about Colvos Creek right away, and the possibilities just opened up."

#### A COLLECTOR'S PARADISE

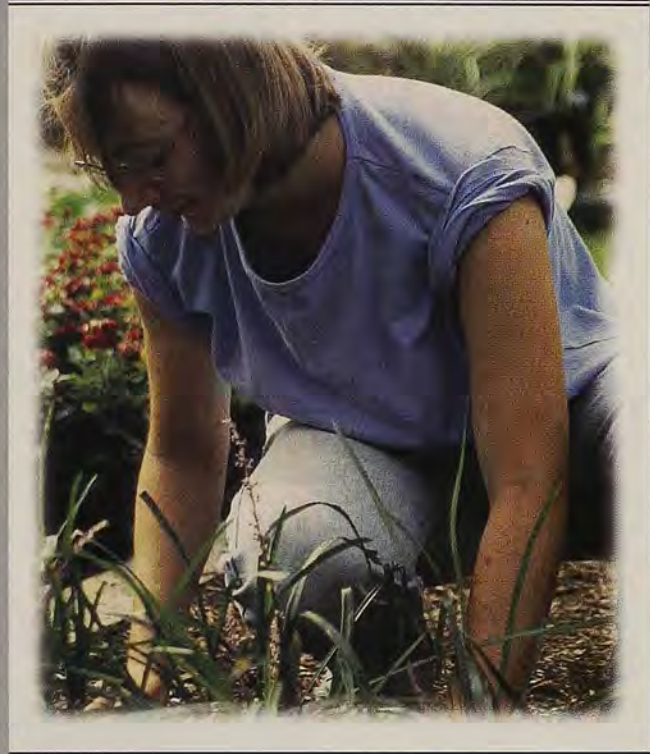
For plant collectors, Colvos Creek is an indispensable resource. Just ask Charles Keith, a physician and self-described "plant nut" who grows nearly 6,000 species of trees and shrubs on 30 acres in Chapel Hill, North Carolina. "Some may say that Colvos is too diverse, but that is precisely what I like about the nursery," Keith says. Keith has purchased several uncommon maples, including *Acer caudatifolium*, a rare species native to Taiwan with narrow, slightly lobed leaves, and *A. erianthum*, a large deciduous shrub from China with starlike, deeply veined, papery leaves. "Many of these plants are not big sellers in the market and Colvos has been the only place in the country where I've found them," he says. This year, Keith is eagerly awaiting his order of *A. robustum*, a very rare tree from China that he has never seen for sale in the United States.

Mike Gaborek also looks to Colvos Creek for lesser-known plants that are not available elsewhere. A professional landscape designer by day, Gaborek spends his free time designing his own Zone 7a garden—which he describes as "an extensive collection of weird stuff"—in Havre de Grace, Maryland. Gaborek, who has been dealing with Colvos Creek for five years, has purchased a number of interesting plants, including many unusual New Zealand natives such as *Cassinia leptophylla*, a white-flowered, heathlike shrub, and several native western sedges (*Carex* spp.). Gaborek says that lately he has had to look to western plant sources such as Colvos to find the plants he is looking for. "I think the more sophisticated gardeners tend to move out west in their plant searches," he says. "You just can't find many of the more unusual plants here in the east."

Of course, you don't need to be a plant collector to appreciate Colvos Creek Nursery. All you need is a desire to grow something different. As Lee writes in the introduction to his latest catalog, "If you're gardening to escape the ordinary, you've come to the right place." 🍀

Christina M. Scott is assistant editor of *The American Gardener*.

## EDUCATING THE HORTICULTURISTS OF TOMORROW



Whether students on break from college or adults changing careers, generations of horticulturists have benefited from American Horticultural Society internships. At George Washington's River Farm (AHS Headquarters), interns gain experience in:

- Research—by answering questions in our Gardeners Information Service
- Education—through leading activities for children in our Living Lab Program and giving tours of our public garden
- Grounds Management—by maintaining our plant collections and working on our grounds
- Interpretation—through developing brochures and labels to explain our collections to visitors
- Business Management—by running our annual Seed Exchange for members

Interns gain knowledge from other horticultural professionals by visiting public gardens such as Longwood Gardens and the U.S. National Arboretum, and by attending conferences such as the Perennial Plant Conference at the Scott Arboretum and the Millersville Native Plant Conference.

AHS internships are not supported by member dues—they are supported through the generosity of people who believe horticultural education is paramount.



FOR MORE INFORMATION ABOUT THE AHS INTERNSHIP PROGRAM OR HOW YOU CAN BE A SUPPORTER, CALL MARY ANN PATTERSON AT (800) 777-7931 EXT. 21.



# natural connections

## STINGING CATERpillARS

by John Alcock

Years ago, while visiting the island of Trinidad, a fellow entomologist and I stumbled across an eye-catching hairy caterpillar on a waxy green leaf. The tropics are home to many spectacular caterpillars—the larvae of moths and butterflies—but this creature took our breath away. This particular caterpillar looked more like the animated tuft of a clown’s wig than an insect. Camouflaged, it was *not*.

Eager to capture this improbable creature on film, my companion hurriedly unpacked his camera. But as he moved in for a closeup shot, he accidentally brushed his exposed forearm against the caterpillar’s body, which was completely enveloped in long orange hairs. With a yelp of pain, he jerked his arm back and watched the skin redden into a spectacularly large, angry welt. Subsequently, blisters formed on the affected area and his whole arm ballooned and throbbed with pain, causing my friend to reflect on the cruelty of nature.

The moral of the story: When encountering any brightly colored insect that makes little or no effort to flee, the rule for humans is to look but not touch. It is no coincidence that bumblebees, yellowjackets, and a host of other venom-laden bees and wasps come in warning yellows, oranges, and reds. Similarly, large hairy caterpillars that look as if they are advertising something in neon deserve our utmost respect. While some of these spiny creatures are harmless and can be handled without injury, others have the capacity to inflict real damage. As Lacy Hyché, an entomologist at Auburn University in Alabama, points out, trying to figure out which is which via a hands-on

bioassay makes remarkably little sense. The bad guys do not hesitate to hurt.

### GETTING TO THE POINT

The stinging species of caterpillars do not sting in the manner of an aggravated yellowjacket, which pumps toxin from a poison gland via a hypodermic stinger. Instead, these caterpillars stab us with extraordinarily thin, fine-pointed urticating bristles known as setae. These nearly microscopic hollow daggers contain poisons that trigger pain receptors or activate violent allergic responses when they break off in the skin.

Although the center of diversity for stinging caterpillars is in the tropics, a fair number of representatives of this group can be found in North American fields, woodlots, and gardens. To know them is

to beware. We have, for example, the puss caterpillar (*Megalopyge opercularis*), almost certainly a close relative of the Trinidadian caterpillar that so abruptly ended my friend’s interest in insect photography. Concealed under the long brown conspicuous hairs that cover this caterpillar’s inch-to-inch-and-a-half-long body are the dangerous micro-spines. Contact with these setae can send an unlucky victim to the hospital. Medical literature contains some grisly articles detailing spectacular lesions caused by contact with the puss caterpillar. Watch out for the puss caterpillar in late summer and fall in areas with maples, oaks, sycamores, apple trees, or elms anywhere in the eastern United States.



Contact with the poison-filled spines beneath the long brown hair of the puss caterpillar, top, may cause lesions that require hospital treatment. The sting of a saddleback caterpillar, above, is painful but usually produces a less severe reaction.

### THE DIVERSITY OF STINGERS

In addition to this bad customer, about 50 stinging caterpillars call America home. Fortunately, few are common. Among the more familiar of these injurious species is the saddleback caterpillar (*Sibine stimulea*), also called a slug caterpillar for its odd, slug-like manner of locomotion. The saddleback is easily recognizable

## If You Get Stung

The severity of your reaction to a caterpillar's sting depends largely on the species encountered and the degree of contact. In most cases, entomologist Lacy Hyché says an ice pack and an over-the-counter itch or pain medication is enough to soothe the burning, stinging, and swelling that may follow a caterpillar sting. The onset of symptoms, such as lesions, fever, nausea, and numbness around the sting are cause for more concern. Reactions may be especially severe for allergy sufferers and those with sensitive skin. In such cases, victims should seek medical attention as soon as possible.

The Alabama Agricultural Experiment Station has published *Stinging Caterpillars*, a guide to identifying caterpillars in Alabama and elsewhere. For a free copy, send a request to Office of Research Information, Alabama Agricultural Experiment Station, 2 Comer Hall, Auburn University, AL 36849-5405; or call (334) 844-4877.

by its brilliant green body, which is dark brown at both ends, and the distinct brown saddlelike mark on its back. The garish markings are, however, completely natural body ornaments that warn educable predators and human beings that here crawls a conspicuous caterpillar well worth avoiding. Like the puss caterpillar, saddlebacks are equipped with toxin-endowed spines that can make life miserable for a blue jay intent on collecting a meal or a human fascinated by the bright color pattern of the insect. The sting of this caterpillar is painful, but, fortunately, the reaction is usually less severe than that of the puss caterpillar. As with the puss caterpillar, saddleback caterpillars feed on leaves from a wide variety of trees and shrubs—including basswood, cherries, maples, and oaks—and so can show up throughout most of the eastern United States. Let them slide around like slugs without interference.

Various other hairy or spiny caterpillars that merit our respect include the buck moth caterpillar, the tent caterpillar, the stinging rose caterpillar, the white flannel moth caterpillar, and the hag moth caterpillar. None of these is in the same league as the puss caterpillar or saddleback when it comes to dishing out pain and suffering, but all of them can cause some distress.

### DON'T PANIC!

Although a certain amount of fear is healthy when you see a hairy caterpillar, there is no need for paranoia. None of these creatures goes out of its way to attack any animal, let alone a human being. Their weapons are purely defensive, for these are insects that exist by the rule, "Live and let live." Just keep your hands off them.

And remember that not every hairy caterpillar can ruin your day. Some, like the truly impressive imperial caterpillar, may look more deadly than a death adder, but are in reality totally harmless. This species and others like it may be exploiting the ability of predatory birds and mice to learn to avoid hairy caterpillars in general. A bird that has had one mouthful of urticating saddleback spines may thereafter sensibly give all hairy caterpillars a wide berth, enabling the imperial caterpillar to go on its way unharmed simply because it looks as if it ought to be a stinger. So don't panic when you cross paths with a hairy caterpillar. The planet is big enough for both of you. 🐛

*John Alcock, author of In a Desert Garden, is an entomologist specializing in insect behavior at Arizona State University in Tempe. Lacy Hyché and the Auburn University Department of Entomology provided useful information and photographs for this article.*

## You're Invited to Attend the 6th Annual Gala & Silent Auction

presented by

The American Horticultural Society's  
**FRIENDS OF RIVER FARM**

Saturday, September 25, 1999

6 p.m.–11 p.m.

## HONORING THE PAST, CELEBRATING THE FUTURE

Honorees:

Past and present Board members of the American Horticultural Society and the Friends of River Farm; AHS National Award winners; special guests.

**PAUL ECKE JR., HONORARY CHAIRMAN**

- Breathtaking Lighting of River Farm  
"By the Light of the Silvery Moon"
- Fabulous Dining
- Romantic Music; Special Entertainment
- Spectacular Silent and Live Auctions



LIMITED SPACE, RESERVE  
YOUR TICKETS TODAY!



For more information on participation and sponsorship packages contact:  
Carole Berke or Jennifer Katz at (301) 948-0694.

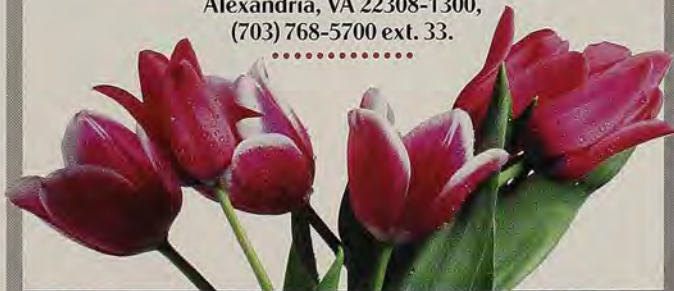
## REMEMBER THE AMERICAN HORTICULTURAL SOCIETY IN YOUR WILL OR TRUST

AHS provides reliable, up-to-date information on issues of immediate concern to gardeners and the greater community.

The Society's mission is to nurture the active development of the United States as a nation of successful and environmentally responsible gardeners.

You can help support us in our mission by making gifts to AHS during your lifetime or under the terms of your will through what is known as planned giving.

To learn more about how you can support AHS, contact our Endowment Office at 7931 East Boulevard Drive, Alexandria, VA 22308-1300, (703) 768-5700 ext. 33.



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

# A Medley of Mints

**A few members of this much-maligned plant family are worth a fresh look.**

b y R a n d B . L e e



**Above:** The slightly hairy leaves of scarlet hedge nettle, a native of the Southwest, is said to have a fragrance of thyme with a touch of melon; its tubular flowers are typical of members of the mint family. **Opposite:** Lion's-ear, a semi-evergreen from South Africa, blooms in orange splendor.

**No matter where you are** in the world, except perhaps at the polar ice caps or on the bottom of the Marianas Trench, you are never far from a mint. I am speaking, of course, in the larger sense of the mint family (Lamiaceae or Labiatae), which contains some 220 genera and a mind-boggling 5,600 species. Mints almost define the term cosmopolitan, but the majority of these herbaceous or shrubby plants can be found in temperate areas of the world; they are especially diverse in the Mediterranean region.

The older family name, Labiatae, is derived from the Latin for “lipped.” American botanists are now leaning toward Lamiaceae, which comes from a root word meaning “of gaping mouth.” Both these names refer to the shape of the family’s flowers, which are typically tubular with one or two prominent “lips.” The latter name can also be seen as evocative of the cursing gardener who has naively planted some of the truly invasive members of this vigorous family, which spread rapidly with the help of stoloniferous roots.

Botanists may distinguish mints by their flowers, but for the average gardener the four-sided “square” stems and opposite leaves are the easiest clues for identifying mints. The flowers emerge in branched clusters from the axils—the junctions above the point where leaves emerge from the stem—or, less frequently, at the top of the stem. Mints are also characterized by the presence of tiny glandular hairs that often contain aromatic essential oils—hence the use of many species to scent perfumes and flavor foods.

Even when they are not in bloom, all mints have in common a lush architecture that lures people to bend and stroke and sniff. And their deftness in catching and diffusing light over their variously ribbed, quilted, woolly, reflective, or absorbent leaf surfaces makes a mass of them as pretty from a distance as they are close by.

Although there are many water-guzzlers among the tropical members of the family, quite a few mints are startlingly drought tolerant. One stand of peppermint (*Mentha* spp.) in my Santa Fe backyard has flourished in dry shade for 20 years without supplemental watering. Dry conditions can even be used to limit the spread of truly invasive species such as peppermint and spearmint; these plants will stay in one place if planted in hard clay or sandy soil and provided with little or no supplemental water. Many of the catmints (*Nepeta* spp.) dislike lots of water, too.





### Everywhere You Turn

Many of the plants in my life are mints. The coleus (*Solenostemon* spp.) on my windowsill is a mint. The sweet marjoram, rosemary, sweet basil, sage, oregano, thyme, and winter savory in my herb cabinet are mints. So are the banks of lavender outside my sunroom window, the frothy sprays of agastache beside them, the lush heap of fruit-scented sage (*Salvia dorisiana*) in my potpourri bed, and the crinkly clumps of horehound (*Marrubium* spp.) my friend Nancy gave me (in point of fact, she gave me *one*, which has merrily seeded itself all over the yard). And what would a cottage garden be without bee balm (*Monarda* spp.), however mildewed; obedient plant (*Physostegia* spp.), which will never do what



**Top:** Meehan's mint stands only four to eight inches tall, but its inch-long lavender-tinged flowers are among the largest in the mint family. **Above:** Large-leaved *Plectranthus argentatus* has a bold presence in this mixed container planting of *Scaevola ameuila* 'Blue Wonder' and *Catharanthus roseus* 'Pink Polka Dot'.

I ask of it; and that old-fashioned annual, bells of Ireland (*Moluccella laevis*)?

There is even a mint that is used as a root vegetable: *Stachys affinis* (once *S. sieboldii*). Known as *choro-gi* in Japan, it is referred to as a Japanese artichoke in common English parlance, presumably because its white tubers, which stay crisp in cooking, taste somewhat like those of the Jerusalem artichoke (*Helianthus tuberosus*). They are often used in the same way as water chestnuts and figure prominently in a Japanese salted pickle accompanied by the leaves of another mint family member, perilla (*Perilla frutescens*).

I first encountered perilla—which to me smells deliciously of root beer—in its varietal form, *P. frutescens* var. *nankinensis*, growing wild on a St. Louis, Missouri, side street. It had escaped a nearby garden—this

can be taken as a hint that perilla has the mint family penchant for spreading where it is not wanted—and was transforming a sidewalk with its big, crinkled, deep purplish-burgundy, coleuslike leaves. There is also a green-leaved selection of perilla that is much less pretty.

### Pooling Mints

Ground cover is the popular term for what I call "pooling plants," and it is when they are used as pooling plants that mints' vigor can be turned to an advantage. Most mints spread, but fortunately not all spread with quite the enthusiasm of the notorious cat-mints, spearmints, and horehounds I have already mentioned. The creeping thymes, for example, are popular pooling mints, as are the mat-forming oreganos; both of these stay very close to the ground.

An unusual pooling mint, which I have just discovered, is the California coyote mint (*Monardella antonina* subsp. *antonina*), native to California and the Southwest. A close relative of bee balm—but not subject to mildew as far as I can tell—coyote mint makes glossy fragrant green carpets bristling with enchanting pale violet blossom clusters. It grows a foot tall in full sun, but does require regular watering. I am not yet sure of its hardiness; USDA Zone 7 for sure, but I am banking on Zone 6 or even Zone 5. It reputedly despises summer humidity and wet winters, however, so it is unlikely to do well in the southeastern United States.

For deep shade, particularly in a moist climate from Zones 4 to 8, you will do well with Meehan's mint (*Meehania cordata*). This handsome dwarf woodlander from the Appalachians stands four to eight inches tall and has lovely, slightly fuzzy, heart-shaped green leaves. Its hairy-throated, rosy-lavender, lipped flowers, blooming in May and June, are some of the largest in the family. They are over an inch long, held in scattered stems throughout the loose colonies this plant eventually forms.

For spots with morning sun and part shade in the afternoons, try one of my favorite pooling mint relatives, the wide-spreading dwarf dragonhead (*Dracocephalum botryoides*). Hardy to Zone 4, easy to grow from seed or starts, and only about three inches tall, it clothes itself in little green leaves shaped like those of a grapevine. In late spring its cool green mats are spangled with gape-mouthed lavender flowers. Give it a fairly rich, well-drained soil.



Finally, if you like yellow-leaved ground covers—I do not—you will warm to the new lamb's-ear cultivar *Stachys byzantina* 'Primrose Heron'. Every landscaper seeking vigorous, drought-tolerant, sun-loving ground covers knows the silvery-gray to gray-green lamb's-ears. However, in 'Primrose Heron', which is hardy to Zone 5, the usual quick-spreading furry mats are flushed with chartreuse in spring, fading to green in summer. The chartreuse tends to return with the cooler weather of fall, and the light magenta flower spikes, which rise to heights of about 18 inches, are not unattractive.

### Mints for the Flower Border

My four favorite mint relatives for the front of the border would all look good planted together. The old cottage garden annual, Chinese houses (*Collinsia bicolor*, formerly *C. heterophylla*)—I'm cheating a little here because this mint relative is actually in the snapdragon family—makes a one-foot plant. The spikes of this California native are threaded with charming pagodalike flowers with white upper lips and lilac to purple lower lips.

Indian gems (*Amethystea caerulea*), an annual mint, makes an erect plant to 32 inches tall, with narrow, divided leaves. In summer it boasts narrow panicles whorled in true blue. Both these plants will look their best if you provide part shade in the afternoon and regular watering in hot or dry climates.

A tender perennial best used as an annual in Zones 7 and colder is the new dead nettle cultivar, *Lamium* 'Coral Fiesta'. Slightly taller than Chinese houses, to about 15 inches, it bears multiple spikes of whorled salmon-orange blossoms that look startlingly tropical next to the usual lavender, purple, and blue mint flowers.

Another treasure for Zone 7 or warmer is the pink Texas skullcap (*Scutellaria suffrutescens*). It makes compact four-inch-tall green mounds splattered lavishly all summer—no matter how hot and dry and humid it gets—with brilliant rose-red blossoms. All these mints adapt nicely to containers, and the first three are particularly easy to grow from seed.

### Motley Mints

Rock gardeners are in for a treat with *Nepeta dirphyia*, a Greek catmint that grows to one foot high. On well-drained, hot sites it bears white flower heads that frost the delightfully woolly, whitish-blue foliage. It is

hardy to Zone 4 and can be slightly invasive if it likes your climate and soil; allow it plenty of room or keep it confined to a container. Pyrenean dragon mouth (*Horvium pyrenaicum*) is equally hardy, but is not as invasive as the catmint. It forms attractive rosettes of large, showy, slightly hairy, toothed, oval, bright green leaves. The stunning deep-violet flowers, three-lobed on their lower lips, are borne in summer on plants 12 to 15 inches tall.

Another lovely mint, with leaves that make sweet-smelling potpourri, is the large-flowered variegated calamint (*Calamintha grandiflora* 'Variegata'). There are many useful calamints; this one has toothed, oval, delightfully perfumed deep green leaves heavily flecked in silver,

Below: A clump of *Chrysanthemum parthenium* grows amidst deep purple *Perilla frutescens*, a root-beer-scented mint. Bottom: The winsome yellow flowers of *Phlomis fruticosa* 'Compact Grey' bloom in summer.



and bears pink flowers over a long period in summer. It grows 18 to 24 inches tall and is hardy to Zone 5; if you give it the part shade it craves, it will spread happily by rhizomes to make drifts of sweetness whenever you brush it in passing.

The little-known American mountain mints (*Pycnanthemum* spp.) like conditions similar to those of the calamints. These understated wildflowers are native mainly to the lower slopes of the Appalachians. Clump-formers, not invasive thugs, they grow naturally in slightly moist soils in meadows, clearings, and along woodland edges. In the garden they will do best planted in moist but not wet soils where they will get some afternoon shade; cool summer nights are a boon. All possess handsome, woolly, green leaves powerfully scented of mint and pennyroyal. Narrowleaf mountain



mint (*Pycnanthemum flexuosum*, formerly *P. tenuifolium*) is an upright, branching plant two to four feet tall. It is hardy to Zone 4, with thin, needlelike leaves. Its small, clustered white to pink flowers are protected by veiny pointed bracts and look lovely in arrangements. The similarly hardy *P. pilosum* can get up to five feet tall. The whole plant is lightly hairy, the leaves whole or shallowly toothed, and the flowers a pretty pink. *P. montanum* makes a one-and-a-half to two-foot bush with purple-tinted green leaves and pale pink summer-blooming flowers.

One mint relative suitable for the cutting garden is the scarlet hedge nettle (*Stachys coccinea*), a southwestern native. Its scented foliage—reminiscent of thyme, with melon undertones—is lancelike, rounded, slightly hairy, and emerald green; the flower spikes are narrow; and the flare-lipped blossoms, which are spaced rather widely apart, are a true, glowing red. It grows from 12 to 20 inches tall and wide and is hardy from Zone 5—with protection—to 9 in a sunny site. If you have heavy clay, lighten the planting site with sand and compost. The cultivar 'Elsalto' has vermilion blossoms with mottled yellow throats.

For coolish climates, try the rare and beautiful creamy-primrose-flowered *Nepeta govaniiana*. In moisture-retentive soil, it makes a three-foot, branched bush covered with gray-green leaves, and it produces striking flower spikes from midsummer onwards. These look grand in arrangements with dark blue flowers such as veronicas and salvias.

### Mints for Warmer Climes

Gardeners in Zones 7 and warmer have a wealth of gorgeous mints to choose from, ranging from shorties to monsters. Cumberland rosemary (*Conradina verticillata*) grows about one foot tall, with aromatic green needles and pink rosemarylike flowers in spring. Coastal rosemary (*C. canescens*) has gray needles and pale purple flowers. It gets 18 inches tall by three inches wide at maturity. Both are native to the



**Texas skullcap (*Scutellaria suffrutescens*) is a very adaptable mint that grows well in containers, as shown here, and produces lavish displays of rose-red flowers despite summer heat, drought, and humidity.**

### Sources

**ALPLAINS**, P.O. Box 489, Kiowa, CO 80117. (303) 621-2247. Catalog \$2.  
**CANYON CREEK NURSERY**, 3527 Dry Creek Road, Oroville, CA 95965. (530) 533-2166. Catalog \$2.  
**FLOWERY BRANCH SEED COMPANY**, P.O. Box 1330, Flowery Branch, GA 30542. (770) 536-3380. Catalog \$4.  
**GOODWIN CREEK GARDENS**, P.O. Box 83, Williams, OR 97544. (541) 846-7357. Catalog \$1.  
**HIGH COUNTRY GARDENS**, 2902 Rufina Street, Santa Fe, NM 87505-2929. (800) 925-9387. [www.highcountrygardens.com](http://www.highcountrygardens.com). Catalog free.  
**LOGEE'S GREENHOUSES**, 141 North Street, Danielson, CT 06239-1939. (888) 330-8038. [www.logees.com](http://www.logees.com). Catalog \$3.  
**WE-DU NURSERIES**, Route 5, Box 724, Marion, NC 28752-9338. (828) 738-8300. [www.we-du.com](http://www.we-du.com). Catalog \$2.  
**WELL-SWEEP HERB FARM**, 317 Mt. Bethel Road, Port Murray, NJ 07865. (908) 852-5390. Catalog \$2.  
**WOODLANDERS, INC.**, 1128 Colleton Avenue, Aiken, SC 29801. (803) 648-7522. Catalog \$2.

humid Southeast—where the true rosemaries sometimes suffer from fungal infections—and are lovely planted in containers. Georgia savory (*Clinopodium georgianum*, synonym *Calamintha georgiana*) is another useful shrublet for Zones 7 to 10. It makes a one-and-a-half- to two-foot bush with small dark glossy leaves and bears pink blossom-wands in late summer.

The Jerusalem sages (*Phlomis* spp.) are a group of drought-tolerant Mediterranean mints, most of which are hardy to Zones 4 or 5. But the one I covet, *Phlomis fruticosa* 'Compact Grey', needs Zone 7 conditions or warmer. It makes a soft gray mound to two and a half feet tall, spiked in summer with golden blossoms. It would be so pretty lending weight to a planting of the many

wonderful tender species salvias, or bordering a clump of lion's-ear (*Leonotis leonurus*).

I first encountered this semi-evergreen South African subshrub some 20 years ago, growing in a tub at the home of friends in St. Louis, Missouri. When it blossomed, we were all stunned by its spikes of vivid, velvety orange flowers, blooming in whorls at every leaf-stem junction. Its lance-shaped green leaves are scented, and it is hardy to Zone 8, where it can get up to six feet tall. What fun it would be growing this plant in a large pool of *Lamium* 'Coral Fiesta'!

I cannot end this article without mentioning a little-known mint relative that I have been dying to try: the ignobly named bastard balm (*Melittis melissophyllum*). An herbaceous perennial hardy to Zone 6, it is the sole species in its genus. In the wild in central and eastern Europe it is said to grow anywhere from eight to 28 inches tall; it reputedly bears white, pink, or purple flowers—one form is cream-colored with pink or purple lips or spots—and furry, oval, honey-scented leaves. The notion of a honey-scented mint is just too much to bear another moment. Excuse me while I check the balance in my checkbook. 🍀

*Rand B. Lee minds his mints in Sante Fe, New Mexico. His most recent book is Pleasures of the Cottage Garden.*

# Defender of the Desert

**In the Southwest,  
Ron Gass is changing  
people's perception of  
the desert landscape.**



b y A n d y W a s o w s k i

**Noah Webster was wrong.** The famed lexicographer defined desert as “a desolate or forbidding area.” It seems unlikely he had traveled through the American Southwest by the time he penned that phrase. If he had, he’d have been amazed by the vast palette of colorful, vibrant perennials, shrubs, and trees that are native to our Sonoran, Chihuahuan, and Mojave deserts—plants that present a softer, gentler vision of desert landscapes.

And it’s too bad Webster never had the opportunity to meet Ron Gass, owner of Mountain States Wholesale Nursery in Glendale, Arizona. Ron would have quickly set him straight about deserts.

For Gass, the desert is a wondrous place, full of color and vitality and immense possibilities. He is a quiet-spoken, easy-going man, yet when he talks about the desert he can become almost passionate. One of the reasons for this passion is the native desert plants that he has propagated, grown, and championed for more than 30 years.

Arguably, no single person has done so much to alter the mindset of homeowners, nursery owners, landscape designers, and mu-

nicipalities alike with regard to desert landscaping in the southwestern United States. The influence of Gass and Mountain States stretches from southern and western California across Nevada, Utah, and Colorado and south into Arizona, New Mexico, and western Texas. In communities from Las Vegas, Nevada, to Tucson, Arizona, and Albuquerque, New Mexico, plants promoted by Mountain States grace new developments, public parks, and roadsides. These plantings offer living examples of how landscapes can reflect the surrounding desert plant communities rather than fence them out.

Over the past 30 years, Gass has established a solid reputation as an innovator and pioneer in the tricky and often frustrating business of growing and introducing new selections of native plants. Christy Ten Eyck, a well-known Phoenix landscape architect, admires Gass’s willingness to take

**The feathery flowers of pink fairyduster (*Calliandra eriophylla*) are a magnet for hummingbirds.**

chances. “He works very hard to introduce native plants that no one else seems to care anything about,” she says. “Ron makes them care.”

Take *Larrea tridentata*, commonly known by the unlovable name of creosote bush, for instance. Gass has been fooling with this graceful—and thornless—native evergreen shrub for about two decades. “It has pretty yellow blooms during the spring and summer, and a distinctive and very pleasant fragrance that wafts across the desert after a rain,” he enthuses. “But,” he adds, “it was a real bear to propagate.” Building on the breakthrough propagation work done by the late Jimmy Tipton, then at Texas A&M’s Agricultural Experiment Station in El Paso, Gass and his friend Tranquilino “Tranque” Rios learned by trial and error how to grow creosote bush in quantity at a low enough price to be feasible for the nursery trade.

But then he had to market this native shrub to leery nurseries that are usually geared more to giving customers what they are familiar with than to blazing new horticultural trails. “It’s an ongoing job,” Gass says, “but I’m running into fewer brick walls every day.”

### **Industry Influence**

Gass was born in Phoenix and received a degree in horticulture at the University of Arizona, in Tucson. He worked for a few years around Tucson before starting his first nursery on a small lot in the center of Phoenix in the late 1960s. As the nursery

got bigger, he relocated to the suburbs and then in 1978 he moved it again to Glendale, where it occupies over 100 acres.

Gass is quick to point out that over the years he has received inspiration and encouragement from friends at the Boyce Thompson Southwestern Arboretum in Superior, the Arizona-Sonora Desert Museum in Tucson, and the Desert Botanical Garden in Phoenix, to name a few. Likewise, there are many throughout the Southwest who credit Gass with inspiring

and encouraging them to foster the cause of plants appropriate to the landscape and climate of the Southwest.

Tempe, Arizona, landscape architect Steve Martino even goes so far as to call Gass “a saint...someone you want your kids to grow up to be like.” Martino says Gass opened his eyes to the beauty of desert natives more than 20 years ago. “He has the rare gift of answering a dumb question without letting on that it’s dumb,” says Martino, whose eye-catching designs at both commercial and residential projects often include Mountain States plants.

From time to time, Gass’s saintliness has been put to the test. Gregg Starr, owner of Starr Nursery in Tucson, remembers a time when he and Ron went plant hunting in a remote desert area. “We were collecting seed from a nolina...a yucca that grows like a tree down in Mexico,” Starr recounts. “I was standing on Ron’s shoulders to reach the seed stalk and my hands were getting cut up pretty badly on the razor-sharp leaf edges. Ron kept up an encouraging chatter, keeping my flagging spirits up, and promising to take care of the cuts as soon as I got down.

“It was only as I was getting down from his shoulders that I noticed a swarm of angry bees buzzing close to his face. They’d been there the whole time, but he was far more concerned about my safety than his own. That, in a nutshell,” says Starr, “is Ron Gass.”

Jim Wheat, a landscape architect in Phoenix, says Gass “has certainly been the leader in making desert-adapted materials available to the public. There are a lot of good plant producers in the nursery industry here, but many still rely more on subtropical exotics.”

Wheat adds that Gass is particularly good at testing plants and passing important cultural tips along to designers. “Just because a plant does well in one place doesn’t mean it’s good everywhere,” says Wheat, who has known Gass for nearly three decades. “Ron has always been the first one to come and give you information about where plants won’t work.”

### **Old Habits Die Hard**

Particularly in Arizona cities such as Phoenix and Tucson, landscape perceptions have begun to shift in the Southwest, thanks to Gass and other pioneer nursery owners, horticulturists, and landscape designers. “Acceptance of desert and desert-adapted plants is beginning to gain momentum in



**Top:** Trademarked as Tubac, this selection of prickly pear cactus turns purple in winter, then produces yellow flowers in April and May. It has proven hardy to 10 degrees Fahrenheit. **Above:** Purple-flowered Dorri sage, native to the Mojave Desert, has silvery blue foliage that lasts through the winter in mild climates.

other parts of the Southwest,” says Gass, “but there is still a great deal to be done to educate people about their beauty and value in the landscape.” Outside Arizona, plantings around suburban homes still tend to fall mainly into one of two categories. “The first style is the stark, gravel-and-cactus look, with maybe a few evergreens pruned into balls or mushroom caps. That’s what many people thought of as a ‘real’ desert look,” says Gass. “The second style is the back-East, lawn-centered landscape—the kind that requires oceans of water.”

According to Gass, the gravel-and-cactus look “emphasizes the harshest aspects of a desert—the thorny, sticky vegetation. It’s really a caricature of a desert landscape.” On the positive side, the gravel-and-cactus look conserves water and reduces maintenance, which can’t be said of the latter approach. “The lawn-centered landscape makes no sense at all,” notes Gass. “It ignores the desert completely. Some people who move out here from the East or the Midwest try to re-create the landscapes they had where they came from.”

This situation is changing, Gass believes, as residents and municipalities develop a better understanding of, and appreciation for, the desert. “We’re not just rocks and cactus—there’s a great deal of color here,” he says. “Many of our native plants have a soft, gentle beauty that deserves to be recognized and more widely used.”

The ideal desert landscape, according to Gass, should be based on principles of xeriscaping, which means that plants in the landscape should be able to exist for the most part on available rainfall alone. He advocates using native plants or those exotics that are adapted to the specific growing conditions of a desert. “The natives,” he says, “are genetically adapted to our conditions, so they can cope with minuscule amounts of moisture.”

Of course, Gass is quick to point out, it’s important to give even landscapes planted with native or adapted plants supplemental watering until they are well established, and then from time to time thereafter so the plants will look their best. And their best can often be quite beautiful, he says. “There are hundreds of desert natives that are very showy and put on a striking display of color.”

### **A Softer and Gentler Desert Look**

Plants introduced or promoted by Mountain States Nursery are changing the face of Southwestern cities and adding a wide

range of new plants to the repertoire available to landscape designers and garden centers. In addition to desert natives and their cultivars, Gass has focused attention on a range of adapted exotic plants from places such as western Australia, southwestern Africa, and the southwestern coast of South America, which have desert climates similar to the Southwest.

Among the plants sold by Mountain States that have become very prominent in southwestern landscapes are a number of penstemons, especially Parry penstemon (*P. parryi*). In just a few years this hot-pink-flowered Sonoran Desert native has become a popular spring bloomer throughout the Southwest. When planted in masses it is a real traffic stopper—a spectacular stand is on display at the Desert Botanical Garden in Phoenix.

Another Gass favorite is pink fairyduster (*Calliandra eriophylla*). Found thriving in the hills of north Phoenix, its fluffy pink blooms are especially stunning when backlit by the sun, or planted against an earth-toned wall. Growing knee-high in the wild, pink fairyduster will get much larger in a tended bed, allowing gardeners to prune them into either a light airy shape or a rounded compact shrub. Red fairyduster (*C. californica*), native to Baja California, does well in sparsely irrigated gardens. Both these shrubs are evergreen if they don’t get too dry or too cold.

Dorri sage (*Salvia dorrii*), also known as desert sage, is native to the southern regions of the Mojave Desert. Its soft, silver-blue leaves, which often stay on all winter, beautifully complement the two-toned flowers—bright blue with yellow stamens emerging from balls of reddish purple fuzz. Dorri sage is a spring bloomer and very popular with hummingbirds, bees, and butterflies. In a small garden this sage looks terrific next to a boulder along with a tree yucca, a clump of New Mexico feather grass (*Stipa neomexicana*), and

**It takes teamwork and a lot of hard work to build a nursery with the stature of Mountain States, but for Ron and Maureen Gass, seen here at the entrance to one of the nursery’s greenhouses, the business is a labor of love.**





Helped by the promotional efforts of Gass and other nursery owners, the hot-pink flowers of Parry penstemon, above left, and the airy pink panicles of the trademarked deer grass selection Regal Mist, above right, are helping to change the look of desert landscaping in the Southwest.

## Sources

Mountain States sells only to the wholesale trade; you can ask your local nursery to order plants directly from Mountain States by calling (800) 840-8509. Some of the plants described in the article are sold at the retail mail-order nurseries listed below.

**ROCKY MOUNTAIN RARE PLANTS,** 1706 Deerpath Road, Franktown, CO 80116. (303) 660-6498.

[www.rmrp.com](http://www.rmrp.com). Catalog \$1.

**SOUTHWESTERN NATIVE SEEDS, P.O.** Box 50503, Tucson, AZ 85703. Catalog \$2.

**WILD SEED, INC.,** P.O. Box 27751, Tempe, AZ 85285. (602) 276-3536. Catalog \$2.

**YUCCA DO NURSERY,** Route 3, Box 104, Hempstead, TX 77445. (409) 826-4580. [yuccado@nettxas.net](mailto:yuccado@nettxas.net). Catalog \$4.

some low-growing ephemeral desert wildflowers or flowers such as blackfoot daisy.

Blackfoot daisy (*Melampodium leucanthum*) is native to the Chihuahuan Desert, as well as the eastern edge of the Sonoran Desert and is at home in any soil as long as it allows ample drainage. This short evergreen blooms all summer, producing a finite number of fragrant one-inch white daisies, either all in the first year, or spread out over two or three years.

According to Jim Wheat, Gass has created renewed interest in leucophyllums (*Leucophyllum* spp.), a genus of dense, silvery- and green-leaved, evergreen shrubs known by a host of common names such as cenizo, Texas ranger, silverleaf, and Chihuahuan sage. "We only had one or two strains before and now there are 15 or so leucophyllums available," he says.

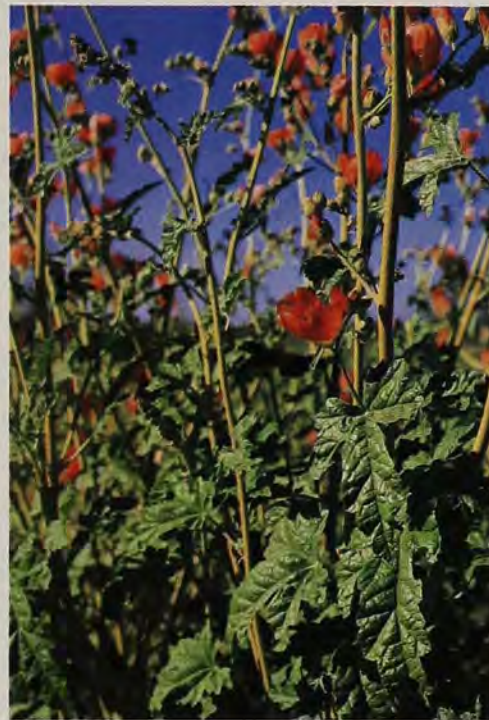
In promoting leucophyllums to the trade, Gass followed up on the work of the late Benny J. Simpson (see *The American Gardener*, March/April 1998), who developed several cultivars of *L. candidum* and *L. frutescens*. Included in these releases are the 'Cloud' series, including 'White Cloud' and 'Thunder Cloud', named for the color of their flowers. Leucophyllums bloom in

the wild following spring or fall rains and are easy to maintain in a landscape if they are not overwatered.

Chuparosa (*Justicia californica*) is a favorite with hummingbirds as well as gardeners. Because it is spineless, reliably evergreen, long lasting, and is a spring-to-fall bloomer—although its best show is from March to May—plant it in a conspicuous spot. Use it as a low evergreen shrub, grow it in a planter, or train it up a tree or trellis.

Globe mallow (*Sphaeralcea ambigua*), also called desert mallow and apricot mallow, is a small shrub that can be cut to the ground after flowering to get fresh, compact growth. The translucent petals seem to cup themselves around sunlight, giving them an inner glow. The flowers come in a wide range of orange and pink pastels. A drift of a dozen or so globe mallows, planted about five feet apart, can illuminate a large garden. For smaller areas, place two or three along with brittlebush and some ephemeral desert wildflowers for a big show in the spring. They live only a few years, but spread by seed.

Growing naturally in the desert foothills around El Paso, Tucson, Phoenix, and Las Vegas, turpentine bush (*Ericameria laricifolia*) forms an evergreen ground cover smothered in fall with bright golden yellow



A short-lived evergreen perennial, desert marigold, above left, sports daisylike yellow flowers throughout the growing season. Heat tolerant and quite cold hardy, globe mallow, above right, is a shrubby perennial that bears spikes of pink to orange flowers.

flowers. In an irrigated garden, it can grow much taller—up to six feet—and can be pruned into a hedge. If you are bothered by deer and rabbits, turpentine bush has aromatic oils in the leaves and rubber in the stems that seem to discourage them from nibbling nearby plants.

Another southwestern desert native, desert marigold (*Baileya multiradiata*) is short, neat, and a year-long bloomer. Easily the most dependable and useful of the desert flowers, this evergreen can be the mainstay of a flower bed or the unifying color in a patch of existing or re-vegetated desert. Plants live an average of only two years, but they readily self sow. The pale blue-gray foliage is attractive even in winter. This is another great enchanter of butterflies.

Gass has also actively promoted desert-adapted grasses such as deer grass (*Muhlenbergia* spp). He has introduced several spectacular new trademarked cultivars, including *M. capillaris* Regal Mist, *M. rigida* Nashville, and *M. lindheimeri* Autumn Glow. These graceful plants are key contributors to the softening of the desert landscape that Gass is trying to demonstrate.

According to Wheat, in the last decade Gass has also focused on developing and promoting new cultivars of native and exotic

cacti and succulents. “He’s regenerated interest in some of the smaller agaves, aloe varieties, yuccas, cacti, and dasyliroids,” says Wheat. Among these is the trademarked Tubac selection of prickly pear cactus (*Opuntia macrocentra*, formerly *O. santa-rita*), the pads of which turn vivid purple in winter.

### Spreading the Word

Up until a few years ago, Gass traveled as much as 40,000 miles a year spreading the gospel of drought-tolerant, low-maintenance native and adapted plants. He made converts one at a time in his own friendly style, talking one day to a nursery owner in Las Cruces, the next to a county Extension agent in West Texas, a landscape architect in Tucson, or a customer at Mountain States.

But as the nursery has expanded exponentially in the last five years, Gass has cut back on his traveling and plant hunting and spends more time at the nursery doing what he does best—breeding, selecting, and propagating new plants. Mountain States’ General Manager Bart Worthington, Marketing Director Janet Rademacher, and a crack sales and marketing staff help get word of the nursery’s plants out to landscape architects, landscape contractors, and retail vendors.

At one time, Gass’s wife and business

partner, Maureen, was heavily involved in the day-to-day activities of running the nursery—from potting plants to dealing with customers. Although Maureen is now focusing primarily on her own nursing career, she continues to have a hands-on role at Mountain States. “Her experience in helping us develop the concepts that created this nursery are really vital to keeping us going in the right direction,” says Gass.

Gass may have slowed down his exhausting traveling schedule, but it’s still hard to get him to stop thinking about the nursery. Maureen recalls the time when they were attending a Christmas party on a particularly cold December evening. “Ron didn’t seem to be enjoying himself very much,” she recalls, “and then I discovered why. He left abruptly to run out to the nursery, where he spent the rest of the night covering up the thousands of plants he had been fretting about.” ●

*Andy Wasowski and his wife, Sally, are authors of numerous books on landscaping with native plants. Their next book, The Landscaping Revolution, is due out from NTC/Contemporary Books in late 1999.*

# ODE TO THE ORDINARY

**Gardeners tend to look for new and novel plants, but these classic annuals have stood the test of time.**

by K a r a n D a v i s C u t l e r

**Like many familiar things** in this world, our common annual bedding plants—especially garden-center regulars such as petunias—don't get a lot of respect. Horticultural writers ignore them, preferring to praise new imports or obscure perennial species described as having "an effect like no other" or "a transparent beauty." When translated in the garden, these glowing phrases often mean subdued, fragile, short-lived, and disappointing.

It's too bad that familiarity breeds contempt, that we gardeners are forever looking for the novel. The truth is that common flowers are common *because* they are tried and true. They sport fine flowers and fine foliage; they come short and tall; they have extravagant blooms and diminutive, complicated forms; and they have simple, bold hues, and subtle colors. There are everyday flowers for dry spots and damp, for large spaces and small, for sun and for shade. Their uses are as varied as the plants themselves; they are vigorous, self-reliant, and easy to grow.

The simplest approach to using annuals is to mass a single cultivar, perhaps a ribbon edging of 'Tiger Eyes' marigold or an eye-catching bed of mixed stock, with colors ranging from pink and rose to crimson and purple. Or they can be mixed with other plants, both perennial and annual, and used in designs that are doggedly formal or haphazardly casual, where different flowers cascade into a kaleidoscope of color.

These commoners are either true annuals, as marigolds are, or perennials or biennials used as annuals in most American gardens. They bloom so freely and continuously that the term floriferous might have been invented for them. They are problem free. And inexpensive. A single plant of the latest hosta or daylily, fresh from the breeder's trials, may cost \$50 or more, whereas a seed packet of the latest dwarf marigold is less than \$2, and the packet contains 50 seeds, 98 percent of which will germinate and

flower in the same season. Even if you buy your annuals in six-packs at a nursery, you can get five dozen plants for \$12 or so.

The names are common because, much like products whose names have become generic—kleenex and aspirin, for instance—they are victims of success. Don't let misguided snobbery stop you from adding at least four or five of these classics to your garden.

## COMMON SNAPDRAGON (*Antirrhinum majus*)

**S**napdragons, short-lived perennials that most gardeners treat as annuals, produce two-lipped flowers—singles and doubles—in nearly every hue except blue. Traditionally sown on thatched roofs to discourage fire, the flower also answers to common names such as lion-mouth, toad-mouth, and dog's mouth. This oral fixation stems from the flower's gaping mouth, which—in one of those botanical tricks that enchants children—will open and close to gentle pressure from practiced fingers.

There are scores of cultivars available, but the best are the dwarf types; these have typical glossy snapdragon leaves but stretch to a foot at most and, unlike their taller brethren, need no help to stand up. There are open-faced types, too, such as 'Madame Butterfly', but who would want a snapdragon without its snap?

Among the snapdragon's merits is a vigorous and hardy constitution. It self-sows readily and may overwinter in the South. Start seeds eight weeks before the last frost and pinch back young shoots to encourage branching. Plant in full sun and deadhead to promote renewed flowering. And *never* apologize. Legendary garden designer Gertrude Jekyll called snapdragons "one of the best and most interesting and admirable of garden plants." It's an admirable plant in a vase, too: Blooming starts at the bottom of each flower spike and moves upward, so it just gets better and better.





## SPIDER FLOWER (*Cleome hassleriana*)

A commercial seedsman once told me that cleome, a South American flower popular in the last century, would be popular still if only it bloomed in the garden center. But this graceful annual needs more time to reach its full height of three to four feet. Then it blooms in dense terminal clusters of four-petaled flowers. Each flower has the astonishingly long stamens responsible for the common names spider flower and cat's whiskers.

Cleome looks best planted in groups of a dozen or more in informal beds and borders. Set plants where you—and hummingbirds—can enjoy them by day, and watch their flowers change

color: They open magenta in the afternoon, then fade to white. This characteristic has been bred out of some new cultivars, but pink, rose, purple, and white flowers are now available.

There's no need to stake spider flowers; their stiff, woody stems keep them upright in all but gale-force winds. Sow seeds indoors six weeks before your frost-free date or directly in the ground after last frost. Plant in a sunny or very lightly shaded location. Spider flowers like heat, tolerate drought, and bloom until the mercury drops into the low 30s. Plants will self sow freely, but in my opinion it's impossible to have too many spider flowers in the garden.





## LACE COSMOS (*Cosmos bipinnatus*)

Cosmos have only been growing in American gardens since the 1830s, but they have an old-fashioned look. That may explain why they have no widely used common names, answering instead to their genus name, which is Greek for “beautiful.” Beautiful they are, as well as graceful and tall—growing four to five feet as if born to sway in the wind.

Their silky, three-inch-wide flowers are composed of a tight cluster of golden yellow disk florets surrounded by eight petallike ray florets. It is this ordinary form, with colors ranging from white to crimson, that you’ll want in your garden. Stay away from dwarf, semi-double, and bicolored cultivars, and from selections that have quilled, or rolled, petals. In my mind, simple is best.

Cosmos are superb in the vase and in the garden, especially massed in the back of borders. Their tendency to list can be tempered by giving them full sun and shelter from wind. Be sure to deadhead, which keeps plants blooming until frost, but don’t fertilize. As with many annuals, cosmos produce foliage rather than flowers when they’re overfed.

## SNOW ON THE MOUNTAIN

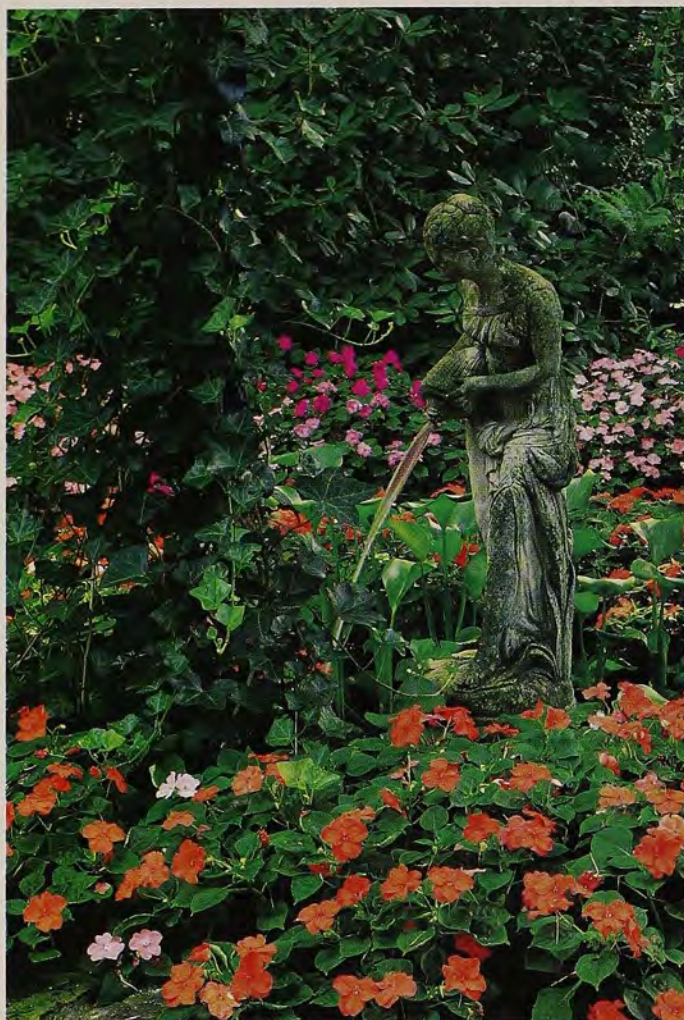
(*Euphorbia marginata*)

There are more than enough euphorbias—nearly 8,000 species—to choose from, but snow on the mountain—also known as ghost weed, mountain snow, rattlesnake weed, milkweed, and annual spurge, to name but a few—hails from North America and is one of the many plants encountered and described by Lewis and Clark. Several cultivars, including a dwarf form named ‘Summer Icicle’, are for sale, but you need go no further than the unimproved species to set a first-rate companion for brightly colored flowers.

Flowers are only half of this annual’s repertoire. The leaves start off gray-green but display white margins and veins as they mature. Once plants reach their full stature—up to four feet tall, with a shrubby habit—terminal clusters of tiny, white flowers, underlaid by ornamental spotted or variegated bracts, develop.

It takes time to enjoy this heat-loving garden ghost—plants don’t come into their own until late summer and fall. Sow outdoors in a sunny location as soon as danger of frost has passed, then thin plants to a foot apart. They resent transplanting. Stems cut for the vase should be either seared or immersed in alcohol or boiling water to coagulate the milky sap (latex). Avoid contact with the sap, as it can cause dermatitis.





### COMMON IMPATIENS (*Impatiens walleriana*)

Visit any garden center and you'll find impatiens; this very tender perennial is North America's best-selling bedding plant. Sir Joseph Hooker, a 19th-century director of the Royal Botanic Gardens at Kew, called the genus "a terror to botanists." His was a natural reaction after nine years spent classifying the genus into 303 species, but all the aficionado of the ordinary needs to know is that *I. walleriana* is not a terror to gardeners.

The flower's sole drawback is that it is a slow starter—seeds take weeks to sprout and seedlings are poky. I let commercial growers handle these matters and buy plants instead. Even small nurseries are jam-packed with color choices, often in mixed hues, such as 'Cleopatra Mixed', which contains 16 color combinations.

The merits of impatiens are as numerous as their colors: Easy. All-purpose. Well behaved. Disease free. Pest free. Shade tolerant. Long blooming. Given time, they will self sow and naturalize in a woodland area, yet they are easy to weed out. Plants require water on hot days if exposed to much direct sun, but the only thing that stops them from flowering is frost, which turns their fleshy stems and foliage into glutinous blobs.

The seed pods of today's hybrids don't have the explosive power of our native jewelweed (*I. capensis*), but they still eject their seeds when the ripe pod is jostled. This trait inspired both the genus name and several common names, including busy Lizzie, snapweed, touch-me-not, and quick-in-hand.



### COMMON STOCK (*Matthiola incana*)

In most ordinary flowers, less is more when it comes to doubled blooms, but stocks are an exception to that rule. With stocks, more is more. You'll want *only* doubles, which have twice the petals and twice the fragrance, according to Louise Beebe Wilder, author of *The Fragrant Path* (1932). Sow seeds during a full moon was once the advice for promoting doubled flowers; in fact, most stock cultivars produce about 50 to 60 percent doubled flowers, full moon or no full moon. To increase that percentage, research says to go against your horticultural instincts and pluck out all seedlings with dark green seed leaves, keeping the pale-leaved plants.

Cultivated in English gardens since the 1500s, this old-timer has upright stems that grow to two feet tall. When the plant is in bloom, the stems resemble pastel drumsticks, their stem tops coated with spice-scented rosette flowers that are available in a rainbow of colors.

Touted most for their fragrance and merit as a cut flower, stocks are also fine in the garden, especially when planted en masse. A short-lived perennial most often treated as an annual, stocks flourish in cool weather and are grown for fall or early spring bloom in the South. In areas with cooler summers, they should be started indoors 10 weeks before last frost, then planted in full sun. Most double flowers, even open-pollinated cultivars, produce sterile seeds, so collect only from singles. Whether you opt for single or double, all gardeners should be stockholders.

## Ordinary Care for Ordinary Plants

Cultivating annuals is altogether easy. Most prefer average, well-drained soil and at least six hours of direct sun daily (coleus and impatiens are exceptions). Prepare the ground as you would for any garden: Turn and loosen the soil, amend with humus as necessary, and rake smooth. And no cake for most of these commoners, which will respond to nitrogen-rich fertilizer with oversized leaves and precious few blooms. Once established, supplemental watering during droughts and frequent deadheading is about all that's required.

Pansy is the only flower in this collection of ten bold enough to go outdoors when the mercury is still hovering around freezing. The rest can be sown or transplanted outdoors as soon as the ground can be worked and the danger of frost has passed. Sow seeds thinly, then cover them with a fine layer of compost or soil to a depth about twice their diameter. (Note: Cleome, coleus, cosmos, impatiens, petunia, snapdragon, and stock need light to germinate and should be pressed into the soil, not covered.) Firm the soil carefully and water

gently. Be sure to keep the bed moist and thin the seedlings once they develop their second pair of true leaves.

Some plants should be started indoors, usually about four to six weeks before the frost-free date, in order for them to begin blooming earlier. You'll need containers with drainage; sterile potting medium; labels; and a sunny windowsill or ultraviolet lights. Water the soil mix thoroughly, sow seeds thinly, and—with the exception of the plants mentioned above—cover lightly.

Label each container and keep the soil moist but not saturated. Once seedlings emerge, move them into bright light and give them a boost with a dilute liquid fertilizer. When the second pair of true leaves appears, dibble out the small plants and replant each in its own container.

Before moving the plants into the garden, harden them off by setting them outdoors in filtered sunlight for progressively longer periods each day. Transplant in the late afternoon, setting the plants slightly deeper than they were growing in their pots, and water well.

—K.D.C.



PETUNIA  
(*Petunia ×hybrida*)

Today's petunias—technically tender perennials—are descended from a weedy South American species collected about 200 years ago by French explorers. They carted its seeds home, grew them out, and “discovered” the petunia. The petunia made its way to English gardens, then headed back to America and crossed this continent, where the Californian disciples of Mendel enlarged its flowers and added more colors to its palette.

Now there are grandifloras, multifloras, floribundas, millifloras, supertunias, surfinias, and more—enough F1 hybrids to keep you planting for decades. Avoid bicolored cultivars, yellow cultivars, any giant-flowered cultivar, and petunias with doubled flowers, which look like drunk carnations. I don't even like the ruffled types, or picotees, which resemble something Scarlett O'Hara

might have worn. I do like the petunia's distinctive sweet perfume. Louise Beebe Wilder called them “vespertime flowers,” as their scent grows stronger at sundown.

Henry Mitchell called the petunia “the single best annual for sunny places” in *One Man's Garden* (1992), the second collection of his *Washington Post* columns. My favorites are the bushy multiflora petunias, which stand up best to normal garden conditions. Set them in full sun, deadhead, don't overwater, and prune plants in midsummer (their stems elongate when temperatures go above 75 degrees Fahrenheit). I never start petunias from seeds, because they must be sown months before the frost-free date. And anyway, come April, every American garden center swarms with petunias, which are as sure a sign of spring as daffodils and income tax forms.

## Sources

**W. ATLEE BURPEE & COMPANY**, 300 Park Avenue, Warminster, PA 18974. (800) 888-1447. [www.burpee.com](http://www.burpee.com). Catalog free.

**DEGIORGI SEED COMPANY**, 6011 N Street, Omaha, NE 68117-1634. (402) 731-3901. Catalog \$2.

**THE FLOWER & HERB EXCHANGE**, 3076 North Winn Road, Decorah, IA 52101. (319) 382-5990. Catalog free.

**FLOWERY BRANCH SEED COMPANY**, P.O. Box 1330, Flowery Branch, GA 30542. (770) 536-8380. Catalog \$4.

**THE FRAGRANT PATH**, P.O. Box 328, Ft. Calhoun, NE 68023. (402) 468-5782. Catalog \$2.

**HEIRLOOM GARDEN SEEDS**, P.O. Box 138, Guerneville, CA 95446. (707) 887-9129. Catalog \$4.

**SELECT SEEDS ANTIQUE FLOWERS**, 180 Stickney Hill Road, Union, CT 06076. (860) 684-9319. [www.selectseeds.com](http://www.selectseeds.com). Catalog free.

**THOMPSON & MORGAN, INC.**, P.O. Box 1308, Jackson, NJ 08527. (800) 274-7333. [www.thompson-morgan.com](http://www.thompson-morgan.com). Catalog free.



## COLEUS

(*Solenostemon scutellarioides*, formerly *Coleus blumei*)

Yes, there are coleus flowers, but foliage is the attraction here, with gloriously shaped, colored, textured, and marked leaves. Peddled as an annual, coleus is really a tender perennial. It was a mainstay of tropical lawn beds in the last century, then slipped from popularity. Recently renamed, it has become fashionable once again.

We now have new colors; new leaf sizes and shapes—some with toothed, lobed, or filled margins; and new patterns, many reminiscent of Persian carpets. There are three-foot coleus, Lilliputians measuring six inches, and cascading types—'Scarlet Poncho' is one—that are dynamite in window boxes. There are even coleus bred for sun, but most cultivars still do best in soft light. An eastern exposure is best—full sun fades colors, while deep shade reduces them. If your site is sunny, pick plants with plenty of red in their leaves—this indicates greater sun tolerance.

Feed plants every six weeks and pinch stems regularly to encourage branching. New plants can be grown from seed, but it's easier to take stem cuttings and root them in water. As with impatiens, coleus is cold sensitive and autumn's first frost is fatal.

FRENCH MARIGOLD  
(*Tagetes patula*)

In *Annuals for Connoisseurs* (1992), garden writer Wayne Winterrowd notes that, “in most garden literature, the marigold has come to be *the* example of plants beyond the pale.” But to my thinking, there’s no such thing as a bad French marigold. Of course the marigold is not French at all, but Mexican; it was naturalized by the French some 400 years ago.

Nothing could be easier or quicker to grow from seed. Plants, which are a foot tall and self-supporting, tolerate poor soil, drought, and most other garden calamities. Sunshine and dead-heading are all it takes to keep them blanketed in flowers from late spring until frost. The real challenge is to choose a few from the many, to find cultivars with the form and colors—all the autumn hues—that you like.

The debate over the merits of the marigold’s pungent scent has raged for centuries, but a marigold wouldn’t be a marigold without it. “Odorless Mixed,” we can be thankful, has disappeared from the W. Atlee Burpee seed catalog. Burpee has never lost its love of marigolds, however; the company has released 108 marigold cultivars in its 120-year history, far more than anyone else.

The marigold also was a preoccupation of the late Everett Dirksen, an Illinois senator who never missed a chance to fill the pages of the U.S. Congressional Record with long, eloquent pleas to make it our national flower. Marigolds lost to the rose, alas, but they continue, as Dirksen phrased it, “tossing their heads in the sunshine and giving a glow to the entire landscape.”



PANSY  
(*Viola × wittrockiana*)

The name pansy is derived from the French word for “thought,” *pensée*. This explains why Shakespeare, who never missed a play on words, has Ophelia say, “And there is pansies, that’s for thought....” The flower we know as the pansy was the creation of William Thompson, a 19th-century English gardener who crossed Johnny-jump-up (*Viola tricolor*) with other native violas. We also have Thompson to thank for pansy faces—sometimes called a “blotch” in seed catalogs—which are descended from a self-sown seedling he discovered.

Today’s pansies are sold as annuals for the spring or fall garden. They will overwinter in areas with mild winters, but these short-lived perennials tolerate neither extreme heat nor extreme cold. Only a few cultivars have retained their ancestors’ faint sweet scent, but all still have edible flowers.

Except for green, every color from white to near-black is available in neighborhood garden centers, including scores with the flower’s traditional rich colors. Pastels are available in the Imperial series. There are also cultivars of a single color, blended colors, and cultivars with blooms that are lined or edged. Single-color flowers are best for mass plantings, but pansies are at their most endearing in window boxes and containers. And who would want a pansy without a face? It would be like a day without you-know-what. 🍷

*Karan Davis Cutler is a free-lance writer living in Essex Junction, Vermont.*



# Acadian

story by Barbara S. Arter

photographs by David R. Klausmeyer

A geologic treasure, Acadia National Park has it all. Here, the majestic green of spruce and fir trees meets the clear blue of the sea in this view of Sand Beach from Otter Cliffs, located at the southern part of the island.



# Adventure

**A hike through Maine's Acadia National Park reveals a wealth of plant life.**

**D**riving along the mid-coast of Maine near the town of Ellsworth, it's hard to miss Mount Desert Island with its massive mountains of granite rising dramatically out of the sea. Venturing closer, exposed bedrock and a patchwork of vegetation come into view. Named by French explorer Samuel de Champlain for the desertlike appearance of its mountain peaks, the island, along with the Schoodic Peninsula on the mainland and half of nearby Isle au Haut, is home to Acadia National Park. Overall the park, which is connected to the mainland by a bridge, occupies nearly 50,000 acres, or about 70 square miles.

Salt spray, cold winds, and thin soil would seem to make a rather inhospitable environment for the island's vegetation, yet Acadia's diverse topography—the island's elevation goes from sea level to 1,530 feet at the peak of Cadillac Mountain, the highest point on the Eastern Seaboard—provides for a wealth of ecological habitats, ranging from alpine meadows, boreal forest, and fresh- and saltwater marshes to seashore dunes and bogs.



With its deep purple-pink tubular flowers, fireweed (*Epilobium angustifolium*), left, is a summertime favorite of bees and butterflies. Below, hawthorns, such as this natural hybrid, come alive in autumn with bright red fruits and purple foliage.



Bunchberry (*Cornus canadensis*), above, carries its bright red berries above shiny elliptical leaves, yet stands only six inches tall. Cardinal flower (*Lobelia cardinalis*), right, grows wild along the shady shores of streams and ponds throughout Acadia National Park.



The geology of Acadia has been shaped by different forces, including volcanic activity, glaciation, and the ocean. The island's granite bedrock and peaks are the culmination of volcanic activity that occurred hundreds of millions of years ago. Subsequently, starting about a half million years ago, glaciers moved across eastern North America, deepening valleys, gouging out depressions where lakes and ponds formed, and rounding mountain peaks.

In addition, the island sits on a transition point between two major vegetation and climate zones. Here, plant enthusiasts can see temperate species such as blue flag iris (*Iris versicolor*) and red maple (*Acer rubrum*) at their northern limit cohabiting with subarctic species such as black crowberry (*Empetrum nigrum*) and balsam fir (*Abies balsamea*) at their southern limit. Botanizing here puts you in touch with many species often not seen in the lower continental United States.

Although I live just 30 minutes from Acadia National Park and have hiked its trails numerous times, I had never systematically studied its vegetation. As I become a more seasoned gardener in this climate zone (USDA Zone 4 and 5), however, I have come to appreciate the use of native plants in my landscaping projects. In an effort to better understand the growth requirements of these hardy plants and to brush up on my identification skills, last year I took a more deliberate look at the vegetation of Acadia National Park. After an initial visit in June for a seminar and field trip on the forests of Acadia, I returned to the park on my own many times throughout the season armed with camera and field guides.

### Getting Around

Perhaps the easiest way to get around the park is to drive the 20-mile-long Park Loop Road, which circles the eastern half of the park, taking you along the ocean, past rocky beaches and spruce forests, and finally up to the summit of Cadillac Mountain. Along the road and throughout the park are trailheads that will provide close-up views of the many different plant communities.

The difficulty of the trails ranges from easy to strenuous. Some trails—such as the Gorham Mountain and Great Head trails—are exposed bedrock strewn with boulders and granite debris. These trails provide quite a workout, but it's worth the effort to see plants such as mountain cranberry (*Vaccinium vitis-idaea*) and sea lavender (*Limonium nasbii*).

You can also choose to follow one of the many gravel carriage roads built early in the century by millionaire John D. Rockefeller Jr. Today, these relatively level roads—which wind through forested valleys, across stone bridges and around numerous lakes, ponds, and bogs—are used as walking, cross-country skiing, and biking trails. One of the more interesting carriage trails goes around Witch Hole Pond and wanders through freshwater marshes. Another passes Upper Hadlock Pond and offers a view of mountain vegetation. Whichever trail you choose, you're guaranteed to see a variety of plant life.

Because of the dramatic topography of the park and its unprotected location, hiking on the island requires readiness for all contingencies—intense sunshine, high winds, thick fog, and cold temperatures even into midsummer. Multi-layered clothing, rain gear, a good pair of waterproof hiking boots, and a hat are standard gear.

Although Acadia has no policy prohibiting visitors from going off the trail, plant communities can easily be damaged by foot traffic. Tread lightly and do not pick flowers or dig up plants.

### Acadia's Wetlands

For those interested in wetland plants, Acadia has hundreds of bogs, marshes, and ponds scattered throughout the park in addition to numerous inlets and, of course, the Atlantic Ocean. If you have the time and energy, the best way to see aquatic plants is by canoe.

Beaver Dam Pond and Kent Field are ideal places to study wetland plants. In these areas you'll see blue flag irises making a spectacular display with cattails (*Typha latifolia*) and other marsh grasses. Cardinal flower (*Lobelia cardinalis*) also grows wild here. Cultivated relatives of this wetland plant are common, but overpicking has led to the species's scarcity in the wild.

These wetlands also provide a look at the American waterlily (*Nymphaea odorata*). Here, these waterlilies grow naturally, their large white blooms forming a ring around the shallow edges of ponds.

The ubiquitous arrowhead (*Sagittaria latifolia*) is also found here. This common aquatic, native to much of eastern North America, produces flowers with three white, rounded petals, long arrow-shaped leaves, and a starchy, edible underground tuber.

In damp areas throughout the park you are also likely to see purple loosestrife (*Lythrum salicaria*), an Asian perennial that

## Sources

Many of the plants found growing in Acadia National Park are available through mail-order nurseries.

- EASTERN PLANT SPECIALTIES**, Box 226, Georgetown, ME 04548. (908) 382-2508. Catalog \$3.
- FORESTFARM**, 990 Tetherow Road, Williams, OR 97544-9599. (541) 846-7269. [www.forestfarm.com](http://www.forestfarm.com). Catalog \$4.
- PLANT DELIGHTS**, 9241 Sauls Road, Raleigh, NC 27603. (919) 772-4794. [www.plantdel.com](http://www.plantdel.com). Catalog 10 stamps or a box of chocolates.
- TRIPPLE BROOK FARM**, 37 Middle Road, Southampton, MA 01073. (413) 527-4626. [www.tripplebrookfarm.com](http://www.tripplebrookfarm.com). Catalog free.

## Resources

- A GUIDE TO ACADIA NATIONAL PARK AND THE NEARBY COAST OF MAINE** by Grant W. Sharpe. Golden Press, New York, New York, 1968.
- NATURE DIARY OF MT. DESERT ISLAND** by Ruth Gortner Grierson. Windswept House Publishers, Mount Desert, Maine, 1997.
- NEW ENGLAND'S MOUNTAIN FLOWER: A HIGH COUNTRY HERITAGE** by Jeff Wallner and Mario J. DiGregorio. Mountain Press, Missoula, Montana, 1997.
- NEWCOMB'S WILDFLOWER GUIDE** by Lawrence Newcomb. Little, Brown and Company, New York, New York, 1997.
- THE WONDERFUL WILDFLOWERS OF MT. DESERT ISLAND** by Ruth Gortner Grierson. Windswept House Publishers, Mount Desert, Maine, 1993.
- DOWN EAST NATURE TOURS** conducts eco-tours of the park. For more information, write to P.O. Box 521, Bar Harbor, ME 04609, or call (207) 288-8128.

# Acadia National Park

1. Bar Harbor
2. Bass Harbor
3. Beaver Dam Pond
4. Bubble Mountain
5. Cadillac Mountain
6. Hulls Cove Visitor Center
7. Otter Cliffs
8. Pretty Marsh
9. Sand Beach
10. Thuya Garden
11. Wild Gardens of Acadia at Sieur de Mont Springs
12. Witch Hole Pond



## Getting to Acadia

Located on the northeastern coast of Maine, Acadia National Park is a one-hour drive from the closest airport, in Bangor, Maine. From Bangor, take I-395 South to Route 1A East to the town of Ellsworth. From Ellsworth, take Maine Route 3 South to the park.

If you're coming from the south, take I-95 North to Augusta, Maine. From Augusta, follow Route 3 East to the park. Acadia is a six-hour drive from Boston, Massachusetts.

Once you enter the park, be sure to stop at the Hulls Cove Visitor Center on Maine Route 3, where you'll find a wealth of information, including maps, field guides, and activity schedules. A small fee (\$10 per vehicle for a seven-day pass) is collected at the ranger station one-half mile north of Sand Beach on Park Loop Road.

There are two public campgrounds in the park; one takes reservations, the other is first come, first served. Hotels and bed-and-breakfasts abound in the surrounding coastal villages, particularly in Bar Harbor. For information about Acadia, write the park at P.O. Box 177, Bar Harbor, ME 04609-0177; call (207)-288-3338; or visit [www.nps.gov/acad/anp.html](http://www.nps.gov/acad/anp.html).

has invaded natural areas throughout much of the Northeast, outcompeting many native wetland plants. In Acadia, Park Service employees control loosestrife using herbicide and manually removing seed heads.

Within two miles of these wetlands is a rare habitat for the coast of Maine—a sand beach. Ocean tides and currents deposit sand from other shores into this protected harbor called Newport Cove. A popular tourist destination, Sand Beach also harbors a dune community of American beach grass (*Ammophila breviligulata*). This delicate-looking grass helps stabilize the dune against strong ocean winds and pounding surf.

Behind the dune is a saltwater marsh that empties into the sea through a tiny outlet at the east end of the beach. Look here for numerous marsh grasses and salt-tolerant plants such as glasswort (*Salicornia europaea*) and purple gerardia (*Agalinis maritima* var. *maritima*).

For a view of more seaside plants, the Ocean Trail provides easy access to the rocky beach. Growing in the protection of rock crevices, you'll see familiar plants such as sea lavender (*Limonium nashii*) and harebell (*Campanula rotundifolia*). Sea lavender is a relative of the commercial statice that is popular in floral arrangements. This wiry plant has a set of fleshy basal leaves and tiny, funnel-shaped, pale purple flowers.

A little out-of-the-way travel will take you to Big Heath, a bog on the western part of the island lined by tamarack (*Larix*

*laricina*) and black spruce (*Picea mariana*). The insectivorous pitcher plant (*Sarracenia purpurea*) is common in this and other bogs in the park.

Also common in the area around Big Heath is bog cranberry (*Vaccinium macrocarpon*), the ancestor of the cultivated varieties grown for commercial cranberries. Bog cranberry has nodding pink flower with four recurved petals and anthers, which unite into a long, pointed cone. The plant was originally named "cranberry" for the resemblance of the beaklike anthers to the head of a crane. Other plants to look for in this and other bogs in the park are bog rosemary (*Andromeda polifolia* var. *glaucophylla*), bog laurel (*Kalmia polifolia*), and several orchids, including rose pogonia (*Pogonia ophioglossoides*) and dragon's-mouth (*Arethusa bulbosa*).

## Moving Inland

The real jewel in the crown of Acadia National Park is Otter Cliffs. These granite cliffs face the open ocean to the south and look back to the rocky shore and Sand Beach to the north. This is where the rock-strewn, windy seashore meets the cool, dark boreal forest. White spruce and balsam fir are the dominant trees in this maritime coniferous forest, which grows to within a few feet of high-tide level.

These trees grow in thin soil or in rock crevices and form a very thick canopy that keeps out sunlight. The forest floor is dark

and often devoid of flowering plants except on the edge, where you may see the white flower and red-speckled, green fruit of false Solomon's seal (*Smilacina racemosa*).

Bunchberry (*Cornus canadensis*) can also be found here. This plant can form an extensive ground cover of white flowers in the spring, followed by red berrylike fruit in late summer. Also known as creeping dogwood, bunchberry has the same elliptical leaves and four white petallike bracts surrounding yellow flowers as other *Cornus* species but stands only two to six inches tall.

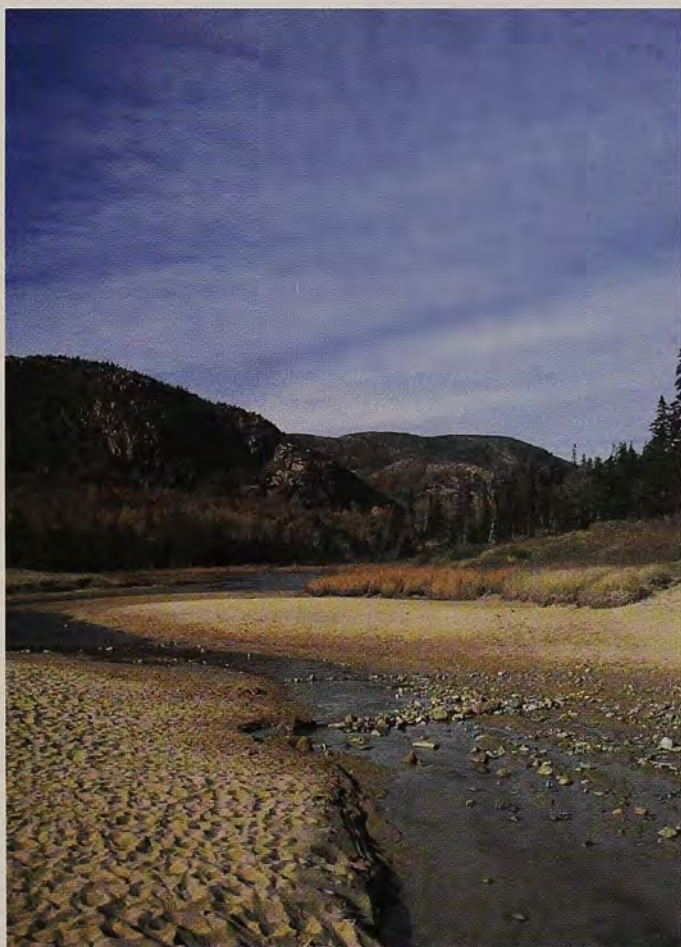
Upon leaving Otter Cliffs, the Park Loop Road follows the coast past Otter Point and Otter Cove. The road proceeds inland and climbs in elevation, winding around the bases of the Day, Pemetie, Triad, and Bubble mountains. Viewed from a distance, the strata of mountain vegetation is clearly visible. At the base of the mountains is a band of deciduous trees such as paper birch (*Betula papyrifera*), grey birch (*B.*

*populifolia*), and quaking aspen (*Populus tremuloides*). Rising elevation gives way to a stripe of conifers—usually white (*Pinus strobus*), pitch (*P. rigida*), or jack pine (*P. banksiana*)—followed by a ring of stunted white spruce (*Picea glauca*).

Vegetation on the mountain summits depends on its height and exposure. The lower mountains are covered with shrubs, including mountain holly (*Nemopanthus mucronatus*) and green alder (*Alnus viridis*).

On the summit of Cadillac Mountain, humidity and salt spray are replaced by dry wind and intense sun. Bare rock is everywhere. Trees are stunted. What little vegetation there is takes refuge in the protected cracks in rocks. Mountain cranberry, three-toothed cinquefoil (*Sibbaldiopsis tridentata*), low-bush blueberry (*Vaccinium angustifolium*) and black crowberry (*Empetrum nigrum*) form an association of low-growing plants vying for limited resources on the summit.

...throughout the park... are trailheads that will lead you into the heart of the park, where you can get a closeup view of the many different plant communities in Acadia.



Acadia is known for its variety of plant habitats. Above, left, the conifers and deciduous trees of the mountains stand in the background of this saltwater marsh and a stand of American beach grass (*Ammophila breviligulata*). Right: The white flowers of American waterlily (*Nymphaea odorata*) bloom only in the morning.

# Thuya Garden and the Wild Gardens of Acadia

In addition to the spectacular wild beauty of Acadia National Park, Mount Desert Island is home to a couple of historically interesting public gardens, Thuya Garden and the Wild Gardens of Acadia at Sieur de Monts Spring.

## Thuya Garden

Thuya Garden, named for the area's abundant stands of white cedar (*Thuja occidentalis*) perches high on a mountainside overlooking Northeast Harbor. Set beside a rustic lodge once owned by Boston landscape architect Joseph Henry Curtis, Thuya Garden's dark reflecting pool and perennial flower garden look like jewels against a backdrop of granite outcrops and alpine woodland.

Thuya's principal flower beds, designed by 20th-century landscape architect Charles K. Savage, form a cross axis in the style of England's Gertrude Jekyll, as naturalized by Maine native Beatrix Farrand. The long north end of the cross terminates at a small pavilion, while the southern end meets a reflecting pool, dissolving into a natural woody glade beyond. The plantings, many of which came from Farrand's own Reef Point Gardens, represent a mixture of introduced species and plants indigenous to Acadia.

The lodge itself, a friendly example of the summer cottage of a Northeast Harbor "rusticator" of the late 19th and early 20th centuries, contains a fine library of botanical and horticultural books.

## Wild Gardens of Acadia

Closer to Bar Harbor off Route 3 and Park Loop Road are the Wild Gardens of Acadia. The mission of this garden, which is maintained by the Bar Harbor Garden Club, is to grow and preserve the native flora of Mount Desert Island in typical habitats.

The three-quarter-acre Wild Gardens was once

owned by George B. Dorr, who is considered one of the leading figures in the preservation of Acadia National Park. Before the garden was created, the site was covered with a tangle of blackberry bushes and mature red maples. Today graveled paths separate beds that display 12 distinct plant habitats, including mixed woods, roadside, meadow, mountain, beach, and bog. In all, nearly 500 different plant species are represented in the garden. A brook fed by the Sieur de Monts spring wends its way across the property.

Acadia National Park supplies the garden with signs, maintains the water system, and sponsors a college student to work full time during the summer months. But the chores of planning, studying, collecting, propagating, planting, and labeling are carried out by dedicated volunteers. Nearby attractions include a nature center, the Sieur de Monts spring, and the Abbe Museum of Native American artifacts.

## General Information

Thuya Garden is open to the public from 7 a.m. to 7 p.m. July through September. The garden can be reached by a pathway up the steep cliff from a small parking lot on

Route 3, the garden is also easily accessed by vehicle. Thuya Lodge is open from 10 a.m. to 4:30 p.m. July 1 to Labor Day. Admission is free.

The Wild Gardens of Acadia at Sieur De Monts Spring are clearly marked as you travel the Loop Road of Acadia National Park south from the park's entrance. Just past Route 233, which cuts across the island, turn left onto the one-way road marked "To Sand Beach." The gardens are open from dawn to dusk year round and admission is free.

—Jean Ann Pollard, special from Winslow, Maine



At Thuya Garden, formal perennial beds are surrounded by stately stands of white cedar (*Thuja occidentalis*), the tree for which the garden is named.

Unlike most temperate cinquefoils in the genus *Potentilla*, three-toothed cinquefoil has white flowers rather than yellow, and it has a tenacious growing habit, colonizing rock outcroppings and other inhospitable sites. This northeastern native is a promising candidate for dry banks and rocky areas in the garden.

Black crowberry is an arctic perennial that is easily mistaken for a prostrate conifer because of its small, needlelike leaves. Even the small, black, berrylike fruits resemble those of juniper, but this plant produces tiny pink flowers in early June.

Yet another habitat worth a visit is the Great Meadow, accessible by an easy walk-

ing trail. Here, tall opportunistic flowers such as meadow buttercup (*Ranunculus acris*), which grows three to four feet tall, abound. The shrubby field rose (*Rosa virginiana*) is common both in the meadow and along roadsides, and in August, the meadow is alight with the purple-pink flowers of fireweed (*Epilobium angustifolium*). This member of the primrose family self sows freely, but its nectar makes it a great addition to a bee or butterfly garden.

## A Rich Legacy

Wherever you go in Acadia National Park, you'll see hundreds of familiar—and some not-so-familiar—plants growing largely

undisturbed by the ravages of development and other human actions. For this we are indebted to artists, writers, and wealthy businessmen who at the turn of the century recognized the need to protect this area. Through generous donations of land and money, the area eventually became Acadia National Park in 1929. After a long summer spent visiting the park's marshes, beaches, forests, and mountain summits, I share their profound appreciation for the beauty and diversity of Acadia.

A free-lance writer, Barbara S. Arter teaches biology and botany at the University of Maine at Augusta.

# Ferns of the Northwest

The Pacific Northwest is home to dozens of ferns ideally suited to moist temperate woodland gardens.

story and photographs  
by Sue Olsen

## In the maritime climate of the Pacific Northwest

we are blessed with a benevolent mixture of moisture, conifer-needle-enriched acid soil and—usually—winters and summers that are tempered from the extremes of cold and heat. It is no surprise therefore that there is enthusiastic local interest in and demand for native and non-native ferns that thrive under these natural conditions and expand the foliar selections for the gardener's palette as well.

Among the hundreds of western native ferns, there are a dozen or so that are especially likely to capture the imagination as ornamentals and generally perform well in cultivation. As long as you can offer them the proper mixture of filtered light, humus-enriched but well-aerated soil, and the appropriate USDA hardiness and American Horticultural Society (AHS) heat zone setting, they should thrive. With a little judicious attention to establishing appropriate microclimates, the recommendations of both these gardening tools can be stretched a little in either direction.

### *Polystichums*

Known by a host of common names, including sword ferns, shield ferns, and holly ferns, *Polystichum* species—both native and exotic—are among the most valuable ornamental ferns for the shade garden. The botanical name can be broken into *poly*—“many”—and *stichum*—“stitches”—which refers to the pattern of the ferns' spores, enclosed in tiny, specialized organs known



technically as sori. These are arranged as if machine-stitched around the perimeter of the pinnae—leaflets—on the undersides of the fronds. In the Northwest, all *Polystichum* species are reliably evergreen, so they provide year-round interest. A complementary planting with low-growing azaleas and rhododendrons and hostas is very satisfying.

In the Northwest, however, we often think of our common sword fern, *P. munitum*, as rather ordinary—too much of a good thing. In reality this ubiquitous fern is a handsome evergreen to three feet—even taller in temperate rain forest conditions—that faithfully withstands the whims of our weather, including El Niño drought and heat as well as La Niña wet and cold. While

Maidenhair spleenwort (*Asplenium trichomanes*), shown above growing on a boulder with moss and other native foliage plants, is well suited to both woodland and rock gardens. Evergreen and hardy to USDA Zone 3, it tolerates morning sun in cooler climes.

Right: At the Bloedel Reserve on Bainbridge Island, Washington, deer fern (*Blechnum spicant*) grows in clusters interspersed with starry white flowers of bunchberry (*Cornus xunalaschkensis*).  
 Opposite: Western sword fern (*Polystichum munitum*) looks good when massed but is also attractive enough to hold its own as a specimen plant.



## Sources

**FANCY FRONDS**, P.O. Box 1090, Gold Bar, WA 98251. (360) 793-1472. Catalog \$2.

**FOLIAGE GARDENS**, 2003 128th Avenue, S.E., Bellevue, WA 98005. (425) 747-2998. Catalog \$2.

**PLANT DELIGHTS NURSERY**, 9241 Sauls Road, Raleigh, NC 27603. (919) 772-4794. Catalog 10 stamps or a box of chocolates.

**RUSSELL GRAHAM**, 4030 Eagle Crest Road, N.W., Salem, OR 97304. (503) 362-1135. Catalog \$2.

**SISKIYOU RARE PLANT NURSERY**, 2825 Cummings Road, Medford, OR 97501. (541) 772-6846. Catalog \$3.

it is hardy down to USDA Zone 5, it has not performed well on the East Coast. The fronds are pinnate—the leaflets, or pinnae, are arranged on either side of a central stalk, called a rachis—and are similar to those of the eastern native Christmas fern (*P. acrostichooides*); however, you'll see the fertile tips of the latter shrivel in maturity while those of *P. munitum* remain sturdy and deep green. This is a fern that can be used en masse to frame the woodland garden, to provide a maintenance-free understory in uncultivated shade, or to call attention to itself as an evergreen specimen.

There are several other distinguished *Polystichum* species for the fern collection. Anderson's holly fern (*P. andersonii*) is sturdy and easy to grow, albeit rarely available in the trade. It is similar in size and silhouette to *P. munitum*, but the pinnae are more deeply notched. The young fiddleheads are cloaked in shaggy, silvery ornamental scales, making it a standout in early spring.

*P. andersonii* is unique among our natives in that it sports a bulbil on the tips of mature fronds. These bulbils can be pinned down in the fall on fern-friendly compost and should surround the plant with a new family the following spring—far faster than growing from spores.

The most elegant of the northwestern *Polystichum* species, as well as the least encountered in nature, is Braun's holly fern (*P. braunii*). Hardy to USDA Zone 3, this plant revels in the northern exposures of British Columbia, but its natural range extends across the country to northeastern North America; it is also found in Europe and Asia. The polished foliage on this handsome species expands in a vase-shaped shiny bouquet to three feet or more.

As with the preceding fern, the unfurling fronds are bedecked in a springtime shimmer of silvery scales. These gradually fade to rust but remain ornamental throughout the season. Give *P. braunii* room, water, filtered light, and surround it with your favorite shade lovers—low-growing epimediums, hardy gingers (*Asarum* spp.), or small *Gaultherias* are all outstanding companions. This plant can be slow to establish.

Another northwestern native *Polystichum* that is handsome, especially in the rock garden or a controlled containerized situation, is the dwarf western sword fern (*P. imbricans*). A more challenging native, *P. imbricans* is a short, rigidly upright 18-inch-tall imitation of the more sylvan *P. munitum*. At one time it was considered an ecological variant of the latter species.





*Roosevelt elk enjoy a diet of Polystichum munitum on Washington's Olympic peninsula and on down the West Coast but reject as unappetizing our native deer fern (Blechnum spicant).*

Native from northern California to British Columbia, *P. imbricans* is found in semi-sunny—often rocky—terrain at high elevations. The leathery pinnae overlap one another in Venetian-blind fashion, offering a reciprocal modicum of shade and protection from high-elevation elements. In the lowland garden, *P. imbricans* acclimates to sunny sites; its characteristic stiffness serves it well as an accent plant framed with rocks and rock garden alpiners.

#### **Deer and Chain Ferns**

Roosevelt elk enjoy a diet of *Polystichum munitum* on Washington's Olympic peninsula and on down the West Coast but reject as unappetizing our native deer fern (*Blechnum spicant*). It is believed to be for this reason that *B. spicant* has become a dominant rain forest feature, especially around the Lake Quinault area. This is indeed rain forest country, and the reliable moisture along with a naturally acid soil from rapidly decaying forest debris creates an inviting environment where the deer ferns thrive. Lush mosses are natural companions along with trilliums and oxalis, which dominate the forest floor under the protection of salal (*Gaultheria shallon*) and a tree canopy of vine maple (*Acer circin-*

*natum*), Oregon maple (*A. macrophyllum*), and assorted western conifers.

*B. spicant* is an aristocrat in its beauty and simplicity in the fern garden. It is dimorphic—that is, it has two types of fronds: The sterile fronds form an evergreen rosette that hugs the ground; the fertile fronds are deciduous wands waving a foot or more above the sterile rosettes in an attempt to distribute their spores. It must be planted in a moist, acidic, humus-rich site. Like many *Blechnums*, *B. spicant* is not partial to pot culture unless sharing root space with other plants. I like it best in an informal woodland in the company of our western version of creeping dogwood *Cornus × unalaschensis*, and the delicate wildflowers that are natural companions in our western habitats.

Hardy in Zones 5 to 8, *B. spicant* is found widely in northern temperate regions of the world; I've seen magnificent stands in Scotland, England, and central Europe. These cosmopolitan genotypes are reputed to be more adaptable in eastern North America than our western variant.

While *B. spicant* can be found from seaside to mountainside, its near cousin, the giant chain fern (*Woodwardia fimbriata*), is found predominantly in maritime environments. The sori of this species are pat-

terned like chains of sausages on the frond's underside, hence the common name. Magnificent stands of giant chain fern inhabit the coastal redwood forests of California and on south, while it is found only sparingly in Washington and Oregon.

I have seen this stalwart fern towering to nine feet, although six feet is more common in the wild and four feet is standard in gardens. A moisture-loving, elegant, and decorative specimen plant, giant chain fern is particularly handsome when situated in the company of driftwood or snags. Rated hardy in Zones 8 to 10, it does need winter shelter and wind protection in Seattle-area gardens. But I have friends who are succeeding with it in Zone 7 and, even more amazing, another enthusiast has it wintering over in Salt Lake City! I suspect that summer heat is in part responsible for the plant's increase in tolerance.

#### **Dwarf and Creeping Ferns**

Leathery polypody (*Polypodium scolieri*) is found in the wild exclusively in ocean-side sites, frequently in the salt air within 100 yards or so of the surf. It sometimes grows in the crotches of spruce trees—dead or alive—and at a casual glance the planting looks like an overstuffed eagle's nest! The

*The common name, licorice fern, refers to the supposed licorice flavor of the creeping rhizome, but, speaking from experience, I think acrid is more descriptive.*

chubby lobed, leathery fronds to 12 inches are a lustrous dark forest-green decorated with bright yellow sori on the underside. This extremely ornamental epiphyte makes a handsome hanging-basket plant or can simply be planted in leaf mold on the ground. Best adapted for Zones 8 and 9, it creeps about at a slow stroll—the genus name *Poly*, “many,” and *podium*, “footed,” is in reference to the plant’s creeping rhizome. It requires an almost completely shaded moist location and tolerates lower light levels than most other ferns.

The licorice fern (*P. glycyrrhiza*) is far more common and is frequently seen in fall and winter growing en masse in the rhizome-protecting comfort of the mossy trunks of Oregon maple (*Acer macrophyllum*), mossy rocks, and less frequently on red alder (*Alnus rubra*). It is summer-de-



**Above:** Tonguelike fronds of licorice fern grow on a rock face along an Oregon roadside. **Above right:** Western maidenhair forms a solid wall in Fern Canyon at Prairie Creek Redwoods State Park in northern California. **Opposite:** The imposing fronds of giant chain fern can grow up to nine feet tall in the wild, but they generally don’t get larger than four feet in cultivation.



ciduous but makes an outstanding show as the coiled apple-green new leaves—known as crosiers—emerge in the fall at the same time deciduous trees are shedding their leaves. The fronds remain buoyant throughout the winter.

Despite its penchant for growing on trees and rocks, licorice fern adjusts readily to terrestrial cultivation and will spread in ordinary soil. Be sure in the planting design to allow for the absence of foliage in the summer. With its creeping rhizome, it is also suited for use in hanging baskets.

The common name, licorice fern, refers to the supposed licorice flavor of the creeping rhizome, but, speaking from experience, I think acrid is more descriptive. It has been used by Native Americans for a variety of

purposes, from flavoring tobacco to medicinal treatments for asthma and melancholy.

Licorice fern is more cold tolerant than *P. scoleri* and can be successfully cultivated down to Zone 6. The two species will hybridize on occasion, although so rarely that I didn’t see my first example until visiting a fern enthusiast’s comprehensive collection in a German garden.

The oak fern (*Gymnocarpium dryopteris*)—whose name has changed more often in the 30 years that I’ve been studying ferns, than any other fern I know—is another creeper. By whatever name, here is a fern that produces a carpet of delicate charm with such refreshing soft, light green foliage as to convert even the most determined of the “plants-must-have-flowers” or “all-ferns-look-alike” crowd to consider a fern for a woodland ground cover.

Although it spreads, oak fern is timid and will never challenge surrounding plants for their territory. The deciduous foliage sits atop a stiff black 10-inch stem and splays out horizontally in a triangular pattern. Incredibly hardy—down to Zone 3—this denizen of the world’s northern forests is most vigorous when planted in rotted wood or other acidic soils with a high humus content. When kept cool and moist, it will produce new fronds throughout the summer. The fronds turn yellow in the fall before they drop off. It is a perfect companion for our native creeping dogwood (*Cornus xunalaschkensis*) and its counterpart from native to the eastern North America (*Cornus canadensis*).

Maidenhair spleenwort (*Asplenium trichomanes*) is another outstanding dwarf for the fern garden. The common name comes from the ancient Greeks, who used ferns of this genus to cure disorders of the spleen.

This fern is remarkably sturdy for its height and matching girth of eight inches. Quarter-inch, beadlike pinnae line the dark chestnut leaf stalk and stem—rachis. The fronds are evergreen, and the stems remain standing for years even after the pinnae have dropped. It is an excellent specimen for the rock garden—where it will take some morning sun—or massed in the foreground of the woodland garden.

Native to North America, Europe, and Asia, maidenhair spleenworts are also extremely hardy and can be of ornamental service in gardens from Zone 3 through 9. They invite the company of leafy wildflowers—a contrasting planting with hepaticas is one of my favorites.

A subspecies (*A. trichomanes* subsp.

*quadrivalens*) does best in a limestone substrate and is frequently found in mortar rubble on Old World city walls, cathedrals, castles, and fortresses. Reserve this plant for the alkaline section of a rock garden.

### Maidenhairs

The miniaturist can also take delight in *Adiantum aleuticum* "Subpumilum". Discovered on the western coast of Vancouver Island less than 40 years ago, this is a Lilliputian imitation of our taller native maidenhair (*A. aleuticum*). Although some botanists are now classifying this jewel as within the normal range for the species, I have grown well over a thousand from spores, and while mildly variable, not one of the plants has been anything other than a dwarf. And what a dwarf it is! The deciduous pinnae are imbricate—which is to say they overlap each other rather like an unfolding Oriental fan—increasingly so with high levels of light. The pinnae are held horizontally on the tops of brittle black stipes and the entire package gradually expands with each year's growth.

'Subpumilum' adapts from almost full sun in our not-always-sunny Northwest to fairly deep shade in areas subject to hot summers. The soil can be from borderline scree composition to rich humus and everything in between. I've had plants as small as three inches at maturity, but most average around six inches. Although it is not quite as hardy as the species, it can be reliably established from Zone 5 to 8.

Western maidenhair (*A. aleuticum*), is one of our most beloved natives. A graceful and airy species that, until recently, was classified in the company of the eastern *A. pedatum*, it is easier to cultivate and not nearly so enticing to the local slug population as its eastern counterpart. It is naturally graceful in a moist and shady setting, especially overlooking water.

It is commonly called the five finger fern because the pinnae radiate in a circular fashion on the top of the slender blackish stipe. These rigid stipes were frequently used by Native Americans in basketry. It is deciduous but when happy will increase in size each year, and it can be divided with the aid of a very sharp knife; fall is the best time for this surgery. This plant belongs in ferneries from Zone 3 to 9, where it will reward the gardener with woodland serenity.

### Infernal Natives

All of the above ferns come with an unconditional warranty as to their orna-



mental value. Noticeably absent from this list are a pair of our aggressive native weeds, the bracken fern (*Pteridium aquilinum*) and the lady fern (*Athyrium filix-femina*).

Bracken fern fortunately does not establish readily either from spores or transplants, but it can overwhelm a garden when it is part of the existing natural community. Not only does it expand its holdings with aggressive rhizomatous activity, its foliage contains a chemical—released as the deciduous fronds decompose—that inhibits the growth and germination of potential competitors.

Lady fern is definitely not a "lady." As often as not, it appears as an innocent sporeling, welcomed as an indication that the garden has matured and become a host to wildlings—and just as often occurring in the midst of a choice planting. By the time its true identity is discovered, it is extremely difficult if not impossible to weed out.

These weedy ferns aside, there are well over 100 fern species, varieties, hybrids and allies in the flora of the Pacific Northwest. Many can contribute to the greater good of gardens throughout North America from cold climates to those that are warm, benign, and forgiving. It's not difficult to find one or more to entice and enrich your garden in design as well as spirit. ♣

*Sue Olsen is the owner of Foliage Gardens, a mail-order nursery that has specialized in spore-grown ferns for more than 30 years. A founding member of the Hardy Fern Foundation, she is now editor of its quarterly newsletter.*

## Resources

**HARDY FERN FOUNDATION.** The Hardy Fern Foundation (HFF) was organized 10 years ago to evaluate ferns for hardiness and ornamental value in various sites throughout the country. Its primary test garden is located at the Rhododendron Species Botanical Garden at Weyerhaeuser Corporate Headquarters in Federal Way, Washington. Well over 100 types of ferns, including many natives, have been planted and labeled in the garden, and more are added annually. Open to members only. For more information write to HFF at P.O. Box 166, Medina, WA 98039-0166.

**FERNS FOR AMERICAN GARDENS** by John Mickel, Macmillan, New York, 1994. This is a comprehensive reference that includes solid information on our northwestern natives.

**PACIFIC NORTHWEST FERNS AND THEIR ALLIES** by T.M.C. Taylor, University of Toronto Press, 1970. This an excellent regional reference, but, unfortunately, is out of print. It can occasionally be found through used-book dealers.

# Our Rivers are dying for more trees.

You can breathe new life into this precious resource. Trees that filter and clean polluted water are in decline. Help plant 20 million trees for our streams and rivers. \$10 plants 10 hard-working, water-cleaning trees. Call 800/545-TREE, or visit our website: [www.amfor.org](http://www.amfor.org). It's amazing what grows when you plant a tree.



AMERICAN FORESTS, Washington, DC 20013-2000



HMMM... THE SMITHS' FOR AZALEAS AND HOSTAS, OR THE JONESES' FOR THE ALL YOU CAN EAT BUFFET?

## Deer Damage a Problem?

We Have the Solution.

- Virtually invisible, high strength barrier
- Protect garden areas or entire property
- Easily attaches to trees or posts

**Benner's Gardens • 1-800-244-3337**  
P.O. Box 875, Bala Cynwyd, PA 19004  
Website: [www.bennersgardens.com](http://www.bennersgardens.com)



continued from page 14

Forschner, executive director of the Lyme Disease Foundation in Hartford, Connecticut. "Nor will it prevent other diseases spread by ticks, such as ehrlichiosis and Rocky Mountain spotted fever."

### LINGERING QUESTIONS

As with any new drug, many questions still need to be answered. It is not known how long protection against Lyme disease lasts after vaccination; most likely, boosters will be necessary on an annual basis, much like a yearly flu shot. And the effects on pregnant women, people with autoimmune diseases, and children have not yet been determined. Studies on the vaccine's efficacy and safety on children under the age of 15 are currently underway.

The decision to use the vaccine should be made after discussing your particular risk factors with your doctor. "I wouldn't advise everyone to run out and get the vaccine if they don't need it," says Forschner. Downsides to the vaccine include cost and possible minor side effects. In addition to doctors' office visit fees, each of the three shots will cost about \$70. Some patients experience minor side effects, including soreness at the injection site, redness and swelling, and flulike symptoms.

The CDC's Advisory Committee on Immunization Practices recommends that only persons at high risk for *B. burgdorferi* infection be considered for vaccination: These are people who "reside, work, or recreate in areas of high or moderate risk during Lyme disease transmission season" and who "engage in activities that result in frequent or prolonged exposure to tick infested habitat."

### KEEPING YOURSELF SAFE

Whether or not you decide to try the vaccine, it is still important to follow simple precautions to reduce the risk of contracting the tick-borne disease. Forschner notes that for gardeners—especially those in wooded areas—one of the best methods of avoidance is to trim back the vegetation that grows along the border of your lawn or garden and the woods, where ticks are often found. And because deer are the principal maintenance hosts for adult black-legged ticks, keeping those hungry deer at bay is even more important than just for the protection of your favorite plants.

Other tips for protecting yourself include wearing light-colored clothing so you can spot ticks more easily, pulling back

long hair and wearing a hat, and tucking pants into socks and shirts into pants so ticks can't crawl under your clothing. Experts also recommend spraying a product containing DEET on your clothing before going outdoors. Be sure to read product directions carefully before using such repellents, especially on children. After being in a tick habitat, remove your clothes promptly and thoroughly inspect your body for ticks. If you find one, don't panic; research shows that transmission of *B. burgdorferi* does not occur until the tick has been attached for 24 to 36 hours. Simply remove the tick carefully with a pair of tweezers, grasping it as close to the mouth parts as possible.

And remember that although most cases have been reported in the Northeast, upper Midwest, and Pacific coast states, Lyme disease can be a problem in nearly every part of the country. According to Forschner, the disease can show up where it's least expected. "There are pockets of Lyme disease outbreaks in Texas, for example, even though Texas is not known as a high risk area," he explains. "These pockets may have more cases than New Jersey, which is well known for the disease." For this reason, it's important to stay on top of local conditions by consulting your county's health department.

*Christina M. Scott is assistant editor of The American Gardener.*

## Resources

Information about the Lyme disease vaccine can be found on SmithKline Beecham's LYMERix homepage at [www.lymerix.com](http://www.lymerix.com) or by calling (888) LYMERIX.

**AMERICAN LYME DISEASE FOUNDATION, INC.** 293 Route 100, Somers, NY 10589. (914) 277-6970; [www.aldf.com](http://www.aldf.com).

**CENTER FOR DISEASE CONTROL AND PREVENTION, DIVISION OF VECTOR-BORNE INFECTIOUS DISEASES**, 1300 Rampart Road, Colorado State University Foothills Research Campus, P.O. Box 2097, Fort Collins, CO 80522. [www.cdc.gov/ncidod/dvbid/dvbid.htm](http://www.cdc.gov/ncidod/dvbid/dvbid.htm).

**LYME DISEASE FOUNDATION, INC.** One Financial Plaza, 18th Floor, Hartford, CT 06103; (860) 525-2000; 24-hour hotline: (800) 886-LYME. [www.lyme.org](http://www.lyme.org).



## book reviews

- 🌱 *heirloom flowers*
- 🌱 *tulip history*
- 🌱 *summer reading*

### HEIRLOOM FLOWERS: VINTAGE FLOWERS FOR MODERN GARDENS.

*Tovah Martin. Fireside, New York, 1999. 192 pages. 7 1/2" x 9 3/4". Publisher's price, softcover: \$16. AHS price: \$13.*

For the gardener interested in exploring the benefits of growing heirloom flowers, Martin offers a splendid introduction. In *Heirloom Flowers*, Martin has managed to gather information and present it in such an organized manner that her book can be read as an easy reference and as a wonderfully descriptive study of old-fashioned flowers.

The book opens with a personal foreword by Diane Whealy, co-founder of Seed Savers Exchange, a cooperative seed-saving venture in Decorah, Iowa. Whealy, who directs the operations of Seed Savers Flower and Herb Exchange, reveals how gardening with heirloom plants creates a living link to our ancestors who grew these same flowers in their own gardens years ago.

Whealy's essay is a perfect lead-in to the first part of the book titled "Our Floral Heritage." This section offers discussions of wildflowers—our earliest heirlooms—cottage gardens, and the disappearance of heirlooms in the plant industry. As a seed preservationist, I was pleased to see that Martin included a chapter on collecting seeds from heirloom flower gardens. Although other reference books have covered this subject in more detail, Martin gives enough information to get the backyard gardener started.

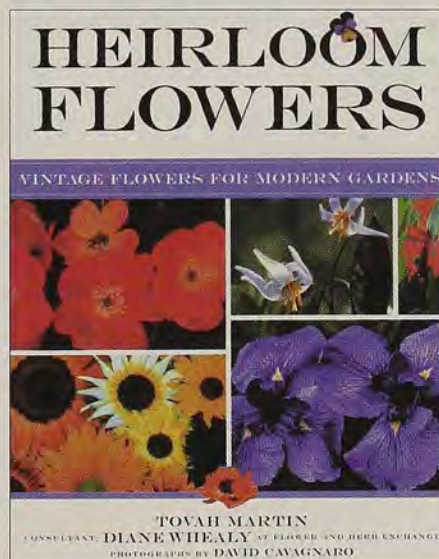
Scattered throughout this section are vignettes about people involved in the heirloom plant movement and selected prominent heirloom plants, including roses, morning glories, and pelargoniums.

The second part of *Heirloom Flowers* is a directory of more than 100 heirloom flowers—including perennials, biennials, annuals, vines, and bulbs—listed in alphabetical order by botanical name. Each listing includes a detailed and fascinating historical background, creating a rich history of our flora. This connection to our horticultural past—taking us back to the gardens of our parents, grandparents, and beyond—can inspire a new or renewed interest in heirloom gardening.

In addition to the historical information, Martin provides cultivation information for each variety, including cold hardiness zones, light and soil requirements, and any special planting instructions.

Credit should be given to David Cavagnaro for the incredibly beautiful color photographs of flowers that illustrate the book. His images are truly worth a thousand words. If I were not already a gardener, his inspiring photographs would convince me to begin pulling out grass and starting a garden.

The book also includes a great resource list to help interested gardeners locate sources for heirloom plants and seeds, seed exchange organizations, plant societies,



and places to visit to see heirloom gardens. For those who want to read more about heirloom gardening, a well-stocked bibliography offers plenty of good suggestions.

Congratulations to Martin for integrating so many aspects of heirloom gardening in one book. *Heirloom Flowers* will certainly become a valuable part of my per-

sonal library as well as the Heirloom Seed Project's library here at Landis Valley Museum. —**Maggie Savory-Posselius**  
*Maggie Savory-Posselius is coordinator of the Heirloom Seed Project at Landis Valley Museum in Lancaster, Pennsylvania.*



### THE TULIP: THE STORY OF A FLOWER THAT HAS MADE MEN MAD.

*Anna Pavord. Bloomsbury, New York, 1999. 439 pages. 7 1/2" x 9 1/2". Publisher's price, hardcover: \$35. AHS price: \$25.*

This book may tell you more about tulips than you ever wanted to know, but British author Pavord's passion for tulips is infectious. The story she has to tell is fascinating and her writing is, for the most part, a delight to read. In addition, *The Tulip* is a handsome book printed on heavy, cream-colored paper and dotted with glorious illustrations of tulips from old botanical texts.

Pavord traces the history of tulip mania—of which she is obviously a modern-day sufferer—from its beginnings in Persia and the Ottoman Empire to the present day. In one chapter, she describes a sumptuous party, held in the early years of the 18th century, in which thousands of tulip blossoms were surrounded by cages of singing birds and lit by mirrored lanterns carried on the backs of tortoises.

Pavord also relates the history of the incredible tulip mania that struck Holland from 1634 to 1637, where a single tulip bulb could cost the same as a town house in Amsterdam. Pavord notes that the Dutch not only traded the bulbs themselves, they anticipated the derivatives market by trading in "futures"—the possibility

**WHAT  
YOUR KIDS  
ARE EXPOSED  
TO IN  
CHILDHOOD  
WILL AFFECT  
THEM THE  
REST OF  
THEIR LIVES.**



Studies show that damage from the sun to a child's skin can actually increase the odds that they will develop skin cancer as adults. In fact, it is estimated that 80% of a person's total lifetime sun exposure occurs in the first 18 years of life. So protect your children. Keep them out of the sun during midday. Cover them up. Give them hats. And teach them to use sunscreen. For more information, call 1-888-462-DERM, or visit [www.aad.org](http://www.aad.org).



**AMERICAN ACADEMY OF DERMATOLOGY**

of bulbs producing spectacular variations on a standard bloom. For the center of all this was not ordinary monochrome tulips, but those that produced blooms that were "broken"—striped and feathered in fantastic ways. We now know the aberrations of these tulip blossoms were caused by a virus, but to the Dutch at that time, the process took on a kind of mysterious alchemy, similar to turning base metal into gold.

Later chapters chronicle the more recent history of the tulip, including their introduction to the United States. For many years tulips were cultivated and adored by amateur gardeners in France, Flanders, England, and Scotland. These growers set strict standards for blossoms and emphasized the quality of individual flowers. Pavord charts the gradual shift from growing individual prize tulips to the planting of tulips en masse. The latter style of gardening was encouraged by the Dutch bulb growers, whose brilliant marketing savvy has kept them in good stead over the years.

The last half of the book is a catalog of tulips with brief, helpful descriptions of major species and cultivars. Keep in mind, however, that *The Tulip* is a social history, not a standard gardening book. You will not find information here on how to grow tulips or how to use them in garden design.

The author has obviously done an incredible amount of research and appears to have read everything that has been written about tulips. It seems churlish to complain about too many facts, yet the minutiae of tulip lore can be at times overwhelming. Reading this book is a little like being trapped at a cocktail party by a charming but voluble enthusiast who insists on sharing everything he or she knows about a beloved topic. This is a book best savored in small sips rather than consumed in one or two gulps.

You should also be warned that Pavord includes large dollops of untranslated French—some of it archaic Old French. It is understandable that a scholar would want to provide the original text, but Pavord is inconsistent in that she translates Dutch and German texts. Only French is quoted in the original, an affectation that makes for heavy going at times.

It would also have been helpful if there were more connections between the wonderful illustrations and the text so the reader wouldn't have to constantly flip back and forth to see if the paintings described are the ones illustrated.

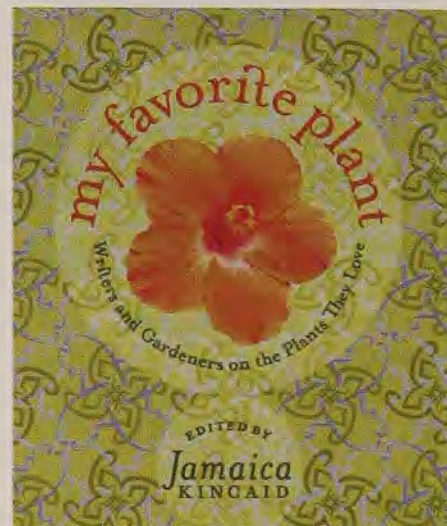
But these are really quibbles. *The Tulip* is a delightful book, and even if you do not now share Pavord's passion for tulips, I can assure you that by the end of the book

you will be reaching for those bulb catalogs you saved from last fall.

—Norma Prendergast

*An art historian and writer, Norma Prendergast gardens in Ithaca, New York.*

## OTHER TOP CHOICES FOR SUMMER READING



### MY FAVORITE PLANT: WRITERS AND GARDENERS ON THE PLANTS THEY LOVE.

Jamaica Kincaid, editor. Farrar, Straus and Giroux, New York, 1998. 330 pages. 4 1/2" x 6 1/4". Publisher's price, hardcover: \$16. AHS price: \$14.

### THE WRITER IN THE GARDEN.

Jane Garmey, editor. Algonquin Books, Chapel Hill, North Carolina, 1999. 272 pages. 5 1/4" x 8 1/4". Publisher's price, hardcover: \$18.95. AHS price: \$14. (An audio-tape version of this book is available from High Bridge, St. Paul, Minnesota, 1997. Publisher's price: \$17.95; AHS price: \$13.)

### THE ESSENTIAL EARTHMAN. ONE MAN'S GARDEN.

Henry Mitchell. Mariner Books, Boston, 1999. 5 3/4" x 9 1/4" each. Publisher's price, softcover: \$14 each; AHS price: \$11.50 each.

### HENRY MITCHELL ON GARDENING.

Henry Mitchell. Mariner Books, Boston, 1999. 5 3/4" x 9 1/4". Publisher's price, softcover: \$13. AHS price: \$10.50.

There's no doubt about it, gardeners just love to share stories about plants. These five books focus on both gardening writers and writing gardeners—each relating in his or her own words a story about favorite plants, memories, or lessons learned in the garden. Take one of

these with you to the beach this summer, or read it in your hammock during a well-deserved break from weeding.

In *My Favorite Plant*, writer Kincaid has 35 prominent gardeners and writers—including Heronswood Nursery owner Dan Hinkley, garden writer Ken Druse, Plant Delights Nursery owner Tony Avent, and Montrose garden's Nancy Goodwin—answer the question we are always asking of each other: "What's your favorite plant?" The essayists recount their fondest memories of their favorite plants with such zeal that the reader is sure to look anew at each and every plant mentioned.

The sheer pleasure that gardening can bring comes through in the witty writing styles of the essayists. Christopher Lloyd writes of the thrill of seeing wild poppies on neglected roadsides—and the unfortunate results when excited plant lovers slam on the brakes for a better view: "Gardeners and naturalists must be the most dangerous class of drivers," he writes, "something the insurers have yet to notice." If you are passionate about plants, *My Favorite Plant* is sure to inspire you to become even more vocal about your own favorites.

In the same vein, *The Writer in the Garden* is a wonderful anthology of more than 50 essays and poems by writers who span the globe and the centuries. Included are such luminaries as Gertrude Jekyll, Christopher Lloyd, Sara Stein, Henry David Thoreau, and Charles Kuralt. Through their essays, the writers share their likes or, in Allen Lacy's case, their dislikes: "Let me dwell for a moment on one plant I especially detest—the hydrangea."

Garmey also includes selections from classic writers and poets, including 17th-century English lyric poet Andrew Marvell, 19th-century author and poet Katherine Mansfield, and even excerpts from Homer's *Odyssey*. This wide range of authors makes clear that the spirit of gardening is universal and has remained constant through the ages.

If you don't want to take time away from the garden to read, try the audiotape version of *The Writer in the Garden*. The tape contains 44 of the essays in the book and allows you to enjoy them while working, driving, or, of course, gardening.

Finally, Mariner Books has just released three Henry Mitchell titles in paperback. These volumes, compiled from Mitchell's "Earthman" columns in *The Washington Post*, present the very best of this charismatic curmudgeon's garden musings.

—Christina M. Scott

Christina M. Scott is assistant editor of *The American Gardener*.

1994 EDF

## Buy recycled.




### It would mean the world to them.

Recycling keeps working to protect their future when you buy products made from recycled materials. For a free brochure, write *Buy Recycled*, Environmental Defense Fund, 257 Park Avenue South, New York, NY 10010, or call 1-800-CALL-EDF.

Ad  ENVIRONMENTAL DEFENSE FUND 


## Adopt-A-Manatee®



You can't take one home, but you can get to know your new manatee friend through the photo, biography and membership handbook *Save the Manatee*. Club sends to you. You can also read updates on your manatee in the Club newsletter. Your contribution funds programs that are working to protect endangered manatees and their habitat. Contact:

**Save the Manatee Club**  
500 N. Maitland Ave.  
Maitland, FL 32751  
[www.objectlinks.com/manatee](http://www.objectlinks.com/manatee)

**1-800-432-JOIN (5646)**



## Plant Trees

In our town, we needed to do something about the run-off that polluted our rivers and streams. One thing we did was to plant trees in our yards and along the stream banks. Now, the trees filter chemicals, hold the soil in place, and give wildlife a home.


### 10 Free Trees for Wildlife

You can make a difference in your town, too. Join The National Arbor Day Foundation, and receive 10 Free Trees for Wildlife—Red Oak, Hawthorn, Bur Oak, Viburnum, Crabapple, Gray Dogwood, 2 Canadian Hemlock and 2 Redcedar, or other trees selected for your area.

Your trees will protect the environment, shelter wildlife, and provide food for more than 100 species of songbirds. They will be shipped postpaid at the right time for planting in your area, February through May in the spring or October through mid December in the fall. The six to twelve inch trees are guaranteed to grow, or they will be replaced free.

You will receive a subscription to *Arbor Day*, the Foundation's bimonthly publication, and *The Tree Book* with information about tree planting and care.

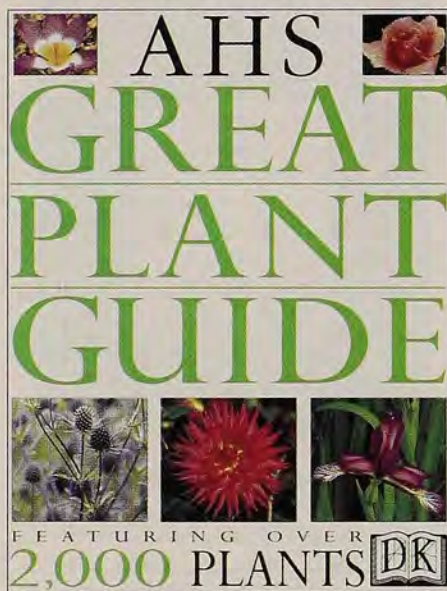
To become a member of the Foundation and receive your free trees, send a \$10 contribution to: 10 Trees for Wildlife, The National Arbor Day Foundation, 100 Arbor Avenue, Nebraska City, NE 68410. Plant trees, and make life better where you live.

 **The National Arbor Day Foundation®**  
[www.arborday.org](http://www.arborday.org)

## gardeners' books

To better serve our members, AHS has teamed up with Amazon.com. We can now offer better discounts on most titles, faster deliveries, more inventory, and improved access to hard-to-find titles. The books listed here are based on perceived reader interest, unusual subject matter, or substantive content. To order, or for information about other gardening books, please call Trish Gibson at (800) 777-7931 ext. 36 or visit our Web site at [www.ahs.org](http://www.ahs.org) and link to Amazon.com.

### REFERENCE



#### AHS GREAT PLANT GUIDE.

DK Publishing, Inc., New York, 1999. 574 pages. Publisher's price, softcover: \$16.95. AHS price: \$15.

More than 2,000 plants are featured in this new pocket-sized guide that recommends trees, shrubs, climbers, herbaceous perennials, annuals, and biennials for every garden situation. More than 1,000 color photographs accompany detailed plant descriptions that include information on each plant's cultural requirements as well as its appropriate USDA Hardiness zone and AHS Heat Zone rating. The book also recommends "shopping lists" of plants for special situations—whether you need plants for your coastal garden, or just want summer-blooming container plants. This small format book is the perfect reference to take along to your favorite nursery.

#### PLANT PROPAGATION.

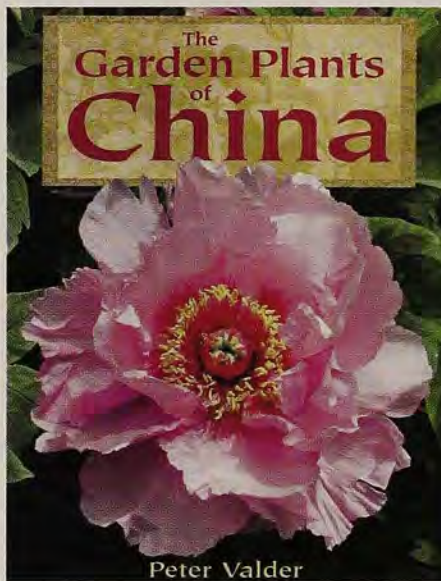
Alan Toogood. DK Publishing, Inc., New York, 1999. 320 pages. Publisher's price, hardcover: \$34.95. AHS price: \$28.

This practical guide to plant propagation covers everything from sowing seeds and taking cuttings to division, grafting, and budding. Propagation methods for more than 1,500 plants—including trees, shrubs, climbers, herbaceous perennials, annuals, succulents, bulbous plants, and vegetables—are clearly explained and illustrated with more than 1,800 photographs and drawings. Also included is information on when to propagate each plant and what degree of skill each method requires.

#### PLANT LIFE IN THE WORLD'S MEDITERRANEAN CLIMATES.

Peter R. Dallman. University of California Press, Berkeley, California, 1998. 258 pages. Publisher's price, softcover: \$29.95. AHS price: \$24.

A global traveler and Mediterranean-plant enthusiast, Dallman provides an overview of the landscapes, vegetation types, and specific plants found in the world's Mediterranean climates. This climate of mild, rainy winters and dry, warm summers is found only in California, central Chile, the Cape region of South Africa, southwestern Australia, and the Mediterranean basin. With its detailed descriptions, photographs, and illustrations, this book is an excellent reference for anyone interested in growing drought-resistant plants or learning more about the unusual Mediterranean bioregions.



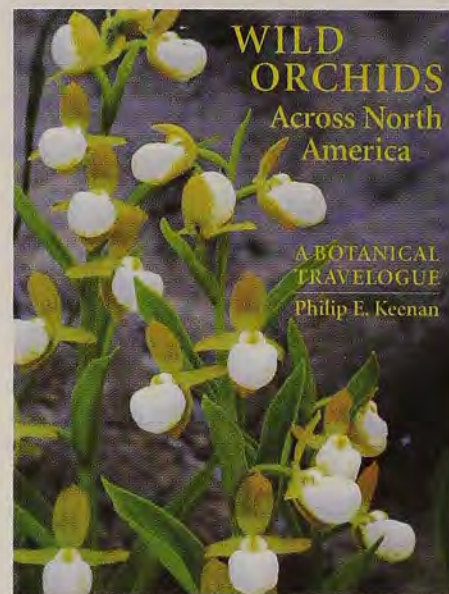
#### THE GARDEN PLANTS OF CHINA.

Peter Valder. Timber Press, Portland, Oregon, 1999. 368 pages. Publisher's price, hardcover: \$49.95. AHS price: \$35.

More than 400 color photographs and il-

lustrations are included in this guide to garden plants that originated in China. The author describes how plants such as peonies, camellias, gardenias, azaleas, forsythia, and wisteria are deeply rooted in Chinese history and culture. These plants and many others that have greatly influenced Western gardening are the products of 2,000 years of Chinese horticultural efforts. An essential reference for anyone interested in the plants of China or the history of garden plants.

### PLANTS



#### WILD ORCHIDS ACROSS NORTH AMERICA.

Philip E. Keenan. Timber Press, Portland, Oregon, 1998. 370 pages. Publisher's price, hardcover: \$39.95. AHS price: \$28.

This botanical travelogue documents the author's journey in search of wild orchids in their native habitats. A botanist with nearly 50 years of field experience, Keenan provides detailed descriptions of the 145 North American orchid species he has seen in the United States and Canada as well as information about surrounding plants, birds, wildlife and geographical features. The book includes beautiful color photographs of nearly all of the orchid species discussed.

#### THE GARDENER'S GUIDE TO GROWING SALVIAS.

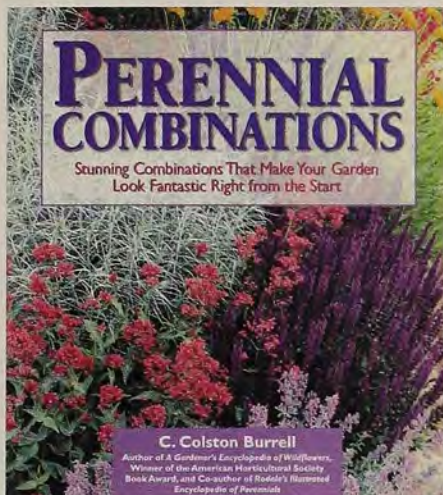
John Sutton. Timber Press, Portland, Oregon, 1999. 160 pages. Publisher's price, hardcover: \$29.95. AHS price: \$21.

Cultivated since at least the 4th century B.C., salvias have long been popular for their herbal, culinary, and ornamental attributes. In this new book, Sutton provides detailed



descriptions of more than 90 species. In addition, the author summarizes the history of these popular plants and describes how to grow and propagate them. Appendices list plant and seed sources, public salvia collections, resources for further information, and a special list of salvias for rock gardens. Contains 70 color photographs.

## DESIGN



### PERENNIAL COMBINATIONS.

C. Colston Burrell. Rodale Press, Inc., Emmaus, Pennsylvania, 1999. 352 pages. Publisher's price, hardcover: \$25.95. AHS price: \$21.

A detailed guide for both novice and experienced gardeners, this book is packed with no-nonsense advice and tips on how to make gardens that are beautiful from early spring to late fall. Garden designer, photographer, writer, and lecturer Burrell

draws on his personal gardening experience in describing 120 of the best perennial combinations for homeowners. Includes hundreds of photographs along with plot plans and simple garden designs.

### ROOTS, SHOOTS, BUCKETS & BOOTS.

Sharon Lovejoy. Workman Publishing, New York, 1999. 176 pages. Publisher's price, softcover: \$13.95. AHS price: \$11.50.

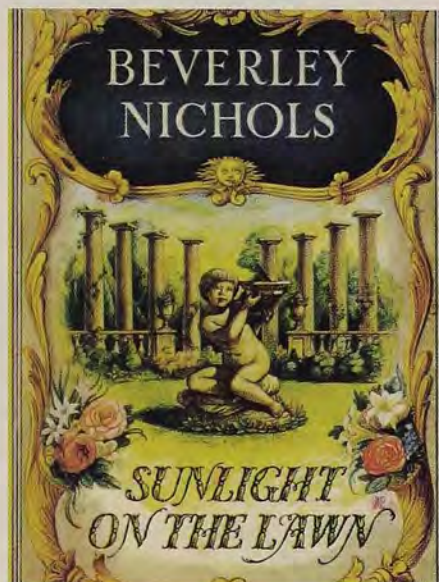
Lovejoy's latest book, illustrated with watercolors by the author, shows how to create 12 fun and fanciful theme gardens for kids. Each project includes a plan and detailed growing instructions. Learn how to plant a pizza garden that will provide all the ingredients—except dough—for a pizza, or how to create a flowery maze big enough to get lost in.

### DISCOVERING ANNUALS: COLORFUL PLANTING FOR EASY MAINTENANCE.

Graham Rice. Timber Press, Portland, Oregon, 1999. 192 pages. Publisher's price, hardcover: \$34.95. AHS price: \$25.

Award-winning British garden writer Graham Rice brings these much-maligned plants back into fashion by revealing them as the key to creative gardens. With the help of more than 200 color photographs, Rice demonstrates that thoughtful planting combinations and color schemes bring new life to these familiar plants. This Timber Press edition, adapted for American readers by garden writer Judy White, features varieties, techniques, and planting ideas specially tailored to American gardens.

## MISCELLANEOUS



### SUNLIGHT ON THE LAWN.

Beverley Nichols. Timber Press, Portland, Oregon, 1999. 264 pages. Publisher's price, hardcover: \$24.95. AHS price: \$17.50.

This is the final book in the Merry Hall trilogy, the hilarious account of the author's misadventures in the restoration of his rambling old country house, Merry Hall. This last installment describes the final stages when the house is finished, the garden is designed, and the trees are growing apace. The cast of eccentric characters in the earlier books make their usual appearance throughout this volume. A foreword by Nichols's biographer, Bryan Connon, reveals the identities of many of the friends and neighbors on whom these fictional characters are based.

## AHS HORTICULTURAL BOOK SERVICE ORDER FORM

SHIP TO: Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Daytime phone ( ) \_\_\_\_\_

### CHOOSE PAYMENT METHOD:

Check enclosed. Amount: \$ \_\_\_\_\_

Charge to:  VISA  MasterCard

Account # \_\_\_\_\_

Exp. date \_\_\_\_\_

Signature \_\_\_\_\_

Book Title	Qty.	Price Each	Total
Subtotal			
Virginia residents: Add 4.5% sales tax			
Postage & Handling (see chart)			
Total			

STANDARD SHIPPING	SECOND-DAY AIR	NEXT-DAY AIR
\$3 per shipment plus 95¢ per item	\$6 per shipment plus \$1.95 per item	\$8 per shipment plus \$2.95 per item

Mail completed form to: AHS Horticultural Book Service, 7931 East Boulevard Drive, Alexandria, VA 22308-1300.

Or call toll-free (800) 777-7931 ext. 36.

Prices in effect until August 31, 1999. After expiration date, orders will be filled pending availability. Please allow four to six weeks for delivery. Prices subject to change without notice.



## regional happenings

*a look at what's happening around the nation*

### AHS Events

Events sponsored or co-sponsored by AHS are indicated by this **AHS** symbol. An expanded and updated Regional Happenings listing can be viewed on the Society's Web site at [www.ahs.org](http://www.ahs.org).

### MID-ATLANTIC

**THROUGH OCT. 31. *Gardens and Landscape Tours of George Washington's Mount Vernon.*** Mount Vernon, Virginia. (703) 780-2000.

**JULY 17. *Medicinal Plants Workshop.*** Monticello, Charlottesville, Virginia. (804) 984-9822.

**JULY 17 & 18. *Knowing the Wild Plants.*** Plant identification seminar. Wintergreen Nature Foundation. Wintergreen, Virginia. (805) 325-8172.

**JULY 22-27. *American Nursery and Landscape Association Annual Convention.*** Wyndham Franklin Plaza, Philadelphia, Pennsylvania. (202) 789-2900.

**JULY 24. *Water Garden Workshop and Tour.*** U.S. National Arboretum, Washington, D.C. (202) 245-4521.

**JULY 31. *Hosta and Daylily Sale.*** Potomac

Hosta Club. Meadowlark Gardens Regional Park, Vienna, Virginia. (703) 768-3338.

**AUG. 4-7. *Art in the Garden.*** Conference. Association of Professional Landscape Designers. Omni Shoreham Hotel, Washington, D.C. (312) 201-0101.

**AUG. 7-OCT. 10. *Fountains and Water Gardens Exhibit.*** Phipps Conservatory and Botanical Gardens, Pittsburgh, Pennsylvania. (412) 622-6915.

**AUG. 28. *Plant Passion Day.*** Plant-related activities in conjunction with Norfolk Zoo. Norfolk Botanical Garden, Norfolk, Virginia. (757) 441-5830.

**SEPT. 12. *Kalorama House and Embassy Tour.*** House and garden tour. Woodrow Wilson House, Washington, D.C. (202) 387-4062.

### NORTH CENTRAL

**JULY 8-11. *Herbs Around the World.*** International Herb Association. Kellogg Conference Center, East Lansing, Michigan. (717) 697-1500.

**JULY 8-11. *North American Lily Society Show.*** Wisconsin-Illinois Lily Society. Chicago Botanic Garden, Glencoe, Illinois. (847) 733-0071.

**JULY 16 & 17. *Olbrich Home Garden Tour.*** Olbrich Botanical Gardens, Madison, Wisconsin. (608) 246-4551.

**JULY 17 & 18. *Daylily Show and Sale.*** North Shore Iris and Daylily Society. Chicago Botanic Garden, Glencoe, Illinois. (847) 835-5440.

**JULY 17 & 18. *Flower Show and Sale.*** Cook Energy Information Center, Bridgman, Michigan. (800) 548-2555.

**JULY 28-31. *American Society for Horticultural Science Annual International Conference.*** Minneapolis Convention Center, Minneapolis, Minnesota. (703) 836-4606 ext. 308.

### NORTHEAST

**JULY 9-11. *Newport Flower Show.*** Preservation Society of Newport County. Rosecliff Mansion, Newport, Rhode Island. (401) 847-1000.

## Callaway Brothers Azalea Bowl Opens

Touted as the world's largest azalea garden, the 40-acre Callaway Brothers Azalea Bowl opened last March at Callaway Gardens, a 14,000-acre botanical display garden in Pine Mountain, Georgia. Here visitors can view over 4,000 hybrids and native azaleas as well as other ornamental trees and shrubs, including sweet bay magnolia, camellia, and dogwood. Named in honor of brothers Ely Reeves Callaway, Sr. and Fuller E. Callaway, Sr., this new addition to Callaway Gardens is complete with reflecting ponds, walking trails, scenic overlooks, and a gazebo.



The woods at the Callaway Brothers Azalea Bowl blush with spring color.

It was, however, another Callaway that founded the original gardens—Cason Callaway, Fuller's son. During a summer walk in the woods near Blue Springs in the late 1930s, Cason and his wife Virginia came upon the rare plumleaf azalea (*Rhododendron prunifolium*), a native found only within a 100-mile radius along the Georgia-Alabama border. Intrigued by the species's rarity and late-season blooming—from late June to August—the Callaways began propagating the plumleaf azalea, and in 1952 Cason opened Callaway Gardens, dedicated in part to preserving Georgia's native azaleas.

From late spring through the end of August, visitors can see the blooms of plumleaf azaleas and other species at the Callaway Brothers Azalea Bowl. For more information, call 1-800-CALLAWAY or visit the garden's Web site at [www.callawaygardens.com](http://www.callawaygardens.com).

—Mark C. Mollan, Communications Assistant

**JULY 10. 9th Annual Garden and House Tour: Hidden Treasures of the Berkshires.** The Lenox Garden Club. Lenox, Massachusetts. (413) 298-3089.

**JULY 10. Windsor's Hidden Gardens Tour.** Home Hill Inn, Plainfield, New Hampshire. (603) 675-6165.

**JULY 14. Green Thumb Garden Show.** Nantucket Garden Club. The Breeze Point Hotel, Nantucket, Massachusetts. (508) 228-6450.

**JULY 18. Basin Harbor Garden Events.** Basin Harbor Club, Lake Champlain, Vermont. (802) 475-2311.

**JULY 26-30. Art and Ecology in Landscape Design.** Workshop by Darrel Morrison. Conway School of Landscape Design, Conway, Massachusetts. (413) 369-4044.

**AUG. 1-4. International Society of Arboriculture.** Conference. Stamford Westin Hotel, Stamford, Connecticut. (217) 355-9411.

**AUG. 7. Basic Care for Trees and Shrubs.** Class. Arnold Arboretum, Jamaica Plain, Massachusetts. (617) 524-1718 ext. 175.

**AUG. 7. Summer Garden Day.** Organic vegetable gardening lectures, tours, and demonstrations. Sturbridge, Massachusetts. (508) 347-3362.

**SEPT. 12. Seed Savers Symposium with Kent Whealy.** Tower Hill Botanic Garden, Boylston, Massachusetts. (508) 869-6111.

## NORTHWEST

**THROUGH SEPTEMBER. Butterflies and Blooms.** Woodland Park Zoo, Seattle, Washington. (206) 684-4800.

**JULY 8-11. American Conifer Society National Meeting.** Resort at the Mountain, Welches, Oregon. (804) 984-3660.

**JULY 10 & 11. Bainbridge in Bloom and Garden Tour.** Private garden tour. Bainbridge Island Arts and Humanities Council. Bainbridge Island, Washington. (206) 842-7901.

**JULY 17. West Seattle Garden Tour.** Art West. Seattle, Washington. (206) 938-0963.

**AUG. 7 & 8. Anchorage Garden Tour.** Alaska Botanical Garden, Anchorage, Alaska. (907) 265-3165.

## America's Trains and Trees

Visitors to the New York Botanical Garden this summer can experience the flora, terrain, and historic buildings of every region of the United States and never leave the garden park, courtesy of a whimsical model train exhibit, America's Trains and Trees. From July 1 through Sept. 12, the 6,000-square-foot outdoor miniature landscape exhibit will take visitors on an imaginary journey across the varied habitats of this country. Complete with tunnels, bridges, and waterfalls—all made from natural materials by artist Paul Busse—the exhibit of seven model trains will travel on 800 feet of track from the Great Smoky Mountains, through the Florida Everglades, up to the Great Lakes, across the native grasses of the Great Plains, and through the deserts of the Southwest and the redwoods of the Pacific North-



west. Interspersed in the landscape are miniature homes of famous Americans, including Abraham Lincoln, Laura Ingalls Wilder, and Helen Keller. For more information, contact the New York Botanical Garden at (718) 817-8616, or visit its Web site at [www.nybg.org](http://www.nybg.org).

## New Children's Garden in Atlanta

Children, health, and gardening will come together at the grand opening of a new children's garden at the Atlanta Botanical Garden on September 16. Built in partnership with the Scottish Rite Children's Medical Center, the 2½-acre children's garden is designed to promote children's health by offering kids opportunities to interact with parents, other children, and plants in a congenial setting.

Kids safely reach the children's garden by crossing the Flower Bridge that spans over the botanical garden's driveway. At the garden's entrance is a stone sculpture of Green Man, the legendary protector of nature from Roman and Celtic folklore. From there visitors can experience a variety of theme gardens, all designed to educate, entertain, and surprise.

The Air Factory Garden, for example, illustrates the importance of plants in producing oxygen through photosynthesis. In the Dinosaur Garden, children can compare the fossils of the pre-historical epochs to the plants of today. In other areas of the garden, children can explore how Native Americans and pioneers used native Georgia plants to survive. Visitors can also tour a contemporary home filled with plant-derived products used in our everyday lives.

Additional garden features include the Caterpillar Maze that leads to the Butterfly Garden, Peter Rabbit's Den complete with Beatrix Potter storybooks, a Bog and Frog Pond, a treehouse, a meadow, and the central amphitheater and stage for daily shows and programs. For more information on the Scottish Rite Children's Medical Center Children's Garden, contact the Atlanta Botanical Garden at (404) 876-5859, or visit its Web site at [www.atlantabotanicalgarden.org](http://www.atlantabotanicalgarden.org). —M.C.M.

**AUG. 14 & 15. Fuchsia Display.** Tacoma Fuchsia Society. Point Defiance Park, Tacoma, Washington. (253) 591-5328.

## SOUTH CENTRAL

**THROUGH SEPT. 6. Garden Critters.** Garden exhibit for children. The Dallas Arboretum, Dallas, Texas. (214) 327-8263.

**JULY 14. Horticultural Therapy Workshop.** Oklahoma Botanical Garden and Arboretum, Stillwater, Oklahoma. (405) 744-5405.

**JULY 17-24. Cactus Show and Sale.** Henry Shaw Cactus Society. Missouri Botanical Garden, St. Louis, Missouri. (314) 577-5141.

**JULY 25. Christmas in July.** Holiday decor

## Gardening Experts in the Heart of Texas

From Thursday through Sunday, August 19 to 22, the Bexar County Master Gardeners, Inc. of San Antonio, Texas, will host the 1999 International Master Gardener Conference and Trade Show, which promises to assemble some of America's best-known horticultural experts for visiting Master Gardeners from around the world. This year's conference theme is "The World of Gardening," and more than 32 speakers, including Felder Rushing, Mark Plotkin, Penelope Hobhouse, and Roger Swain, are expected to share their gardening wisdom on a host of topics from heirloom gardening and seed-saving techniques, to IPM and organic gardening, and backyard habitats and natural gardening methods.

Over the course of the four-day conference, participants can register to attend a variety of clinics on topics such as plant propagation and garden photography. Those who want to see more of the host city can arrange to go on their choice of half-day excursions, including tours of prominent local retail nurseries, the San Antonio Botanical Gardens, and community gardens. Several optional pre-conference tours for Thursday morning are also available.

On Friday and Saturday, the latest in gardening products and hardware for viewing or purchase will be on display in the trade show at the conference's headquarters, the Adam's Mark Hotel on the Riverwalk. To request a registration form or more information, contact the Bexar County Master Gardener office toll-free at (877) 456-4769, or visit its Web site at <http://mastergardener.tamu.edu>.

—M.C.M.



A San Antonio community garden reflects the colorful Mexican heritage of its residents.

workshop. Heritage Herb Gardens, Ozark Folk Center, Mountain View, Arkansas. (870) 269-3851.

**AUG. 1-7. International Botanical Congress.** Missouri Botanical Garden, St. Louis, Missouri. (314) 577-5175.

**AUG. 28. Daylily Sale.** Botanica: The Wichita Gardens, Wichita, Kansas. (314) 264-0448.

### SOUTHEAST

**WEEKENDS THROUGH OCT. 31. Plants of the Old South.** Garden tour. Atlanta History Center, Atlanta, Georgia. (404) 814-4000.

**JULY 15. Flower Design: A Work in Progress.** Lecture. Atlanta Botanical Garden, Atlanta, Georgia. (404) 876-5859.

**JULY 17. Summer Plant Fair.** Marie Selby Botanical Gardens, Sarasota, Florida. (941) 366-5731.

**JULY 22-25. 15th Annual Landscaping with Native Plants.** Western Carolina University, Cullowhee, North Carolina. (800) 928-4968.

**JULY 28. Garden Gambol.** Guided tour. Daniel Stowe Botanical Garden, Belmont, North Carolina. (704) 825-4490.

**JULY 31. Herb Symposium.** Memphis Herb Society. Memphis Botanic Garden, Memphis, Tennessee. (901) 685-1566.

**AUG. 14. Gardening on the Internet.** Lecture. Tryon Palace, New Bern, North Carolina. (252) 514-4876.

**AUG. 25-28. Philosophy of Design: Water in the Design of Landscapes.** Lectures and workshops. Whispering Crane Institute. Lexington, South Carolina. (803) 356-3672.

**SEPT. 7-11. American Ivy Society Convention.** Biltmore Quality Inn, Asheville, North Carolina. (770) 458-0055.

### SOUTHWEST

**JULY 10. Mile High Daylily Society Show.** Mitchell Hall, Denver Botanic Gardens, Denver, Colorado. (303) 790-4045.

**JULY 11. Garden Tours.** Santa Fe Botanical Garden, Santa Fe, New Mexico. (505) 428-1684.

**JULY 11. Vail Garden Tour.** Betty Ford Alpine Garden, Vail, Colorado. (970) 476-0103.

**AHS JULY 21-24. AHS National Youth Garden Symposium.** Denver Botanic Gardens, Denver, Colorado. (703) 768-5700 ext. 10.

**AUG. 3 & 10. Home and Garden Tours.** Recursos Travel. Santa Fe, New Mexico. (505) 982-9301.

**AUG. 29. Denver Rose Society Show.** Denver Botanic Gardens, Denver, Colorado. (303) 271-9574.

### WEST COAST

**JULY 24. Midsummer's Night Glean.** Cultural events in candle-lit garden setting. Friends of Honolulu Botanical Garden. Foster Botanical Garden, Honolulu, Hawaii. (808) 537-1708.

**JULY 27-AUG. 9. Sonoma County Fair and Exposition Flower Show.** Santa Rosa, California. (707) 545-4200.

**AUG. 14-22. Southern California Home and Garden Show.** Anaheim, California. (714) 978-8888.

**SEPT. 1-5. American Begonia Society Convention.** Embassy Suites Hotel, El Segundo, California. (310) 670-4471.

### CANADA

**JULY 9-11. Victoria Flower and Garden Show.** Royal Roads University, Victoria, British Columbia. (250) 881-7469.

**JULY 17 & 18. Lily Society Show.** Royal Botanical Gardens, Hamilton, Ontario. (905) 527-1158.

**AUG. 19. Annual Flower and Vegetable Show.** Niagara Falls Horticultural Society. Niagara Falls, Ontario. (905) 295-4632.

**AUG. 20-24. Garden Writers Association of America Annual Symposium.** Royal York Hotel, Toronto, Ontario. (800) 829-9751. ♣

# classifieds

a look at current offerings  
from the marketplace

**CLASSIFIED AD RATES:** All classified advertising must be prepaid. \$2 per word; minimum \$50 per insertion. Copy and prepayment must be received on the 20th of the month three months prior to publication date. Send orders to: AHS Advertising Office, 4350 DiPaolo Center, Suite B, Glenview, IL 60025, or call (847) 699-1707.

## BEEKEEPING

QUALITY BEEKEEPING EQUIPMENT AND SUPPLIES. Explore the miracle. Free catalog. BRUSHY MOUNTAIN BEE FARM, 1-800-BEESWAX (233-7929).

## BOOKS

**Hortica:** Color Cyclopaedia of Garden Flora with Hardiness Zones and Indoor Plants, 8,100 color photos by Dr. A. B. Graf, \$238.

**Tropica 4:** 7,000 color photos of plants and trees for warm environments, \$165.

**Exotic House Plants:** 1,200 photos, 150 in color, with keys to care, \$8.95.

Shipping additional. Circulars gladly sent.

ROEHRS CO., Box 125, East Rutherford, NJ 07073. (201) 939-0090. FAX (201) 939-0091.

## GREENHOUSE PLASTICS

BOB'S SUPER-STRONG GREENHOUSE PLASTIC—Pond Liners. Resists hailstones, yellowing, leafburning. Samples: 2 stamps appreciated. Box 42AG, Neche, ND 58265; 204-327-5540 daily.

## HOSTAS

HOSTA SPECIALISTS—Field grown, large choice selection including species, classics, new and exclusive varieties. Descriptive catalog, includes color, \$3. SAVORY'S GARDENS, INC., 5300 Whiting Avenue, Edina, MN 55439-1249.

## PEONIES

BEAUTIFUL JAPANESE/CHINESE TREE PEONIES. Wide variety of exotic, INEXPENSIVE peonies available. Catalog \$3. All plants 3 years old and older. SMIRNOW'S SON'S PEONIES, Dept. AG, 168 Maple Hill Road, Huntington, NY 11743. Phone: 516-421-0836.

## PERENNIALS

BEAUTIFUL PERENNIALS at pleasing prices. Send for FREE catalog—our biggest ever! BLUE-STONE PERENNIALS, 7201 Middle Ridge Road, Madison, OH 44057.

## SEEDS

UNCOMMON SEEDS for exceptional gardens:

hard-to-find ornamentals, unusual perennials, flowery vines, antique annuals, rare alpine, trees, tropicals, wildflowers, herbs, heirloom vegetables. Catalog \$1. HUDSON SEEDS, SR2, Box 337-AG, LaHonda, CA 94020.

## WILDFLOWERS

WILDFLOWERS—NUMEROUS VARIETIES. Nursery-grown bareroot stock. Write for complimentary price list. GARDEN DESIGNS, 1015 Sunset View, Tallmadge, OH 44278. Telephone and fax 330-798-9939.

## Wilkerson Mill Gardens

Growers of the uncommon and hard to find. Catalog \$3

9595 Wilkerson Mill Rd.  
Palmetto, GA 30268  
www.hydrangea.com

## DRIP IRRIGATION • POND LINERS

Highest Quality, Best Selection, Low Cost!

**DripWorks**  
Your Source For Drip and Micro Irrigation

FREE Catalog  
800-616-8321  
email: dripwrks@Pacfic.net

231 E. San Francisco St  
Willits, Ca 95490

## THE NEW YORK BOTANICAL GARDEN School of Professional Horticulture, Academic and practical training, two year program.

Write: School of Professional Horticulture,  
NYBG, Bronx, NY 10458 or phone  
(718) 817-8797 for information.

## NEW ZEALAND - AUSTRALIA

GARDEN, BOTANICAL, WILDLIFE & WALKING  
TOURS FOR GROUPS & INDIVIDUALS

1999-2000

- Oct. Roseweck Australia Rose Garden Tour  
with Dr. Tommy Cairns
- Oct. Australia Spring Garden Tour  
with Jim Wilson
- Nov. New Zealand Spring Garden Tour  
with Bill Aldrich, for the  
California Arboretum Foundation
- Feb. Australia Dahlia Gardens  
with Les Connell



(650) 595-2090

PACIFIC PATHWAYS

Experience the Best of New Zealand and Australia

## MATCH POINT

Always keep a shovel,  
rake and water nearby  
when burning debris.

REMEMBER, ONLY YOU CAN  
PREVENT FOREST FIRES.



A Public Service of the USDA Forest Service  
and the  
National Association of State Foresters.



# Plant A Historic Tree.

Trees Bring History Alive!



Yesterday...In 1785, George Washington planted a tulip poplar at Mount Vernon. Our first president kept meticulous journals about his estate and planted many trees.

Today...The George Washington Tulip Poplar is now over 200 years old and towers over the graceful estate on the Potomac River.

The seeds from the original George Washington Tulip Poplar have been hand-picked and grown into small, direct-offspring trees. Each tree in a complete planting kit is accompanied by a Certificate of Authenticity, attesting to its historic event.

Tomorrow...You can own and plant a historic tree and help AMERICAN FORESTS—the oldest national nonprofit conservation organization, founded in 1875—continue our work to preserve trees and forests, far into the twenty-first century.

AMERICAN  
FORESTS

People Caring For Forests And Trees Since 1875.

Hundreds of historic trees to choose from. Call 1-800-320-8733 for your complimentary Famous & Historic Trees booklet or write to: AMERICAN FORESTS Famous & Historic Trees, 8701 Old Kings Road, Jacksonville, Florida 32219. www.amfor.org/fht. famousrees@msn.com

# hardiness and heat zones

For your convenience, most of the cultivated plants featured in this edition of the magazine are listed here with their USDA Plant Hardiness Zones and AHS Heat Zones. If 0 is listed in place of USDA hardiness zones, it means that plant is a true annual—it completes its life cycle and dies in a year or less. Tropical plants that require minimum temperatures warmer than 40 degrees Fahrenheit—the minimum average temperature in USDA Zone 11—will be listed by minimum average temperature rather than by zone numbers.

## A-C

- Abies balsamea* USDA 3-6, AHS 6-1
- Acer caudatifolium* 4-7, 7-1
- Adiantum aleuticum* 'Subpulumilum' 5-8, 8-1
- A. pedatum* 3-8, 8-1
- Agalinis maritima* var. *maritima* 5-9, 9-3
- Amethystea caerulea* 0, 12-4
- Ammophila breviligulata* 4-7, 7-1
- Andromeda polifolia* var. *glaucophylla* 2-6, 6-1
- Antirrhinum majus* 7-9, 9-1
- Arethusa bulbosa* 4-9, 9-1
- Armoracia rusticana* 4-8, 8-1
- Asplenium trichomanes* subsp. *quadrivalens* 3-9, 8-3
- Baileya multiradiata* 4-6, 6-4
- Blechnum spicant* 5-8, 8-3
- Calliandra californica* 55°F, 12-10
- C. eriophylla* 55°F, 12-10
- Campanula rotundifolia* 5-8, 8-3
- Cassinia leptophylla* 8-9, 9-8
- Clinopodium georgianum* 5-9, 9-5
- C. grandiflora* 'Variegata' 5-9, 9-5
- Collinsia bicolor* 11, 12-8
- Conradina canescens* 7-9, 9-7
- C. verticillata* 7-9, 9-7
- Cornus canadensis* 2-7, 7-1

## D-L

- Dracocephalum botryoides* 4-8, 8-1
- Embothrium coccineum* 8-11, 12-8
- Epilobium angustifolium* 3-7, 7-1
- Ericameria laricifolia* 6-8, 8-6
- Eucalyptus pauciflora* subsp. *niphophila* 9-11, 12-9
- Eupatorium fistulosum* 3-8, 8-1
- E. maculatum* 3-7, 7-1
- Euphorbia marginata* 0, 12-1
- Gaultheria shallon* 6-8, 8-6
- Grevillea victoriae* 10-11, 12-10
- Gymnocarpium dryopteris* 3-8, 8-1
- Helianthus tuberosus* 4-9, 9-1

- Horminum pyrenaicum* 6-8, 8-6
- Justicia californica* 5-9, 9-5
- Lamium* 'Coral Fiesta' 4-8, 8-1
- Larix laricina* 3-6, 6-1
- Larrea tridentata* 8-11, 12-8
- Leonotis leonurus* 10-12, 12-1
- Leptospermum scoparium* 9-11, 6-1
- Leucophyllum frutescens* 'White Cloud' 8-9, 9-8
- Limonium nashii* 8-11, 12-8

## M-O

- Matthiola incana* 10-11, 6-1
- Meehania cordata* 5-8, 8-5
- Melampodium leucanthum* 5-8, 8-5
- Melittis melissophyllum* 6-9, 9-6
- Mimulus lewisii* 5-8, 8-5
- Moluccella laevis* 0, 6-1
- Monardella antonina* subsp. *antonina* 9-11, 12-9
- Muhlenbergia capillaris* 8-11, 12-5
- M. lindheimeri* 8-11, 12-8
- M. rigida* 8-11, 12-8
- Nemopanthus mucronatus* 5-8, 8-5
- Nepeta dirphyia* 5-9, 9-5
- N. gowaniana* 5-9, 9-7
- Opuntia macrocentra* Tubac 9-11, 12-9

## P-R

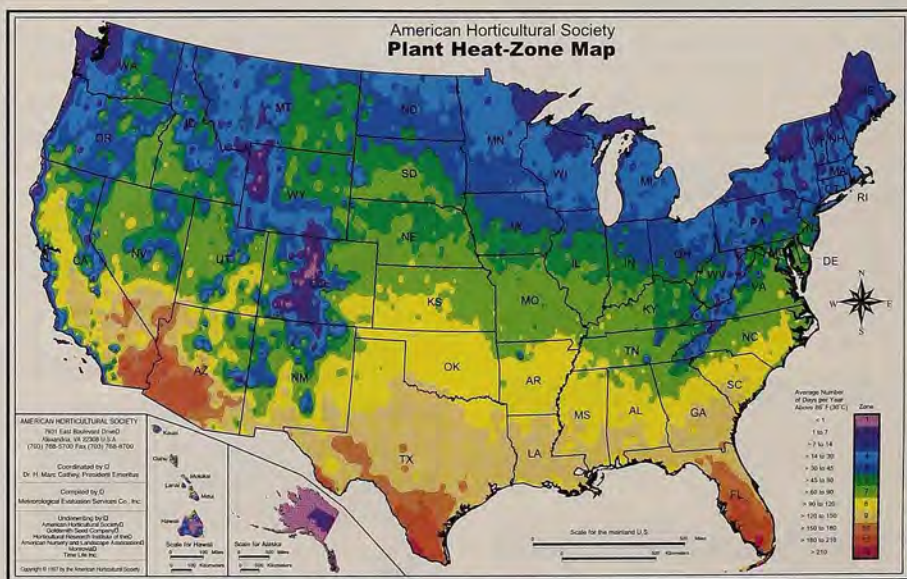
- Paxistima canbyi* 3-7, 7-1
- Penstemon parryi* 8-11, 12-8
- Perilla frutescens* 0, 12-1
- P. frutescens* var. *nankinensis* 0, 12-1
- Phlomis fruticosa* 'Compact Grey' 8-9, 9-8
- Phlox divaricata* 3-9, 9-4
- Picea glauca* 3-6, 6-1
- P. mariana* 2-6, 6-1
- Pinus banksiana* 2-7, 7-1
- P. rigida* 5-8, 8-5
- Pogonia ophioglossoides* 7-8, 8-7

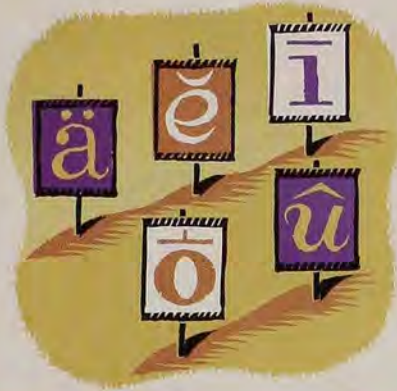
- Polypodium glycyrrhiza* 6-9, 12-9
- P. scoleri* 8-10, 12-9
- Polystichum acrostichoides* 3-8, 8-1
- P. andersonii* 3-8, 8-1
- P. braunii* 3-8, 8-1
- P. imbricans* 3-8, 8-1
- P. munitum* 5-8, 8-1
- Pycnanthemum flexuosum* 4-8, 8-1
- P. montanum* 4-8, 8-1
- P. pilosum* 4-8, 8-1
- Populus tremuloides* 1-8, 8-1
- Ranunculus acris* 4-8, 8-1
- Rosa virginiana* 3-9, 9-1

## S-Z

- Sagittaria latifolia* 50°F, 12-10
- Salvia dorisiana* 9-11, 12-6
- S. dorrii* 9-11, 12-6
- Scutellaria suffrutescens* 6-8, 8-0
- Sibbaldiopsis tridentata* 11-8, 12-8
- Smilacina racemosa* 3-8, 8-1
- Solenostemon scutellarioides* 11, 12-1
- Sphaeralcea ambigua* 4-8, 8-2
- Stachys affinis* 4-8, 8-1
- S. byzantina* 'Primrose Heron' 4-8, 8-1
- S. coccinea* 4-8, 8-1
- Stipa neomexicana* 8-11, 12-8
- Tagetes patula* 0, 12-1
- Typha latifolia* 3-11, 12-1
- Vaccinium angustifolium* 9-10, 10-8
- V. macrocarpon* 2-7, 7-1
- V. vitis-idaea* 2-6, 6-1
- Woodwardia fimbriata* 8-9, 9-8

The codes above are based on a number of commonly available references and are likely to be conservative. Factors such as microclimates, plant provenance, and use of mulch may affect individual gardeners' experiences. To purchase a durable two-by-three-foot poster of the AHS Heat-Zone Map, call (800) 777-7931 ext. 45.





## pronunciations

### a simple speaking guide to plants found in this issue

- Acer caudatifolium*  
AY-sur kaw-dah-tih-FO-lee-um
- A. erianthum*  
A. air-ee-AN-thum
- Adiantum aleuticum*  
ad-ee-AN-tum uh-LOO-tih-kum
- Amethystea caerulea*  
am-uh-THISS-tee-uh see-ROO-lee-uh
- Ammophila breviligulata*  
am-MO-fil-luh brev-ih-lig-yew-LAY-tuh
- Antirrhinum majus*  
an-tih-RY-num MAY-jus
- Arethusa bulbosa*  
ar-eh-THOO-suh bul-BO-suh
- Armoracia rusticana*  
ar-mor-RAY-see-uh rus-tih-KAY-nuh
- Asplenium trichomanes* subsp. *quadrivalens*  
uh-SPLEE-nec-um try-ko-MAN-eez subsp. kwad-rih-VAY-lenz
- Baileya multiradiata*  
BAY-lee-uh mul-tee-ray-dee-AY-tuh
- Blechnum spicant*  
BLEK-num spih-KANT
- Calliandra eriophylla*  
kal-ee-AN-druh air-ee-o-FIL-uh
- Cassinia leptophylla*  
kas-SIN-ee-uh lep-toh-FIL-uh
- Conradina canescens*  
kon-ruh-DEE-nuh kuh-NESS-enz
- Dracocephalum botryoides*  
drak-o-SEF-uh-lum bot-rec-OY-deez
- Embothrium coccineum*  
em-BOTH-rec-um kok-SIN-ee-um
- Eucalyptus pauciflora* subsp. *niphophila*  
yew-kuh-LIP-tus paw-sih-FLOR-uh subsp. nih-fo-FIL-uh
- Gaultheria shallon*  
gawl-THEER-ee-uh SHAL-lon
- Gymnocarpium dryopteris*  
jim-no-KAR-pee-um dry-OP-ter-iss
- Horminum pyrenaicum*  
HOR-mih-num py-ruh-NAY-ih-kum
- Larrea tridentata*  
LAR-rec-uh try-den-TAY-tuh
- Larix laricina*  
LAY-riks lah-rih-SY-nuh
- Leptospermum scoparium*  
lep-toh-SPUR-mum sko-PAR-ee-um
- Leucophyllum revolutum*  
loo-ko-FIL-lum reh-vo-LOO-tum
- Matthiola incana*  
math-EYE-o-luh in-KAN-uh
- Meehania cordata*  
me-HAY-nec-uh kor-DAH-tuh
- Melittis melisophyllum*  
mel-LIT-tiss mel-lis-o-FIL-um

### What's in a Name? *Meehania cordata*

Commonly known as Meehan's mint, *Meehania cordata* is native to a relatively small portion of the United States, from the woodlands of southwestern Pennsylvania to North Carolina and Tennessee. It is the only North American species in this genus of six herbaceous perennials otherwise found throughout eastern Asia.

Meehan's mint exhibits the characteristic squarish stems and lipped flowers of members of the mint family (Lamiaceae), and its glossy heart-shaped leaves—hence the specific epithet “cordata”—are most often found on the forest floor on creeping stems, growing over rocks and decayed tree limbs.

The genus is named in honor of Thomas Meehan (1826–1901), a London-born scientist who studied at the Royal Botanic Gardens at Kew before settling in Philadelphia, where he became a prolific writer, editor, and respected botanist. The author of several books, including the two-volume *Native Flowers and Ferns of the United States*, published in 1878 and 1880, Meehan is perhaps best known for his role as editor of the influential *Gardener's Monthly* from 1859 to 1887. He also published his own horticultural magazine, *Meehan's Monthly*, which ran until 1902, a year after his death. For his horticultural achievements, Meehan became only the third American to be awarded England's prestigious Veitch medal.

- Mimulus lewisii*  
MIM-yew-lus loo-ISS-ee-eye
- Moluccella laevis*  
mol-yew-SEL-uh LEE-vis
- Monardella antonina* subsp. *antonina*  
mon-ar-DEL-luh an-toh-NEE-nuh subsp. an-toh-NEE-nuh
- Nemopanthus mucronatus*  
nec-mo-PAN-thus moo-kro-NAY-tus
- Nepeta dirphyia*  
NEP-eh-tuh DUR-fee-uh
- N. govaniana*  
N. go-van-ee-AN-uh
- Paxistima canbyi*  
pak-SIS-tih-muh KAN-bee-eye
- Perilla frutescens* var. *nankinensis*  
peh-RIL-uh froo-TES-enz var. nan-kih-NEN-sis
- Phlomis fruticosa*  
FLO-mis froo-tih-KO-suh
- Pinus banksiana*  
PY-nus bank-see-AN-uh
- Pogonia ophioglossoides*  
po-GO-nec-uh o-fee-o-gloss-ee-OY-deez
- Polypodium glycyrrhiza*  
pah-lee-PO-dee-um gly-sir-RY-zuh
- P. scolieri*  
P. SKOO-lur-eye
- Polystichum acrostichoides*  
pah-LIS-tih-kum uh-kro-stih-CHOY-deez
- P. munitum*  
P. mew-NY-tum
- Pteridium aquilinum*  
tair-RIH-dee-um ah-kwi-LY-num
- Pycnanthemum flexuosum*  
pik-NAN-thuh-mum flex-yew-O-sum
- P. montanum*  
P. mon-TAN-um
- P. pilosum*  
P. pih-LO-sum
- Sagittaria latifolia*  
saj-ih-TAY-rec-uh lat-ih-FO-lee-uh
- Salicornia europaea*  
suh-lih-KOR-nec-uh yew-ro-PEE-uh
- Scutellaria suffrutescens*  
skoo-tuh-LAIR-ee-uh suf-froo-TES-enz
- Sibbaldiopsis tridentata*  
sy-ball-dee-OP-sis try-den-TAY-tuh
- Solenostemon scutellarioides*  
so-len-O-steh-mon skoo-tuh-LAIR-ee-OY-deez
- Tagetes patula*  
tah-JEE-teez PAT-yew-luh
- Typha latifolia*  
TY-fuh lat-ih-FO-lee-uh
- Vaccinium vitis-idaea*  
vak-SIN-ee-um VY-tis-eye-DEE-uh
- Woodwardia fimbriata*  
wood-WARD-ee-uh fim-brec-AY-tuh

# Give Your Garden A Boost.

Annual Booster™ and Perennial Booster™ by Pursell are specially formulated with POLYON® timed-release fertilizer for extended, even feeding.

For a beautiful garden – count on POLYON® products for premium, professional results.



For more information about POLYON® products, visit our website @ [www.fertilizer.com](http://www.fertilizer.com) or Call Our Customer Hotline 1-800-874-8892