

AMERICAN HORTICULTURIST

NEWS EDITION—SEPTEMBER 1983

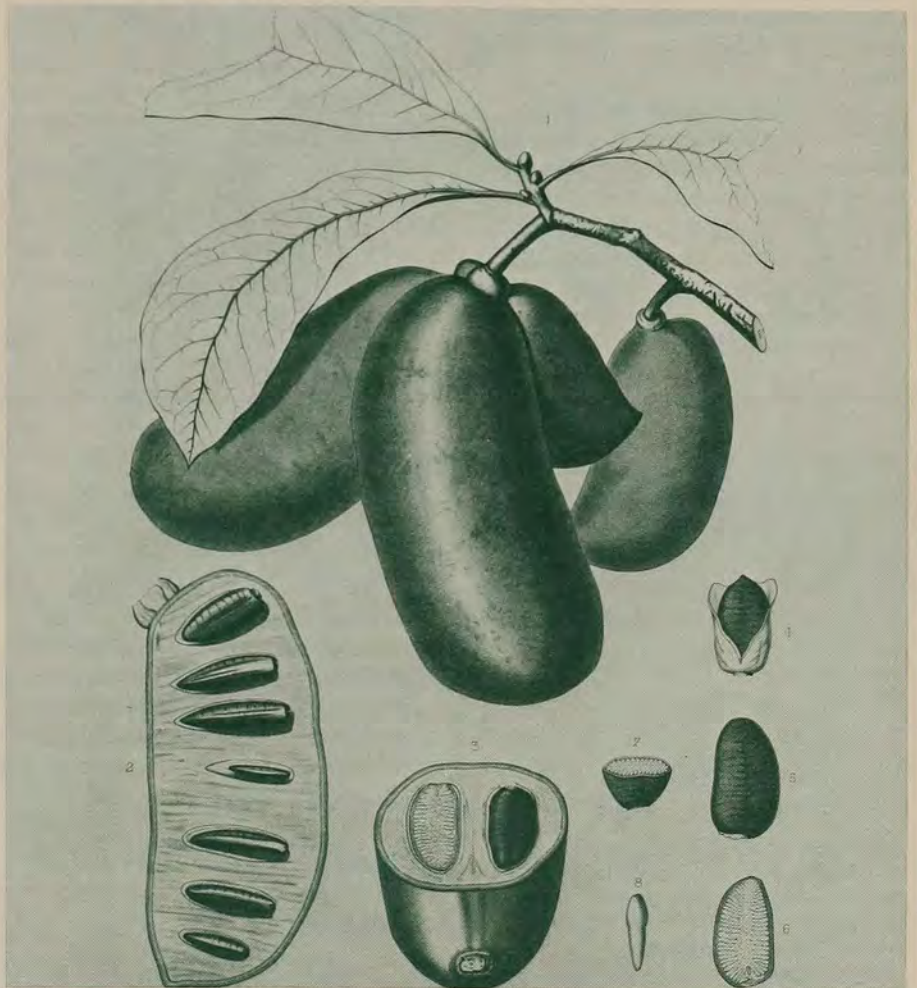
Pawpaw: The Forgotten American Fruit

Nutritional studies indicate that the American pawpaw (*Asimina triloba*), a long-neglected American native that bears excellent-tasting fruit, may emerge as one of our most valuable fruit trees.

Chemist John P. Cherry of the U.S.D.A. Eastern Regional Research Center in Philadelphia, Pennsylvania analyzed the nutritional value of pawpaws and found that their fruit, which is unusually low in moisture content, is actually higher in unsaturated fats, proteins and carbohydrates than three other more common fruits—apples, peaches and grapes. In addition, the pawpaw has exceptionally high levels of the amino acids that are essential to the human diet—over six times the amounts found in the three other fruits tested.

According to Cherry, pawpaws also have high vitamin A and C content. For example, their vitamin A content is about the same as in apples and grapes, and although pawpaws have less vitamin C than do citrus fruits, they have more than twice the amount found in apples, peaches or grapes. Finally, pawpaws are higher in potassium, phosphorus, magnesium, sulfur and iron than the three other fruits tested.

Despite its sweet, pearlike fruit, which has the texture of a banana and a fragrant aroma, pawpaws have not been cultivated widely; they are only found growing in a few home gardens. Pawpaws are shade tolerant, have attractive foliage, and are relatively disease and insect free. Unfortunately, little has been done to improve the species through breeding and selection. More information will need to be gathered on cultural practices, prop-



A botanical drawing of pawpaw, *Asimina triloba*, published in 1890 in *Silva of North America*.

agation techniques, and shipping and handling methods before pawpaws

can be domesticated successfully.
—*Agricultural Research*, April 1983

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Sharing the Beauty

Society members occasionally write to offer us back copies of *American Horticulturist*. Some long-time members even offer to send issues of *American Horticulturist's* predecessor, *The American Horticultural Magazine*. We appreciate this thoughtfulness, and gladly accept copies of certain issues that are in very short supply. But, except for the rare issues listed below, we have ample back issues in our office archives, and, as we seldom sell back issues, we cannot justify the space required to add substantially to our inventory.

If you have back issues you no longer wish to keep, please check the list below. I would be delighted if you wish to donate to the Society any of the issues we need. As for those we cannot use, I would like to suggest that members donate these to community or college libraries, or to hospitals and nursing homes.

Of course, many AHS members make Society publications a permanent part of their gardening libraries. But if you find you need the extra space and must weed out your collection, I am sure you will share the pleasure I feel when I think of our magazines delighting new readers who might otherwise not have a chance to see them.

Issues We Need to Complete Our File:

- 1982: February, May, June, August, October (Nos. 2, 5, 6, 8 and 10)
- 1981: July and October (Nos. 7 and 10)
- 1979-80: December/January (No. 6)
- 1977: Late Spring (No. 3) and Late Summer (No. 4)
- 1976: Early Spring (No. 2), Fall (No. 5), and Winter (No. 6)
- 1974: Spring (No. 1) and Late Summer (No. 3)

—Connie Clark

AMERICAN HORTICULTURIST

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Upcoming AHS Events

The following Society-sponsored tours and other events have been scheduled for this fall. For more information about any of these events write or call the Society's Education Department.

September 14-18

AHS Annual Meeting in Philadelphia, Pennsylvania.

September 18-25

Post-Conference Tour of the Eastern Seaboard.

October 9

Fall Festival at River Farm, Mt. Vernon, Virginia, from 11:00 a.m. to 4:00 p.m.

November 1-24

AHS Autumn in the Orient Tour of Japan, Taiwan and Hong Kong.

November 5

AHS Mini-Symposium in Baltimore, Maryland.

Double Your Giving Power

Did you know that hundreds of companies provide, as a benefit to their employees, matching gifts to non-profit organizations? For example, an employee of IBM who contributes \$20.00 to the American Horticultural Society can fill out a form requesting that IBM "match" his gift to AHS. Under the company's guidelines, AHS qualifies as a cultural institution for a matching gift. IBM doubles the employee's contribution to AHS, giving the Society \$40.00. Combine this with the employee's own contribution, and the Society receives \$60.00 instead of the \$20.00 the member alone could provide.

The Society has received several such matching gifts this year, and we are grateful to those members who have investigated their employers' policies and filled out the matching gift forms. Programs vary from company to company; some employers will match your membership dues while others will match only straight contributions. Why not ask about your company's policy? You may find that, with the help of your employer, you have more giving power than you had imagined.

—Connie Clark

Avant Gardener IPM Special Issue Available

Gardeners interested in integrated pest management will want to send for the new special issue of the *Avant Gardener*, which is devoted entirely to the subject. The eight-page issue discusses bacterial insecticides, beneficial insects, trap and snare techniques, botanical insecticides and includes both a source and a reference book list.

"New Ways In Pest Control" is available for \$1.50 from *The Avant Gardener*, PO Box 489, New York, NY 10028. A free sample copy of *The Avant Gardener* will be sent with each order for the special issue.

River Farm Notes

Whenever I think of autumn my mind's eye always seems to conjure up images of autumn foliage and masses of chrysanthemums ablaze with yellow, orange, bronze and red.

River Farm has always been blessed with excellent fall foliage, but it has never been able to boast a truly superb chrysanthemum planting—until now. Thanks to the wonderful people associated with the Old Dominion Chrysanthemum Society, we now have an outstanding display of these plants, so indispensable to the fall garden. As you read this column, the 350 plants in our new chrysanthemum bed will be just coming into bloom. These lovely harbingers of autumn will add greatly to our display this season and for many seasons to come.

Chrysanthemums are easily grown plants, and gardeners who take a little time to learn about and fulfill their needs cannot help but succeed with them. I can think of no better time than the present to go over a few basic cultural requirements.

Sun: Chrysanthemums love lots of sun, but they don't mind a little shading from the hot afternoon sun.

Soil: Give mums a good, rich soil with a pH slightly on the acid side and good drainage. It is a good idea to amend your soil annually with several inches of compost, well-rotted manure or leaf mold.

Fertilizers: Use a good vegetable-type fertilizer during planting (two to three pounds per 100 square feet). Add to this weekly applica-

tions of a soluble liquid plant fertilizer such as Peters 9-45-15 (two tablespoons per gallon) or 20-20-20 (one tablespoon per gallon) from mid-summer until just before they bloom.

Pests: Chrysanthemums are generally pest-free, but occasionally an application of malathion or Sevin® will be needed to combat sucking insects. Benlate may also be required to combat various fungi.

Pinching: If you want nice full plants in the fall, your chrysanthemums, with the exception of cushion mums, will require occasional pinching. As soon as plants reach the height of six inches (generally in mid-May), nip off the top two inches. Pinching will result in lots of new growth, so another pinching will usually be necessary four to six weeks later (when the new growth has reached six inches in length). Pinching can be continued right up until the middle of July without causing any delay in blooming.

Winter Protection: Once flowering is completed it is time to cut the stems back to six inches and mulch over the plant to ready it for winter. In colder areas you may wish to dig your mums and overwinter them (mulched) in cold frames.

If you are not yet a mum grower, consider them for next year's gardens; you are certain to love them as much as we do. And remember, take good care of your plants, and they will reward you many times over.

—Steve Davis



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PLANTS WANTED

Members who are growing or who have access to any of the plants in this month's column are invited to help their fellow members locate their "Plants Wanted" by writing directly to the addresses listed below.



- *Viburnum farreri* (formerly *V. fragrans*), very fragrant, white-pinkish-flowered plant to 10 feet in height. Two- to four-inch elliptical leaves. Lois Hunsdarfer, Box 21, Copseyville, NY 12052.
- *Rhapidophyllum hystrix*, needle palm, blue palmetto, a scrub palm known for its winter hardiness. Probably hardy to -6° F, U.S.D.A. Zone 7. Bob Beyer, 2210 Haven Crest Drive, Chattanooga, TN 37421.
- *Chrysanthemum* species: *C. arcticum*, *C. alpinum*, *C. anithefolium*, *C. corymbosum*, *C. frutescens*, *C. indicum*, *C. lacustre*, *C. macrophyllum*, *C. mawii*, *C. sibiricum*, and *C. uliginosum*. Dr. Hiram Larew, B-470, BARC-East, U.S.D.A., Beltsville, MD 20705.
- *Crambe maritima*, sea kale, a cruciferous vegetable with large fleshy stems and small leaves. Similar to celery; generally grown from root stocks. Pam Peirce, 288 9th Street, #6, San Francisco, CA 94103.
- *Alnus glutinosa*, three cultivars of black ash: 'Pyramidalis', a narrow, upright form; 'Aurea', a golden-leaved cultivar; 'Imperialis', a cutleaf form. ● *Acer rubrum* 'Phipp's Farm', a red maple cultivar grown in Maine. Dale E. Herman, North Dakota State University, Department of Horticulture and Forestry, Fargo, ND 58105.
- *Haworthia margaritifera*, pear plant, rosette-forming, green-leaved plant whose leaves are covered with pearly tubercles. ● *Clivia miniata*—any pure yellow-flowered cultivar. Faith Bentley, R.D. 1, Box 46, Chester Springs, PA 19425.
- *Ilex opaca* 'Arden' and 'Clarendon Spreading', both are old cultivars of American holly. G. R. Stilwell, Jr., 11900 Coachmans Way, Raleigh, NC 27614.
- *Inga vera*, commonly called the guaba inga. Ms. Helen Wong, Supply Department, Sabay Softwoods Sdn. Bhd., P.O. Box 137, Tawau, Sabah, Malaysia.
- *Boronia pinifolia*, red bush or rooibosch. Mr. Emery Smith, 3907 Glen Heather Drive, Houston, TX 77068.
- *Chrysanthemum anethifolium*, glaucous marguerite. Mr. Charles R. Scott, 940 Washington Lane, Rydal, PA 19046.
- *Osteospermum* 'Wagon Wheels' and ● *Achillea erytaropoda*, both ground covers seen at Sissinghurst in England. Mrs. C. de Bretteville, P.O. Box 1246, Pebble Beach, CA 94062.
- *Polygonum orientale*, Prince's feather or kiss-me-over-the-garden-gate, a six-foot annual that bears spikes of bright pink flowers. William A. Schwab, R.R. 2, Box 490, Buchanan, MI 49107.
- Rose 'Editor McFarland', a medium pink hybrid tea rose. Edwin L. Heminger, 14771 CR 75, Findlay, OH 45840.

Please send your "Plants Wanted" lists, including genus, species, common name and a brief description to "Plants Wanted," *American Horticulturist*, in care of the Society. Please type or print neatly. We will publish them on a space available basis after checking for retail sources through our catalogue file.

Seed Donations

The AHS Seed Program is already underway, and members who have seed they would like to share are once again invited to participate. Members are asked to send their seed donations directly to Steve Davis at the address below. Please include the following information with each batch of seed: name of plant, both Latin (if possible) and common; a brief description; date collected and location. Please be sure the seed is clean, dry and clearly labeled before mailing. Suggestions for germination instructions would be appreciated.

Please address questions and seed to Steve Davis, American Horticultural Society, P.O. Box 0105, Mt. Vernon, VA 22121. Donations must be received before November 1 to be included in the 1984 Seed Program Catalogue.

New AAS Emblem



All-America Selections, Inc. has selected a new emblem to signify all of the annual and vegetable cultivars that have received AAS awards. The coveted gold, silver and bronze medals have been given to new introductions for more than 50 years. The new red, white and blue emblem, shown here, will replace the old shield, which read only All-America Award, as well as the various other logos used to represent award winners.

Errata

In the June issue of *American Horticulturist* two errors appeared in Will Ingwersen's article "Buttercups of the World." *Ranunculus lyallii* is a native of New Zealand, not New England. Also, the author's name is spelled Ingwersen, not Ingwerson.

Gerald Stradley, author of "The Other Evening Primroses," informs us that the photograph on page 30 of that issue is *Oenothera pilosella*, not *O. fruticosa*.

Two New Plants Proposed as Endangered

The U. S. Fish and Wildlife Service has proposed two new plants for listing as Endangered species.

Torreya taxifolia, an evergreen tree native to the Apalachicola River region in Florida and Georgia, was proposed (F.R. 4/7/83) primarily because a fungal disease threatens to destroy the remaining population. The species has also been threatened by past habitat reductions.

According to the *Endangered Species Technical Bulletin*, *T. taxifolia* "has whorled branches and stiff, sharp-pointed, needle-like leaves. . . . The leaves of the tree have a pungent or resinous odor when crushed, thus one common name, 'stinking cedar'." The fungal disease threatening this species kills the needles and stems, causing severe defoliation. Now root sprouts less than three meters high are all that remain in the wild.

All of the remaining mature trees are located in botanical gardens, and for that reason the Service has decided not to establish Critical Habitat. However, after research has been conducted to solve the disease problem, and once recovery efforts are underway, Critical Habitat may be established.

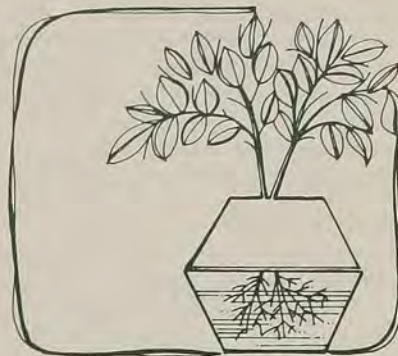
Agave arizonica, commonly called the Arizona agave, has also been proposed as Endangered because the remaining population is threatened by collection for cultivation and sale and by grazing cattle. *A. arizonica* was only discovered and described in 1970, and since then has been much sought after by collectors for desert rock gardens. The plant bears a tall, branching inflorescence with pale yellow flowers from the center of a somewhat flattened, globular rosette. *A. arizonica* reproduces slowly, and is unable to repopulate areas that have been overcollected.

According to the *Bulletin*, "the Arizona agave is endemic to a very small area in the granite hills and creek bottoms near the summit of the New River Mountains within the Tonto National Forest. . . . In 1980, about 25 plants were known at 12 to 14 localities, but today only 3 plants are known to remain at only one site. The land use on this area consists of leased cattle grazing." For more information on these two plants, please send a self-addressed, stamped envelope to Assistants to the Editor, in care of the Society.

—*Endangered Species Technical Bulletin*, May 1983, June 1983

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New Landscape Ecology Association

Landscape planners, managers and scientists with an interest in landscape ecology will want to join the newly founded International Association of Landscape Ecology. This new organization is dedicated to increasing communication among specialists in the field and to promoting the development of knowledge in

landscape ecology, which studies the development of landscapes.

For more information on the International Association of Landscape Ecology write Mr. Frank Golley, Professor of Ecology, IALE, USA Regional Office, School of Environmental Design, University of Georgia, Athens, GA 30602.

'October Glory' Heals Slowly

Scientists at Ohio State University's Shade Tree Evaluation Plot compared wound healing in three cultivars of red maple, *Acer rubrum*. Results indicate that 'October Glory' closes wounds more slowly than 'Red Sunset' and 'Autumn Flame'. Growers and nurserymen report that graft incompatibility is also more of

a problem with 'October Glory' than with 'Red Sunset'. 'October Glory' is often killed by severe winters, when temperatures drop below -20° F, and has exhibited more wind damage at the Shade Tree Evaluation Plot than any other red maple.

—*Horizons*, June 1983

GARDENER'S DATELINE

SEPTEMBER 9-11

American Ivy Society Annual Convention
Cox Arboretum, Dayton, Ohio
Information: American Ivy Society, P.O. Box
520, West Carrollton, Ohio 45449

SEPTEMBER 10

Red Rose Rent Day
The Conard-Pyle Company, Star Roses, U.S.
Route 1 and PA Route 796, Jennersville,
Pennsylvania
Time: 10 a.m.
Information: The Conard-Pyle Company,
West Grove, PA 19390, (215) 869-2426

SEPTEMBER 11-14

**Interior Plantscape Association Annual
Conference and Trade Show**
The Diplomat Hotel, Hollywood, Florida
Information: Ann Sher, Interior Plantscape
Association, 11800 Sunrise Valley Drive,
Reston, VA 22091, (703) 476-8550

SEPTEMBER 14-18

American Horticultural Annual Meeting
Philadelphia, Pennsylvania
Information: Call the Society's Department of
Education

SEPTEMBER 17-21

**American Rose Society 1983 National
Convention**
St. Louis, Missouri
Information: Mrs. Lucille Janning, 33 Clark
Court, St. Charles, MO 63301,
(314) 724-8119

SEPTEMBER 18-25

**AHS Post-Conference Tour of the Eastern
Seaboard**
Information: Call the Society's Education
Department

SEPTEMBER 21-24

**American Association of Botanical Gardens
and Arboreta Annual Meeting**
San Diego, California
Information: AABGA, P.O. Box 206, Swarth-
more, PA 19081, (215) 328-9145

SEPTEMBER 23-25

**Horticultural Society of New York Fall
Harvest Festival**
New York, New York
Information: Horticultural Society of New
York, 128 West 58th Street, New York,
NY 10019, (212) 757-0915

SEPTEMBER 24

**Rhododendron Species Foundation Volunteer
Plant Sale**
Federal Way, Washington
Information: Rhododendron Species Founda-
tion, P.O. Box 3798, Federal Way, WA
98003, (206) 927-6960, 838-4646



This model of common elder (*Sambucus canadensis*) is one of over 300 botanical models on display at Chicago's Field Museum of Natural History in its exhibit "Plants of the World," reopening September 24. The exhibition, the largest of its kind in the world devoted solely to plant life, offers a three-dimensional look at all major forms of plant life, from the simplest to the most complex. For more information about the exhibit write or call the Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, Chicago, IL 60605, (312) 922-9410.

SEPTEMBER 24-25

**Pennsylvania Horticultural Society 1983
Harvest Show**
Horticulture Center, Fairmount Park, Phila-
delphia, Pennsylvania

Hours: 10 a.m. to 5 p.m.

Information: The Pennsylvania Horticultural
Society, 325 Walnut Street, Philadelphia,
PA 19106
(215) 625-8250

OCTOBER 1

Berry Botanic Garden Annual Fall Plant Sale
Miller Hall, Western Forestry Center, 4033
SW Canyon Road, Portland, Oregon
Hours: 10 a.m. (members), noon to 4 p.m.
(non-members)
Information: Mary Hoffman, 19766 S. Im-
pala Lane, Oregon City, OR 97045
(503) 656-1575

OCTOBER 1

**New York Botanical Garden Symposium:
"The New Perennials"**
Auditorium, New York Botanical Garden,
Bronx, New York
Hours: 8:30 a.m. to 5:00 p.m.
Information: Ms. Cindee Howard, M.B.A.,
Assistant to the Director of Education, The
New York Botanical Garden, Bronx, NY
10458, (212) 220-8747

OCTOBER 1-2

Ohio Gourd Society 21st Annual Fall Show
Morrow County Fairgrounds, Mount Gilead,
Ohio
Information: O.C. Stevens, Show Chairman,
Mount Gilead, OH 43338

OCTOBER 3-14

AHS Autumn Tour of New England
Information: Call or write the Society's De-
partment of Education

OCTOBER 5-8

International Festival of Flowers
The Cathedral Church of St. John The Di-
vine, 1047 Amsterdam Avenue at 112th
Street, New York, New York
Information: International Design Sympo-
sium, P.O. Box 263, Westwood, MA
02090

OCTOBER 7-9

**Virginia Wildflower Preservation Society
Study Weekend**
To be held in various locations throughout
Northern Virginia
Information: Mary Painter, 3718 Camelot
Drive, Annandale, VA 22003,
(703) 573-7747

OCTOBER 9

American Horticultural Society Fall Festival
River Farm, Mt. Vernon, VA 22121
Hours: 11 a.m. to 4 p.m.
Entry Fee: \$2 per person
Information: Call or write the Society's De-
partment of Education

OCTOBER 11-14

**Garden Club of America Fall Flower Show:
"Autumn in the Atrium"**
Citicorp Center, 153 East 53rd Street, New
York, New York
Information: The Garden Club of America,
598 Madison Avenue, New York, NY
10022, (212) 753-8287

OCTOBER 12-16

28th Eastern Orchid Congress and Show
Radisson Hotel, Wilmington, Delaware
Show Hours: Friday 10 a.m. to 10 p.m.; Sat-
urday 9 a.m. to noon
Show Admission: \$2
Information: Mrs. Kenneth C. Smeltz, Regis-
trar, 1021 Crestover Road, Wilmington,
DE 19803

OCTOBER 13-14

**Longwood Gardens Conference: "Solar
Greenhouses—The State of the Art"**
Longwood Gardens, Kennett Square, Pennsylv-
vania
Admission: \$75 (pre-registration only)
Information: Continuing Education, Long-
wood Gardens, Kennett Square, PA 19348,
(215) 388-6741, ext. 516

OCTOBER 13-16

**Garden Writers Association of America 35th
Annual Meeting**
Williamsburg, Virginia
Information: Susan Bruno, Colonial Williams-
burg Foundation, P.O. Drawer C, Wil-
liamsburg, VA 23187, (804) 229-1000

OCTOBER 14-16

**Rhododendron Species Foundation Fall
Foliage Festival**
Federal Way, Washington
Hours: 10 a.m. to 5 p.m.
Information: Rhododendron Species Founda-
tion, P.O. Box 3798, Federal Way, WA
98003, (206) 927-6960, 838-4646

OCTOBER 15-23

Fall Flower Show
Planting Fields Arboretum, Oyster Bay, New
York
Admission: \$3 per person
Information: Planting Fields Arboretum, P.O.
Box 58, Oyster Bay, NY 11771,
(516) 922-9201

OCTOBER 21-22

**Connecticut Arboretum Conference:
"Environmental Preference and Landscape
Management"**
Connecticut College, New London,
Connecticut
Information: Professor Sally Taylor, Connect-
icut College, New London, CT,
(203) 447-1911, ext. 7275

OCTOBER 22-23

**Second International Chrysanthemum Show
and 40th Annual National Chrysanthemum
Show and Meeting**
Long Island Marriott Hotel, Uniondale, Long
Island, New York
Hours: Saturday 1 to 6 p.m., Sunday noon to
5 p.m.
Information: Henry Fieldman, Publicity, 16
Sycamore Lane, Roslyn Heights, NY
11577, (516) 621-4851

OCTOBER 26-29

**American Society of Consulting Arborists
Annual Meeting**
Pine Mountain, Georgia
Information: American Society of Consulting
Arborists, 315 Franklin Road, North
Brunswick, NJ 08902, (201) 821-8948

OCTOBER 27-29

**American Camellia Society Annual Fall
Meeting and Show**
Longwood Gardens, Kennett Square, Pennsylv-
vania
Show Hours: Thursday 1:00 p.m. to 4 p.m.
Information: Show—Dr. Arthur Maryott,
4404 Maple Ave., Bethesda, MD 20814
(301) 654-5727; Meeting—American Cam-
ellia Society, P.O. Box 1217, Fort Valley,
GA 31030, (912) 967-2358

OCTOBER 27-29

**Fourth Annual Restoring Southern Gardens
and Landscapes Conference**
Old Salem, Winston-Salem, North Carolina
Information: JoAnn Grote, R.S.G.L., Regis-
trar, Old Salem, Drawer F, Salem Station,
Winston-Salem, NC 27108,
(919) 723-3688

OCTOBER 27-29

Holly Society of America Annual Meeting
The Holiday Inn, Annapolis, Maryland
Information: The Holly Society of America,
304 North Wind Road, Baltimore, MD
21204

OCTOBER 29

**Smithsonian Institution Seminar: "The Great
Gardens Exchange: Horticulture in America,
England, and France 1750-1830"**
Carmichael Auditorium, National Museum of
American History, 14th Street and Consti-
tution Avenue, N.W., Washington, D.C.
Admission: \$40 (Resident Associates), \$50
(nonmembers)
Information: Resident Associate Office, A &
I, Room 1271, Smithsonian Institution,
Washington, D.C. 20560, (202) 357-3030

OCTOBER 29-30

**Potomac Chrysanthemum Society Annual
Show**
Wheaton Plaza Mall, Wheaton, Maryland
Information: Dr. Robert Howell, 11214
Emack Road, Beltsville, MD 20705

NOVEMBER 1-24

AHS Tour of Japan, Taiwan and Hong Kong
Information: Call or write the Society's De-
partment of Education

NOVEMBER 9-11

**National Agricultural Career Show and
56th National Future Farmers of America
Convention**
Kansas City, Missouri
Information: National FFA Center, P.O. Box
15159, Alexandria, VA 22309

Weevil-Resistant Rhododendrons for Gardeners

Several species of *Rhododendron* are resistant to attack by weevils. In fact, four species are rated by the Western Washington Research and Extension Center in Puyallup, Washington as 100 percent resistant: *R. heliolepis*, *R. impeditum*, *R. scintillans* and *R. burmanicum*. Nine other species are rated above 90 percent resistant: *R. dauricum*, *R. intricatum*, *R. minus*, *R. desquamatum*, *R. ferrugineum*, *R. hemsleyanum*, *R. cuneatum*, *R. fastigiatum* and *R. yakusimanum*.

Cultivars are generally less resistant, and only one was rated as 100 percent resistant—'P. J. Mezzitt' or 'P.J.M.'. Eleven other cultivars rated above 80 percent resistant: 'Jock', 'Sapphire', 'Rose Elf', 'Cilpimense', 'Lucky Strike', 'Exbury Naomi', 'Virginia Richards', 'Cowslip', 'Luscombei', 'Vanessa' and 'Oceanlake'.

For a complete list of weevil-resistant rhododendrons and a copy of an article on weevil control in rhododendrons, please send a self-addressed, stamped, business-sized envelope to Assistants to the Editor, American Horticultural Society, P.O. Box 0105, Mount Vernon, VA 22121.



Secret to Weevil-Resistant Rhododendrons Unlocked

Scientists have discovered why certain species of rhododendrons are resistant to attack by weevils, and their discovery promises to play a major role in weevil control programs for all plants.

Agricultural Research Service plant physiologists at the University of Washington in Seattle found that weevil-resistant rhododendrons have scales on their leaves that produce volatile chemical compounds called terpenes. Since terpenes still act as a strong weevil repellent even when they are extracted from leaves, scientists hope to develop slow-release formulations that could be sprayed on plants as biological repellents. Adult weevils feed on foliage, where they can cause unsightly damage, while the root-eating larva can seriously damage pot-grown plants.

Unfortunately, resistant, scale-

bearing rhododendrons, called lepidotes, cannot be crossed with the species that do not bear scales (elepidotes). Nevertheless, tests to iden-

tify terpenes will help breeders identify new seedlings that should be resistant to weevils. —*Agricultural Research, December 1982*

New Nursery Source Manual Published

Gardeners will appreciate the Brooklyn Botanic Garden's new *Nursery Source Manual*, a handy guide to mail-order sources for 1,300 trees and shrubs for the garden.

Plants in the 88-page manual are grouped under such categories as flowering trees, dwarf conifers, shrubs planted for foliage and fruit, flowering shrubs and evergreen trees. A brief description of each species and their special attributes or problems (when applicable) are given, in addition to a list of both

retail and wholesale sources for each plant. In many cases, specific cultivars or varieties are recommended.

Also included are tips for buying trees and shrubs, information on importing plants from overseas and scientific and common name indexes.

To purchase a copy of the *Nursery Source Manual*, send \$2.85, including postage and handling, to Brooklyn Botanic Garden, 1000 Washington Avenue, Brooklyn, NY 11225.

Sphagnum Moss: Health Hazard?

Gardeners should be aware of possible exposure to a potentially serious fungal disease called sporotrichosis, which can be contracted by handling sphagnum moss. The fungus that causes this lymphatic disease, *Sporotrichum schenckii*, can be found in soil and also occurs in the sphagnum moss used to pack seedling trees for shipment. It is found throughout the United States, but appears to be most common in the Midwest.

The fungus enters the body through a small cut or scratch in the skin. According to Darroll D. Skilling, principal plant pathologist at the North Carolina Forest Experiment Station, "In one to four weeks, a small painless blister develops. . . . This blister becomes inflamed, and slowly enlarges. Other areas may become infected as the fungus spreads through the lymph vessels. . . . If untreated, the disease progresses slowly to the bones, abdominal organs, and uninvolved skin. But diagnosed early, the disease can be adequately treated and is rarely fatal." Many doctors are unfamiliar with the disease, so delayed diagnosis is a problem.

Skilling suggests that gardeners avoid handling trees that have been packed in sphagnum moss; however, if they have no choice, he advises washing hands frequently and treating cuts and scrapes promptly.

—ALI, May 1983

Interferon and Plant Viruses

Human interferon may be the antiviral substance of the future. Israeli scientists have found that a specific type of human interferon can reduce the multiplication of mosaic virus in tobacco. If further research confirms that interferon can prevent viruses from reproducing in plants, the implications for agriculture, horticulture and the plant pesticide industry are enormous.

—Penn State Horticultural Reviews, April 1983

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Manual of Woody Plants.

Michael A. Dirr. *Stipes Publishing Company*, Champaign, Illinois. (3rd edition.) 1983. 826 pages; softcover, \$19.80; hardcover, \$28.80. AHS discount prices, softcover, \$17.85; hardcover, \$25.95 including postage and handling.

This updated edition of a very useful book includes 300 new species and 500 new cultivars not found in earlier editions. There are also over 300 new line drawings. Excellent information on size, hardiness, habit, growth rate, culture, diseases, landscape value, cultivars and propagation of each woody plant.

Gardens of a Golden Afternoon.

Jane Brown. *Van Nostrand Reinhold*, New York, New York. 1982. 208 pages; hardcover, \$29.95. AHS discount price, \$22.50 including postage and handling.

Tells the story of the gardens designed jointly by Gertrude Jekyll and Edwin Lutens. Beautifully illustrated with many color photographs and details of garden design. Recommended reading for the lover of English cottage gardens or for the garden history buff.

A Dictionary of Botany.

R. John Little and C. Eugene Jones. *Van Nostrand Reinhold Company*, New York, New York. 1980. 400 pages; hardcover, \$18.50. AHS discount price, \$16.05 including postage and handling.

A botanical dictionary covering all aspects of the plant sciences. Indispensable to the professional or the serious amateur who makes frequent use of the literature. The perfect gift for the student of botany or horticulture.

Japanese Maples.

J. D. Vertrees. *Timber Press*, Forest Grove, Oregon. 1978. 178 pages; hardcover, \$39.50. AHS discount price, \$30.89 including postage and handling.

An authoritative work on a group of plants with tremendous variety—Japanese maples. Describes and illustrates the more than 250 cultivars of *Acer palmatum*, plus many other species of *Acer* found in Japan. Enjoyable reading and beautifully illustrated.

Gardens Are for People.

Thomas D. Church. (Edited by Grace Hall and Michael Laurie.) *McGraw-Hill Book Company*, New York, New York. (2nd edition.) 1983. 256 pages; hardcover, \$37.50. AHS discount price, \$31.50 including postage and handling.

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The Complete Book of Roses.

Gerd Krüssmann. *Timber Press*, Portland, Oregon. 1981. 436 pages; hardcover, \$50.00. AHS discount price, \$43.75 including postage and handling.

Updated and translated from the original German edition of 1974, this is THE definitive study of the rose from prehistoric times to 1981. Describes each variety of rose, with information on the originator, date of introduction and parentage of the hybrids. Various rose-related topics include paleontology, mythology, commercial production, propagation and plant breeding. Includes rose species, old garden roses and modern hybrids.

The Life and Travels of John Bartram.

Edmund Berkeley and Dorothy Smith Berkeley. *University Presses of Florida*, Tallahassee, Florida. 1982. 376 pages; hardcover, \$25.00. AHS discount price, \$22.50 including postage and handling.

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The Englishwoman's Garden.

Alvide Less-Milne and Rosemary Verey (editors). *Merrimack Book Service*, Salem, New Hampshire. 1980. 156 pages; hardcover, \$24.95. AHS discount, \$17.95 including postage and handling.

The story of 36 English gardens as told by their owners, including plant likes and dislikes, climatic and architectural problems, gardening practices and the history of each garden. Describes many gardens developed or rejuvenated since World War II. A truly inspirational work.

Japanese Gardens—Design and Meaning.

Mitchell Bring and Josse Wayembergh. *McGraw-Hill Book Company*, New York, New York. 1981. 214 pages; hardcover, \$27.50. AHS discount price, \$23.25 including postage and handling.

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Honeysuckle aphids cause witches-brooms to form on the tips of branches.

Phil Clark

The bush honeysuckle, *Lonicera tartarica*, is probably the last plant a gardener would expect to be threatened by pests, but a species of aphid that is relatively new in this country is threatening the survival of this old garden reliable. Bush honeysuckle has always been prone to occasional attention from aphids; however, the brownish-green honeysuckle aphid, *Hyadaphis tartaricae*, can seriously damage and even kill these sturdy plants.

What makes the honeysuckle aphid so difficult to control is that it folds itself in the new leaves at the branch tips, where it is protected from ladybird beetles and garden sprays. Other aphids know the trick of folding themselves in leaves, but from these sanctuaries the honeysuckle aphid triggers the formation of witches-brooms—abnormal clusters of weak, twiggy growth generally found at the branch ends. Death spreads down the stem from the cluster and eventually, as the clusters increase in number, overtakes the whole shrub. Department of Agriculture scientists and chemical industry investigators think these particular aphids may carry a fungus

or virus. So far, however, there is no evidence to support this theory.

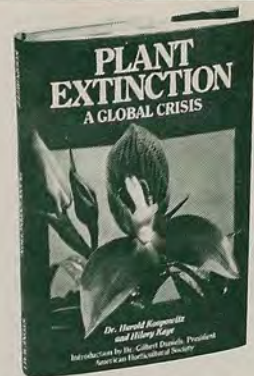
The honeysuckle aphid appeared in Canada about eight years ago, and was discovered in Chicago area gardens only four years ago. Central and eastern European as well as English gardeners have been bedevilled by the pest for years. Although the U.S.D.A. reports some outbreaks of honeysuckle aphids in the Northeast, so far the plague has been confined mostly to the north-central states.

Systemic pesticides such as Meta-Systox R and Ortho's Orthene® Systemic are effective controls but less than satisfactory because of the danger they pose to berry-eating birds. Follow directions on the label, but avoid spraying during flowering and after fruit has formed to protect bees and birds.

Cultural controls for this pest include cutting and destroying the witches-brooms—aphids apparently overwinter in them—and disposing of any clippings and old leaves around the bushes, as they can be a source of reinfestation.

—Phil Clark

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Other horticultural explorations available in 1983 are: Fall England (Oct. 3-14), Fall Germany (Sept. 6-20), Fall New England (Sept. 26-Oct. 10), and South Africa (Sept. 9-30).

For any of these programs, please write for your free brochure to Carolyn A. Hottle, American Horticultural Society, P.O. Box 0105, Mt. Vernon, VA 22121. Or telephone 1-703-768-5700.

Disease-Resistant Crab Apples for Gardens

Gardeners who are planning to plant a crab apple this fall should consider one or more of the following cultivars recommended by the University of Missouri Cooperative Extension Service. All exhibit resistance to apple scab, fire blight, powdery mildew and cedar-apple rust.

'Adams'—A rounded, dense tree with clusters of vivid red buds. Single, 1½-inch flowers turn pink with age. The red ⅝-inch fruit turns red in July and remains on the tree until spring. 'Adams' is slightly susceptible to powdery mildew.

'Candied Apple'—A weeping crab with red buds and single pink flowers. The heavily textured leaves are dark green with a red overcast. Bright, cherry-red, ⅝-inch fruit hangs on the tree into December. Only slightly susceptible to apple scab, this cultivar is a good substitute for the disease-prone 'Red Jade'.

'Dolgo'—An old, frequently planted cultivar that is only slightly susceptible to apple scab and fire blight.

'Donald Wyman'—A compact, rounded tree with dark green foliage and pink buds that open into single, white 1¾-inch flowers. The bright red, ¾-inch fruit is produced in great abundance. 'Donald Wyman' is only slightly susceptible to powdery mildew.

'Henningi'—An attractive, upright, spreading tree with shiny foliage and abundant white flowers.

'Henry Kohankie'—A rounded tree bearing pale pink buds that open into single, 1½-inch, pinkish-white or white flowers. The glossy, red fruit is attractive throughout the winter.

'Indian Summer'—A rose-red-flowered cultivar with attractive fall color and ⅝- to ¾-inch fruit that turns bright red in mid-August. This cultivar deserves more attention.

'Liset'—Another rose-red-flowered cultivar that bears glossy, dark crimson or maroon fruit ⅝ inches across. It is slightly resistant to fire blight and moderately resistant to powdery mildew.

'Professor Springer'—A plant with abundant pink buds that open into

showy white flowers. The orange-red fruit lasts until Christmas.

'Robinson'—Recommended for its single, deep pink flowers and dark green foliage with red veins that give the foliage a purple cast. 'Robinson' is also disease-resistant and an excellent plant to consider.

Malus sargentii 'Tina'—A dwarf cultivar of *M. sargentii*. This plant bears bright red buds that open into pure white single flowers. The bright yellow pollen is also attractive.

—*Horticulture Research and Information Report, September 30, 1982*

Prize Mums Recommended

The National Chrysanthemum Society has just published a new "Best Mums for Your Garden" list, and chrysanthemum fanciers should be sure to add several of the following cultivars to their gardens this fall or next spring. The list was tabulated from the Society's 1979-1983 show records, and includes the cultivars that won the most Best of Show awards. 'Yellow Knight' placed first for a second year in a row, followed by 'Snowball', 'Escapade', 'Taiho Ginka', 'Royal Touch', 'Mountain Snow', 'Romance', 'Megumi', 'Maiko', 'Dusky Queen' and the 'Daphne' cultivars. The Society has also published a list of recommended small-flowered cultivars that are used for chrysanthemum trees, cascades, hanging baskets and pot specimens. Topping the list is 'Seizan', followed by 'Megumi', 'Hana No Yume', 'Yellow Daphne', 'Maiko' and 'Hatsune'.

Chrysanthemums are available from the following sources: Huff's Garden Mums, 710 Juniatta, Box 187, Burlington, KS 66839; Dooley Gardens, Route 1, Hutchison, MN 55350; Sunnyslope Gardens, 8638 Huntington Drive, San Gabriel, CA 91775; King's Chrysanthemums, P.O. Box 368, Clements, CA 95227.

—*The Chrysanthemum, June 1983*

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Requests for applications, which must be made three months in advance of the event, can be obtained from Mrs. Benjamin P. Bole, Jr., Chairman, 1 Bratenahl Place, Cleveland, OH 44108.

New Children's Gardening Book

Parents, teachers and anyone working with children will want to purchase the new publication by Gardens for All/The National Association for Gardening—*The Youth Gardening Book*. The 145-page book includes idea- and information-filled chapters on planning, site development and soils, design and indoor gardening. In addition, the book includes a chapter describing over 50 specific activities and projects designed to introduce chil-

dren and young adults to the enjoyable and educational features of gardening. The projects range from "Grow Your Name on a Pumpkin" to "Making a Solar Food Dryer." At the end of the book are several case studies, a bibliography and an index.

To order a copy of *The Youth Gardening Book* send \$8.95, including postage and handling, to Gardens for All, 180 Flynn Avenue, Burlington, VT 05401.

Plants: Biological Prospectors?

Scientists can use trees and certain other plants to locate deposits of gold and other precious metals. Such metals, brought up from deeper deposits by way of ground water, are absorbed by plant root systems and can eventually be detected in plant tissue.

Scientists at the U.S. Geological Survey burned plant samples in laboratory ovens at temperatures high enough to destroy organic matter without altering the metal content. Samples of Douglas fir were found to contain 14 parts per million (ppm) gold while samples of bear grass from the test plots contained large amounts of molybdenum. One sample contained 500 ppm, more than 20 times the normal level for bear grass in the area.

The traces of metals found in this study were not high enough to inspire mining operations, but the study results suggest that plants and trees may be used routinely as biological prospectors in the future.

—*American Forests*, July 1983

Rare Birch Given Second Chance

Forest ecologists at the Virginia Polytechnic Institute have succeeded in propagating 80 seedlings of the rare Virginia round-leaf birch, a species thought to be extinct until recently. A small stand of 12 trees was rediscovered growing in Virginia's Jefferson National Forest in 1975. The species' chances for survival are believed to be greatly enhanced by this effort, and scientists now plan to use the seedlings to establish new

populations in various national forest areas.

The round-leaved birch, *Betula uber*, has round instead of the elliptical leaves common to the genus. It will grow only in areas where there is little competition from other plants, and is found in occasional sunny clearings in forests, such as those resulting from the death of a large tree.

—*American Forests*, July 1983

New Public Garden in Los Angeles

Virginia Robinson Gardens, one of the oldest private estate gardens in Beverly Hills, is the newest public botanical garden in Los Angeles County, California. The six-acre garden features a series of nine ter-

aces with gravity-fed fountains and a lush collection of palms and other subtropical plants.

The gardens are open to the public for group tours by appointment only. For information call or write

LuAnn Munns, Los Angeles County Department of Arboreta and Botanic Gardens, 301 North Baldwin Avenue, Arcadia, CA 91006, (213) 446-8251. —*Garden Writers of America Bulletin*, January-February, 1983

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