

# American Horticulturist

October 1995

A Publication of the American Horticultural Society

\$2.95

PASSIONATE PLANT PEOPLE AND THEIR:  
GOURDS ■ CACTUSES ■ PELARGONIUMS

TASTY SUBTROPICALS  
IRON-CLAD MAPLES





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**AMERICAN HORTICULTURAL  
SOCIETY'S ANNUAL MEETING**

**MAY 30-JUNE 1, 1996**

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Plan on joining us in St. Louis next spring for lectures, garden tours, and socializing with fellow gardeners.

Our 51st Annual Meeting will be held in conjunction with the American Association of Botanic Gardens and Arboreta, which means members will have access to an even broader range of experts and lectures. Special "insider" tours will take us to Shaw Arboretum and the Missouri Botanical Garden, whose William T. Kemper Center for Home Gardening was the 1993 recipient of the Society's G. B. Gunlogson Award for creative use of new technology in home gardening.

Participation will be limited to ensure the quality of the garden tours, which have become the hallmark of our Annual Meeting. Look for details in upcoming issues of *American Horticulturist*—and mark your calendar now!

*The symbol of St. Louis—the Gateway Arch on the Mississippi River—will welcome members to AHS's 51st Annual Meeting next spring. Participants will stay at the Hyatt Regency, a recently renovated hotel situated in the historic Union Station complex.*

PHOTO COURTESY OF ST. LOUIS CONVENTION AND VISITORS COMMISSION

**ANNUAL MEETING**

# American Horticulturist

Volume 74, Number 10

October 1995

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### OCTOBER'S COVER

*Photographed by David Cavagnaro*

The golden glow peculiar to autumn light illuminates the yellow leaves and orange fruit of 'Hachiya', a cultivar of Japanese persimmon (*Diospyros kaki*). The superior fruiting qualities of this species have led to the development of a number of cultivars with diversely shaped, sometimes seedless fruits that range from three to five inches in diameter. The fruits ripen in October and November, a little later than our native *D. virginiana*, after the leaves have dropped. Native to China and hardy to USDA Zone 7, typical trees are small with spreading, low branches, but more upright specimens can reach 20 to 30 feet.

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*The American Horticultural Society seeks to promote and recognize excellence in horticulture across America.*

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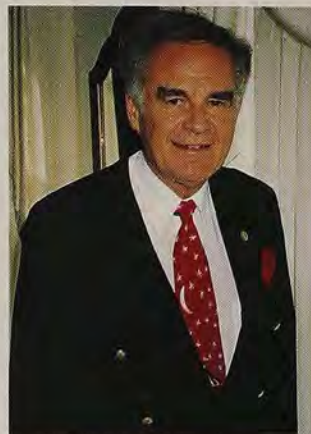
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# COMMENTARY

Passing along the historical tenets of horticulture has never been one of my top priorities. As a scientist, I have always expected that if the beliefs and procedures of earlier days held up under both controlled study and practical application, they would trickle down and be incorporated by the next generation of gardeners. Similarly, I assumed that any practices disproven by new findings in the field or in the lab would be discarded. But nature is never simple, and the variables of any situation often mean an answer that begins "It depends..."



The questions posed by callers to my weekly radio show are always a challenge, because after several decades, I can offer many explanations as to how a certain result or problem happened, and can give several (too many) alternative answers and plans of action. I can usually give a traditional answer from my graduate days at Cornell University, a more environmentally responsible suggestion, and as a final resort, what my grandmother would have done prior to the age of synthetic chemicals, polyethylene, and DNA-retooled genes. Horticulture is a rich, always changing stew of inherited wisdom and the latest technology, with a bit of hot new fashion thrown in for seasoning.

One gardening concern that is both as old as Moses and as new as drip irrigation is drought. In the survey we sent to members last year, many of you in our central states and the West said you wanted to hear more about your parts of our nation, where a lack of water is often the overriding issue. Low-water gardens are a recurring theme this month.

Maples are a favorite tree throughout North America at this time of year. John Pair, of the Kansas State University Horticulture Research Center in Wichita, tells us about some that provide exceptional autumn color while tolerating the extremes of the prairie—not only drought but heat, wind, and cold winters.

From Southern California and USDA Zone 11, free-lance writer Alice Ramirez describes subtropical trees and shrubs that make the landscape look lush, provide delicious fruit, and rarely need watering. In Arizona, writer Margie Meldman joins a group of fifth-graders touring the garden of David Eppele, who has made it his mission to teach water conservation by freely sharing his desert plants and his knowledge of their uses.

From Ohio, frequent contributor and horticulturist-of-many-hats Art Ode probes the mystery of why 5,000 people would join a society devoted solely to gourds. Assistant editor David Ellis journeys to the heart of West Virginia to interview Faye Brawner, who cares for a vast collection of pelargoniums and wonders who will maintain these rare plants in the future. Finally, California bulb expert John Bryan returns with the third article in his series on underused bulbs, this month telling us about clivias.

We hope you'll see this issue as reflecting the evolution of AHS, as we work to help make all of you better gardeners, choosing solutions appropriate to your own region, interests, and available time. Don't wait for a survey to let us know about your special needs.

*H. Marc Cathey, AHS President*



# MEMBERS' FORUM

## A Hope-Filled Issue

As a member of AHS for many years, I want to congratulate you on the super August issue. It is heart warming to be informed of the work people like Mike Hayman, the Hammers, and the Glancys are undertaking. I see them as pioneers—the new Americans who are seeking to work with nature, preserving, conserving, replenishing, and loving this land, not heedlessly devouring it as we have done these past 300-odd years.

It was both a very interesting and hope-filled issue. *Edna L. Cowan  
Perkasie, Pennsylvania*

## Looking for Lotuses

"The Legendary Lotus" (June) refers to a famous lotus bed, Grass Lake, 50 miles northwest of Chicago where 600 acres of lotus flowers can be seen blooming in August. No one I have talked to knows where this lake is located and if it is open to the public.

*Ella F. Hartmann  
Davenport, Iowa*

*Grass Lake is in the chain-of-lakes section of Illinois in the northeast corner of the state. Co-author Molly Dean says that unfortunately the lotus population there is dwindling. Visitors can still see yellow lotuses at Crabapple Island on Fox Lake south of Grass Lake. The closest landmark is a restaurant and marina, Kortin's, but any nearby marina should have information on Crabapple Island, Dean says.*

## Lotus Pickles

Thank you for the exciting article in the June issue about "The Legendary Lotus," by Molly Dean and John Creech. The text was intriguingly descriptive and the photography spectacular.

When I was a partner in Olu Pua Botanic Gardens on the island of Kauai, I learned from a Japanese lady at the grocer how to pickle the brown, potato-like roots called *hasu*. It became a favorite relish. On the chance that some of your readers might enjoy it as much as I



do, here's how to make it:

Peel about three fist-sized lotus roots and slice them very thin. Blanch them in boiling water for about four minutes and drain them, and combine in a bowl with one medium onion and one medium green pepper, both diced. Sprinkle with a tablespoon of salt and two tablespoons of celery seed, stir, and let stand about an hour.

Combine three-quarters cup of sugar and a half cup of white vinegar, stirring to dissolve the sugar. Pour over the vegetables and stir, cover, and refrigerate. The pickles are ready to eat in a day and keep for many weeks in the refrigerator.

Lotus roots are available at some Asian stores from November through January. Some stores sell the roots already peeled and sliced.

*Bettie Lauchis Furuta  
Escondido, California*

## Longing for the Lowcountry

I was so excited to see a picture of my beloved Boone Hall Plantation in the June issue ("Natural Connections—The Cloak of the Oak"), my heart almost burst in homesickness. Then I read the caption and I nearly cried. The name of the town is Mount Pleasant, South Carolina—not Pleasant Hill. There may not seem to be any mountains there. Frankly, there aren't any sizable hills of note. There is, however, a lovely little rise, facing across Charleston Harbor, from which the name is supposedly derived.

I was not lucky enough to have been born in Mount Pleasant or even anywhere in South Carolina, but I was lucky enough to

have gotten myself transplanted there, and I have never felt more "at home" anywhere.

My husband was transferred to Florida, but I still consider myself a South Carolinian. My husband was born there, so I can tag along on his coattails. I may be coming across as quite fiercely loyal to this area. But I can tell you that anyone who claims the South Carolina Lowcountry as home feels the same way. *Mary Ogden Fersner  
Winter Springs, Florida*

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# OFFSHOOTS



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## A Pleasance For All

by Barbara Overton Christie

I learned to drive a car when I was 15 years old. At the wheel of an old Chevy roadster, with my brother beside me giving instructive encouragement, I practiced tootling uphill and down, around the curves of our suburban neighborhood. The day following my 16th birthday, after a hasty, last-minute perusal of the DMV handbook for motorists, I went to the local office, took the road test, and received my license. No driver's education courses in those days; no learner's permits. Just prove you could handle a vehicle on the road and you were in, a fully qualified driver, ready for all the pleasures of locomotion.

In somewhat the same cavalier way, I learned to garden. My father set aside a corner of our large family garden in the spring when I was five, provided me with some pansies and English daisies along with seeds of marigolds and radishes, and turned me loose with a small trowel and watering can. Puffed up with

success, I branched out each year after that, sowing seeds such as snapdragons and squash before I could read the instructions on the packets. Some things grew and prospered, others petered out or never even germinated. Haphazardly but happily, I turned into a gardener by trial and error.

How things have changed! Millions of vehicles now on our highways and byways have necessitated stringent laws and tests to be mastered before anyone can become a licensed driver. Driver's education courses are prerequisites for first-time navigators on the road. Even after 50 or 60 years behind the wheel, senior citizens are encouraged to attend "mature driver" refresher courses to keep abreast of current highway regulations.

Similarly, in the field of horticulture, an ever-growing number of would-be green-thumbers are spawning a flood of books and magazine articles, all full of expert advice and directives. No longer are you supposed to pick up a flat of petunias because they are a pretty shade of pink or a packet of larkspur seeds because you remember them in your grandmother's garden. Before you



even think of growing a single specimen you are admonished to study your individual conditions with a keen eye and emotions in check. Is your site sunny or shady; is the exposure south or east? What kind of soil do you have—clay, sandy, or rocky? How about prevailing winds, annual rainfall, average last spring and first fall frosts? Must you start certain seeds indoors, in darkness or in light? When should they be transplanted outside? What special requirements does each plant have—for fertilizer, mulching, or pest control? All helpful, well-meaning information, intended to save us from dire results and expensive disappointment.

However, while in a contemplative mood recently, it occurred to me that if I had to do it all over again today, I might not have the nerve to learn to drive or—a far more awful thought—dare try to garden. For a beginner to undertake either of these accomplishments is now daunting.

Remember Sunday afternoon drives? Weren't they fun and relaxing? Perhaps you've only read about them, but to wander slowly down a country road on a nice day, exploring a new town or discovering previously unknown sights of your own neighborhood, was often the highlight of the week for the whole family. Nowadays, driving is mostly a necessary evil; the primary use of our cars is for driving to work, chauffeuring the kids to school, and keeping our myriad appointments. Taking the wheel is a constant battle against time, stress, and the elements. Trying to remember the rules of the road, avoiding other drivers in heavy traffic, and praying that your car does not break down take most of the joy out of driving, anywhere, anytime.

So what is the analogy between driving a car and raising a garden? With all due respect to the many highly qualified and kindly experts, I believe the mass of gardening advice that inundates us today could discourage a timid novice from even trying to tend a small piece of earth. And that really is a shame.

Let's say a would-be gardener has a plot of ordinary ground behind the house. The area has never been turned over, has some shade, but supports a healthy crop of lawn grass, so it can't be too deficient in vital elements. There's no outside faucet to make irrigation an option, but what's wrong with an old-fashioned watering can, even a rain barrel? Promising conditions like these abound in a myriad of home sites, where anyone who truly wants to can dig up the earth and raise a modest garden.

Hundreds of plants have only basic requirements. Marigolds, zinnias, salvia,

sweet alyssum, cosmos, nasturtiums—these are only a handful of the sturdy annual flowers that will grow for almost anyone, anywhere. Garden phlox, daylilies, chrysanthemums, iris, black-eyed Susans, veronica, and astilbe are perennials that need very little care or encouragement to thrive wherever and however they are set out. Vegetable gardening may require a modicum more expertise, but nobody needs a degree in horticulture to raise a few tomato plants, a row of snap beans, or a hill of zucchini in a reasonably sunny spot.

Soil testing kits; special fertilizers for roses, berries, and tomatoes; weed preventers; and untold insecticides and disease controls are marvelous scientific aids for the serious plant grower. Fencing, trellises, row covers, plastic mulches, and hot caps can be extremely useful. But none of these is essential. For years people have gardened successfully and happily without a single one of the expensive adjuncts that are heavily promoted today. It seems a paradox of modern life that in trying to make things easier and better, we sometimes only make them more abstruse and joyless.

Having said all this, I apologize and pay homage to all the dedicated and experienced plant scientists and technical advisors who constantly strive to make gardening a more exact and successful undertaking. Those of us who have toiled in the soil for many a year appreciate the new, improved garden species and methods of cultivation that are introduced annually. But I think we have a duty to reassure new generations who would like to start gardening that things don't always have to be as complicated and hidebound as they may appear. Let us not overwhelm them at the outset with too many importunings, rules, and hard-and-fast requirements.

An archaic word for "garden" is "pleasance," a very fine term to remember. As our earth becomes ever more heavily populated and urbanized, beautifying our home landscape with a "pleasance" is one of the kindest, gentlest activities in which we can engage, as well as one of the most important from an environmental viewpoint. With more experience and funds, it can later become as complex as one desires. But it doesn't have to start out that way.

As our country relentlessly continues to build up, driving a car may no longer be a relaxing activity. In inverse ratio, home gardening becomes increasingly rewarding. We need our cars to meet life; we need our gardens to get away from it.

*Barbara Overton Christie is a free-lance writer in Westbrook, Connecticut.*

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# THE URBAN GARDENER

## Blame it on the Pears

by Jeff Minnich

It was the pear trees that did it. I remember walking in that door on a mild January day thinking how great the spiral staircase in the living room looked. Then I saw the balcony (just a seven-by-12-foot rectangle with a railing)—and then I saw the pears. Suddenly they were in bloom in my mind—great, three-story clouds of white. I imagined the dense greenness of their summer coat. Will they be yellow or scarlet in the fall, I wondered?

"I'll take it," I said to the agent. After a year of looking for the "right" place for me, she breathed a huge, weary sigh of relief.

The condominium had been on the market only one day, and there were three offers. But it was the pears that got me the place, too. When my agent told the owners that I had said, "I'll bet those pears are magnificent in the spring," the wife said fondly, "Oh, he noticed our pears"—and that was all she wrote.

But "creating" my balcony was no easy task. What's a horticulturist to do? So many choices! So little space!

Not all my ideas were successful. The sun beat up the impatiens; the winter kicked the potted and espaliered redtips (*Photinia × fraseri*) until they barely had an ounce of life left in them. I should have known better.

Back to square one, I really did think it through. On the west end I had the marvelous pears. They are between the balcony and one of the complex's most popular tennis courts—at least that problem was solved for me. The only view left to contend with, in terms of privacy, was the south, which blared onto my neighbor's balcony, a mere dozen feet away. The only answer was a screen, to seal me into my own private world. After I failed with the redtips, I consulted with cohorts and decided that the ideal solution would be two enormous espaliered Hollywood junipers (*Juniperus chinensis*



*Juniperus chinensis*



PHOTOS BY JEFF MINNICH

*Even in winter the pear trees captured the author's imagination. The table and chairs were his biggest indulgence.*

'Kaizuka'). I planted them in clay pots with tasteful rolled rims (this is Virginia, after all).

Privacy attained, I needed sounds. Windchimes went up, but I wanted water too. After much contemplation, I chose a classic pedestal and shell bowl with a Greek-style statue of a woman holding an urn. I promptly christened my new fountain "Sis."

I already had a round table and four chairs that fit beautifully at the end opposite the espaliers. Since the balcony sits on the top floor with no cover from the baking Virginia sun, I immediately bought an umbrella for shade.

Then I added Japanese honeysuckle (*Lonicera japonica*)—yes, a noxious weed, but not in a pot! It was heavenly in May—and quickly covered the railing. The next March it sprang forth, having made it through winter.

I filled wall pots with hanging geraniums of the pink "rosebud" variety. A poured-concrete wall plaque I named "Evita" graced the other side of the door. After the honeysuckle finished blooming, a dwarf

calamondin orange (*Citrofortunella microcarpa*) gave a delicious, heady scent for a long period. I also added a dwarf gardenia (*Gardenia jasminoides 'Radicans'*), another luscious and continuous bloomer. My banana tree and six-foot-tall lantana standard (*Lantana camara*), kept strictly pruned in a lollipop shape, filled the corners at the end opposite the espaliers. Probably my favorite addition was a yellow shrimp plant (*Justicia brandegeana*) in the honeysuckle pot. It got huge and bloomed literally until the fall freeze. I fronted it with variegated English ivy. My little garden was as complete as any garden can be—or so I thought.

Then the next March, after I had put two coats of deep green paint on the balcony floor, the condo board announced that the balconies had been deemed "unsafe" for use. Everything had to come off! I was devastated—you don't take away a gardener's garden! For an entire growing season I had to endure the loss of my balcony. Finally, that fall, it was torn out and replaced with a balcony that could have supported a tank.

The break gave me plenty of time to con-





Pear-blossom time, left, with junipers offering privacy on the balcony's open side. With an awning, there's finally enough shade for impatiens, above.

sider alternatives. Now I was ready to do it over exactly as I had dreamed.

I used the espaliered Hollywoods again and balanced them with English boxwoods (*Buxus sempervirens* 'Suffruticosa') in lovely square pots in the opposite corners. Variegated English ivy went in all the pots to soften them. "Sis" the fountain was placed in her old spot, as were the wind-chimes, wall pots, and plaque, "Evita." I also added an old concrete statue of a boy holding a bird. I dubbed him "Peewee." My one extravagance was a cast-aluminum table-and-chair set I had fallen in love with that fall at a home show in Richmond. I loved its classic lines and verdigris finish.

The honeysuckle pot went back to its old spot—but without the honeysuckle. To bring fragrance to the late summer air, I planted a sweet autumn clematis (*Clematis paniculata*), which the following spring grew to cover the railing. Its blooms matched the white-only flower theme I adopted so I could see my garden at night. The clematis is delicately textured—like jasmine—and reminds me of the great courtyard gardens I saw on a visit to New Orleans.

My final step was to install a 250-watt transformer, a timer, and five low-voltage lights. Two highlight the espaliers, one is trained on "Sis," and two illuminate the pears from the boxwood pots.

The following spring I put in my "ceiling"—a retractable awning that cuts the heat not only on the balcony but inside the condo too. I can enjoy dining in my garden even in the rain, and at lunch as well as breakfast and dinner. The first retractable awning to be installed in the huge complex where I live, it was quite a sensation, and worth every penny (and the

wait) to have it installed.

I finally had enough shade for white impatiens. I planted cast-iron plant (*Aspidistra elatior*) and sprengeri fern (*Asparagus densiflorus* 'Sprengeri') in an antique urn, re-introduced my gardenia, and really felt as if I were in New Orleans, Charleston, or Savannah.

I often think of re-doing things again (a gardener's work is never done, after all), but I think I may have found paradise with what I've got now.

Jeff Minnich is senior vice president of Campbell & Ferrara Nurseries, Inc., in Alexandria, Virginia.

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# GARDENERS' INFORMATION SERVICE

**Q:** How do I take care of a Moses-in-the-cradle plant? —P.C., Peoria, Illinois

**A:** Moses-in-the-cradle (*Tradescantia spathacea*; formerly *Rhoeo spathacea*), also called boat lily and about 12 other common names, is a member of the spiderwort family. It is prized for its dark metallic green leaves that have glossy purple undersides. Small white flowers are borne within purple, boat-shaped bracts (the cradle) that are formed in leaf axils. *Indoor Plants*, by George B. Briggs and Clyde L. Calvin, suggests that the plants need full sun and moderate humidity, temperature, and water. The plant does not require pruning but should be fertilized four to five times per year.

**Q:** I have a special fondness for the serviceberry tree. I understand that the tree is susceptible to rust diseases; on that account should I be concerned about using this tree in my landscape plan?

—B.L., Stafford, Virginia

**A:** Serviceberry (*Amelanchier* spp.), also known as shadbush, Juneberry, or sarvis-tree, is the common name for a group of about 25 species of small deciduous trees or shrubs in the apple subfamily. It bears small applelike fruits that ripen in June and are very attractive to birds. The most common species found on the East Coast is *A. arborea*, downy serviceberry, a small tree that grows 15 to 25 feet tall.

Rust, caused by a fungus, can be a moderately serious disease of serviceberry; however, some of the newer cultivars are less susceptible. Rust attacks the leaves and fruits and may occasionally cause defoliation and fruit drop. The fungus causes elongated orange galls to form on the undersides of infected leaves; spores from these galls appear as a rusty, orange-red powder.

Rusts are what are known as alternate-

host diseases, in that the fungus needs to alternately infect two different plant species to complete its life cycle. In the absence of one of the host plants, the disease cannot perpetuate itself. The alternate host for the amelanchier rust organism can be either red cedar, common juniper, or southern white cedar. As indicated in *Diseases and Pests of Ornamental Plants* by Pascal P. Pirone, the spores of the rust fungus produced on cedars can be carried in the air to amelanchier within a one-mile radius.

Since red cedars are very common in Virginia, removing potential hosts is impractical. Look for a named amelanchier cultivar and avoid overhead watering, which encourages rust spore germination. Spraying infected serviceberries and/or cedars with a fungicide in spring can reduce the effects of the disease in some cases.

**Q:** The bottoms of most of the tomato fruits in my vegetable garden have large sunken areas that are almost black in color. What causes this problem, and what can be done about it?

—M.N., Alexandria, Virginia

**A:** The bottom of a fruit such as a tomato is called the blossom end. The symptoms you describe are typical of a very common disease called blossom-end rot or leather end. The disease also affects pepper fruit. The condition may affect the entire lower half of the fruit. The primary cause of the disease is a calcium deficiency brought on by a lack of water. When tomato plants are stressed due to insufficient moisture and a high transpiration rate, water is pulled from the blossom end of the fruit. The weakened tissues collapse and the fruits are easily infected by the fungi that cause the black rot. In *Vegetable Diseases and Their Control*, authors Arden F. Sherf and Alan A. MacNab say that a mere 30 minutes of water stress can cause blossom-end rot. Once infection is



## AHS ON-LINE

AHS has joined the Internet community as the "horticultural expert" in the Garden Marketplace at eMall, an electronic shopping and information center. We are currently posting articles from previous issues of *American Horticulturist*, as well as membership and other special information.

If you have access to the World Wide Web, look for us at this address: <http://eMall.com>.

evident, no control measures are effective. The most important control is prevention—that is, keeping the soil moisture relatively constant throughout the growing season.

**Q:** How do I care for the Russian sage plants that I just purchased?

—J.C., Washington, D.C.

**A:** Russian sage (*Perovskia atriplicifolia*) is a member of the mint family and is native to areas from Afghanistan to northern India. This aromatic herbaceous perennial that resembles *Salvia* was voted "Perennial Plant of the Year" for 1995 by the Perennial Plant Association. It can attain a height of three to five feet and is hardy in USDA Zones 5 to 9. Violet-blue flowers on foot-long spikes are produced from midsummer through fall, providing a pleasing contrast with the silvery foliage. Russian sage does best in well-drained soil and full sun; space plants about two feet apart. To encourage more abundant bloom, prune the plants to within several inches of the ground in late winter or early spring; completely remove any dead wood and very crowded shoots. It would be a good idea to apply compost or a balanced fertilizer in the spring.

—Neil Pelletier, Director  
Gardeners' Information Service



# PLANTING THE FUTURE

## Texas Wildflowers

by Annie Spade

When I was growing up in the red sand country of west Texas, I asked for two small patches of ground around the family home so I could “plant things.” In the front yard, I had small cactuses (and every pretty rock I could find). Out back I planted mixed annuals from seed packets.

It was my grandmother who gave me the idea that something could actually be cultivated in that mesquite-riddled landscape. She used to cut snapdragons and carnations for us from her front yard when we visited. And the pussywillows and sweet pea vine in her back yard left joyous prints all over my heart’s memory. Today, I have the pleasure of working with a mixed age group of two- to six-year-old children in a Montessori school and garden in central Texas, where I can impart the rewards of gardening in this challenging landscape to an eager new generation.

After observing children throughout the world for more than 50 years, Maria Montessori wrote *The Absorbent Mind*. In this book, she described how young children “soak up” everything from their environment so that it becomes a part of who they are: the velvet softness of the snapdragon and its crispness when you pinch it...the fresh fragrance of little carnations...the delightful fuzziness of pussywillows on your face. The experiences of early childhood indisputably lay the foundation for our life values and habits.

In more recent years, wildflowers have become my focus, as have environmental issues: shrinking water tables, soil depletion, and loss of natural habitats and native species. I wanted to develop a special garden for the children in my care, but there seemed to be more at stake than simply giving them positive experiences.

What if we created a garden of native plants? Then the children would grow up



PHOTOS COURTESY OF ANNIE SPADE



*A preschooler at the Montessori School of Lake Travis, above, learns about the responsibilities and rewards of caring for plants. In their native plant garden, left, the children are encouraged to “feel their way around.”*

knowing and loving them. And what if they experienced the work of gardening as mulching instead of watering, composting rather than artificially fertilizing, and preserving native beauty as opposed to weeding and mowing? Such children would be profoundly prepared in these gardening practices. They would have crucial values for our times.



Working in a 72-by-32-foot space, we have simply allowed the native grasses and plants to grow, bloom, and scatter their seeds. Among the grasses we have Mexican hats, prairie verbena, rain lilies, four-nerve daisy, winecups, and silver-leaf nightshade (which we remove after

inspection since it is poisonous). We have also planted a small (16-by-8-foot) specimen garden in one corner, where vegetables and native plants can grow attractively together. Here we have salvias, coneflowers, lamb’s ears, zinnias, poppies, and ruellia as well as cherry tomatoes, cucumbers, and watermelon. The garden also has clumps of taller grasses: little bluestem, muhly grass, and switch grass.

Pathways greatly assist and encourage the children in their explorations of the yard. We created a few for them, and they created the rest! The specimen garden has some stepping-stones, but we also teach the children to just watch where they step here. Two-year-olds are fascinated by the feel of

the various leaves and flowers. We show them how to be gentle in their explorations, and they have a wonderful time.

As one can imagine, our yard attracts much animal life as well: walkingsticks, mantises, butterflies, damselflies, hummingbirds, ladybugs, one harmless snake, and a beautiful emperor moth with eye-spots. Scissortails nested in our oak trees last spring.

Very young children are constantly absorbing language to build their vocabulary, so whenever possible we give the children

specific names for these plants and animals. Naming the flora and fauna places the experiences in the children's conscious memory so they come to feel they really know them and are more at home in the outdoor environment.

In the classroom, we provide small picture cards with one native plant or animal depicted on each. Two- and three-year-olds use the cards to practice the names, while the four- to six-year-olds love to copy the pictures and hear information about where each grows and when it blooms. These old-

er children examine leaves and flowers to learn the basic parts of each and their function in the life of the plant. They also study the names of various leaf shapes.

It should be noted here that the Montessori method of education was developed from observing children's needs. Individual children choose the lessons and materials as their interests are aroused. Inside the school, they care for a variety of potted house plants. They sponge dust from the leaves, mist them, and give them water when indicated by markers placed by a teacher each morning.

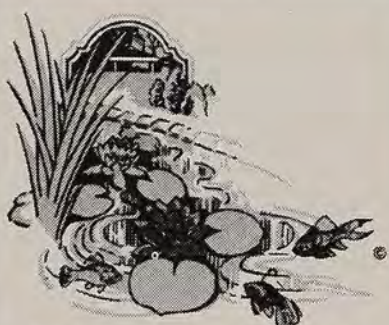
Our garden and playground are the same place. The children spend an hour and a half here every day. It is a place to work as well as play. Young children love to rake leaves; water when necessary; move dirt, compost and mulch with shovels and small wagons; plant seeds and seedlings; and above all, harvest the fruits! Maria Montessori wrote, "The act of placing a seed in the ground, and then of waiting for the seedling to grow from it is work on too small a scale and involves too long a wait for [young] children. They want to do big things, and they bring their activity into immediate connection with the products of nature."

Parent education occurs as well. Since we are a nonprofit private school, the parents contribute time and materials for building and maintaining our garden. Grown-ups see there is no harm in having unmown grass—in fact, the children love to hide and roll in it and, in summer, feel it on their feet and legs! They often comment on how beautifully the plants are surviving the heat or cold and ask for plant names.

Because the school currently leases its building and grounds we have been limited in what we are willing or able to do with the outdoor environment. For example, we have to walk the children through two rooms to reach the garden/playground area from our classroom. This summer we began a fund drive for money to build a permanent school that will have direct access to the outdoor environment from the classroom. It will be designed with a patio space that will allow us to use the garden more often and more creatively.

We also plan to expand our program to include a Montessori elementary class. Elementary-aged children can plan and create much of their own outdoor space and engage in many in-depth classroom and community projects. This will be especially true given their experiences as young children in our very special garden.

Annie Spade is director of the Montessori School of Lake Travis in Austin, Texas.



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# NATURAL CONNECTIONS

## The Aspen's Autumn Alchemy

The mechanism of successional vegetation, and the role fire plays in maintaining these historic patterns, are the subject of much ongoing research—and some controversy. In the West, forest researchers say the role of fire is critical to the continuance of one of nature's grandest spectacles, the golden autumnal alchemy peculiar to aspen groves.

The most widely distributed tree native to North America, quaking aspen (*Populus tremuloides*) is also known as trembling aspen and by the evocative yet little-used name quiverleaf. It ranges from the Atlantic shores of New England and northeastern Canada, west and north through the Great Lakes states and central Canada, and into northern and western Canada and Alaska to the latitude of the Arctic Circle. More sporadically, it is found at progressively higher altitudes down the West Coast and the Rocky Mountains south as far as the highlands of Southern California, Arizona, Texas, and northern Mexico.

Many taxonomists have attempted to split aspen into regional subgroups, but it is now generally accepted that throughout its range it is a single, highly variable species. The closely related *P. grandidentata*, the large-toothed aspen, is confined to eastern North America from Quebec south to Virginia and west to Manitoba and northeastern Missouri.

Shorter and less imposing in the East, *P. tremuloides* in its western range has been known to reach 90 feet tall, although most peak below 70 feet with a slender, graceful habit. The trunk has a smooth, chalky white finish sometimes tinged with pale green, but the bark—unlike that of birch—does not peel. Rougher bark sometimes develops at the base of the trunk. Its two- to three-inch-long, light green leaves are heart shaped with finely serrated edges. Attached by a long, flat stalk, they flutter in the gentlest of breezes, thus giving rise to the tree's common name. Their glossy surfaces are



A. PETER MARGOSIAN; PHOTONATS

highly reflective, so that the tree seems to shimmer when the leaves move. This is even more dramatic in the fall, when the leaves turn a startling, brilliant gold accentuated by the clear blue Western skies.

Closely related to poplars and cottonwoods, which also reside in the genus *Populus*, aspens bloom with drooping gray-brown catkins in spring before their leaves emerge. These are wind-pollinated and produce vast amounts of downy, wind-blown seed. Despite this apparent fecundity, aspen seed is notoriously infertile. The conditions it needs to germinate and establish its seedlings go largely unsatisfied in the xeric western United States.

Most reproduction is from shoots or suckers that develop from lateral roots. Many aspen groves or communities are composed entirely of these clones, termed "ramets." According to "Sustaining Our Aspen Heritage Into the Twenty-first Century," a publication of the U.S. Forest Service's Rocky Mountain Forest and Range Experiment Station, this results in "a clump of trees all identical in genetic composition... that can be as large as several acres." Although individual aspens normally live no longer than 200 years, it is believed that some cloned communities may be thousands of years old.



DON JOHNSTON; PHOTONATS

*While a grove of aspens in full autumn glory, top, is a magnificent sight, their chalky white bark and shimmering leaves make them scenic throughout the year. Groves like the one above support a variety of understory plants, including juvenile conifers.*

Larger stands are made up of a mosaic of these communities.

Under normal conditions, sunlight-loving, pioneer aspens form groves that serve as nurseries or an early successional stage for conifer forests. Natural dynamics, however, lean toward fire periodically removing the conifers before the aspens are totally displaced, thereby renewing the cycle.

Foresters warn that aspen stands regenerated by fire at the turn of the century are being lost because this cycle has been artificially altered by suppression of fire. A July 1993 report by the forest service's Southwestern Region stated that aspen-dominated forest in New Mexico and Arizona was down from 486,000 acres in 1962 to 263,000 acres in 1986. Replacing aspens are ponderosa pine, Douglas and white firs, Englemann spruce, and subalpine firs.

It's not just the aspens that are being endangered, but many parts of the micro- and macro-ecosystems that they sustain. The New Mexico Department of Game and Fish has identified 221 animal species that interact within the aspen ecosystem. The buds, twigs, and bark are winter forage for snowshoe hares and cottontail rabbits. Elk and mule deer are among the larger animals that take advantage of aspen habitat. A wide range of birds eat aspen seeds and buds, and many species use the trees as nesting sites.

Aspens also support a much more diverse population of understory plants than do the conifers that replace them. Shrubs like snowberry (*Symphoricarpos* spp.) and wild roses mingle with wildflowers such as asters, coneflowers, and yarrows. Typical graminoids include members of the *Bromus*, *Poa*, and *Carex* genera.

Under current guidelines, the forest service is backing what it calls "an ecological approach to multiple-use management." Part of this ecosystem management, still controversial in some circles, is the use of controlled or prescribed burns to mimic wildfires and encourage successional vegetation cycles. Foresters hope this tactic will also lessen the likelihood of catastrophic fires such as the one that Yellowstone experienced in 1988.

Another concern of foresters is the effect that grazing by livestock and wild animals is having on aspen habitat. Some areas may require fences and removal or redistribution of herbivores before degraded ecosystems can recover, they say.

A better understanding of aspen grove ecology may yet help preserve for future generations one of nature's grandest fall spectacles.

—David J. Ellis  
Assistant Editor



## BOOK REVIEWS

### Native Gardens for Dry Climates

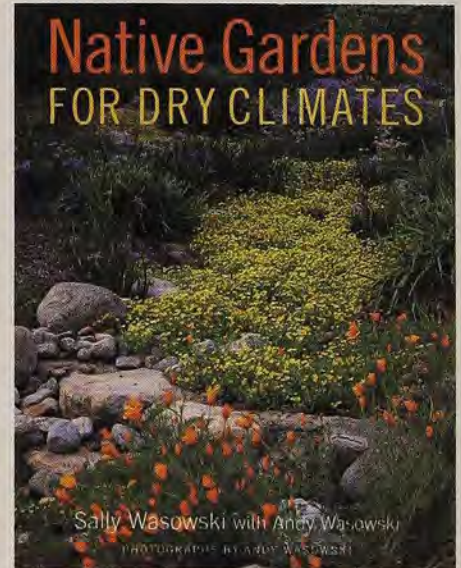
Sally Wasowski with Andy Wasowski. Clarkson Potter/Publishers, New York, 1995. 176 pages. 8 3/4" x 11 1/4". Black-and-white illustrations; color photographs by Andy Wasowski. Publisher's price: hardcover, \$35. AHS member price: \$31.50.

There are two reasons to pick up Sally Wasowski's latest book, *Native Gardens for Dry Climates*. First, it is about a region pitifully glossed over by American garden publications—the increasingly popular American Southwest—and second, it encourages and celebrates the use of native plants in our gardens.

Conditions in the Southwest are tough for most well-known garden plants. More dry-climate gardeners, whether from the high or the low desert (an important distinction Wasowski unfortunately does not make clear), are embracing the beauty, diversity, and outstanding performance of native plants, as well as the overall sense of place afforded by a generous dose of these plants. This book offers some specific suggestions on how natives can be put to gardening use.

The book is divided into two parts. The first part, which combines a description of traditional thematic gardens—moonlight, fragrance, herbal (here called *curandera*, a regional name for a healer), and bird-attractive—with appropriate plants of the region, is a welcome and refreshing change from the common misapprehension that using native plants translates to designing a naturalistic garden. Each theme garden is discussed separately and accompanied by a sample garden plan. The planting and maintenance requirements of dry-climate gardens are also addressed.

The second part is an index of suggested plants divided by use—trees, evergreen shrubs, succulents, perennials, ephemeral wildflowers, and ground covers for shade and sun. A photograph of each plant and a brief description of its cultural needs and normal habitat are included. Charts in the back of



the book show what plants in the suggested list are native to various Southwestern metropolitan areas, and a directory offers readers information about sources for plants, native plant societies, and botanical gardens.

But such a lovely book is undermined by a clumsy format that requires tedious flipping back and forth, and by careless editing that includes too many typographical errors, incorrect addresses, misspelled names, and plant misidentifications. This overall sloppiness, unfortunately, suggests caution for the novice gardener.

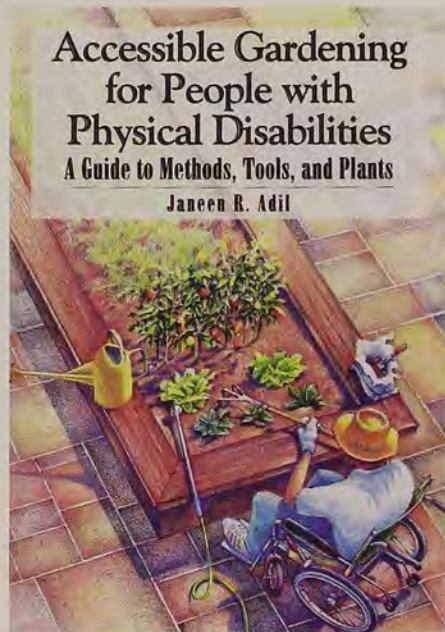
There's also an unfortunate tendency, especially in the earlier sections of the book, to make the dubious generalization that native plants can live entirely on their own without supplemental watering. In low desert areas, this can only be said of an extremely small number of truly indigenous plants. No garden worthy of the name can be maintained without appropriate, albeit conservative, supplemental irrigation. Wasowski makes this point clearer in later sections when she points out that all plants, even natives, need to be watered for the first couple of years while they are becoming established. She also has made allowances for thirstier



plants in her garden plans, indicating the need for swales where water will collect, or even for drip irrigation systems.

This book helps satisfy the need for more regional gardening books. Most books should be regional, because, in the end, every garden is of its own place. Wasowski's book will give the reader lots of ideas, not the least of which is that native plants—in whatever region—are truly at home in all our gardens. —Mary F. Irish

Mary F. Irish is director of public horticulture at the Desert Botanical Garden in Phoenix, Arizona, and a contributor to *The American Garden Guides* series published by Pantheon.



### Accessible Gardening for People with Physical Disabilities

Janeen R. Adil. Woodbine House, Bethesda, Maryland, 1994. 300 pages. 7" x 10". Publisher's price: softcover, \$16.95. AHS member price: \$15.25.

I don't know what standards others use for judging "how-to" books, but I want simple, reasonably priced practicality, laced with sufficient cheerleading to convince me that the project is do-able. Adil has managed to provide this and more in her commonsense publication *Accessible Gardening for People with Physical Disabilities: A Guide to Methods, Tools, and Plants*.

The book starts with a dose of inspiration, using stories of other handicapped gardeners as well as quotes from various experts, but then moves quickly into discussing the specifics of how to adapt your techniques, plot, and plants to compensate for a body grown immobile or unreliable

due to age, injury, or disease. The methods and tools discussed span a number of continuums: from cheap to expensive; from relatively easy to install to "you had better hire a contractor"; and from "just let me grow something" to "make it look like a showcase garden." Regardless of your physical or economic status, there are adaptations here that will fit your tastes, needs, and price range.

As you would expect, a comprehensive appendix lists sources for plants, for gardening tools and supplies, and for further references and resources for disabled gardeners of varying abilities. What you might not expect is a chapter focusing on gardening for children, both with and without physical disabilities. Adil has a personal interest in this subject; her daughter was born with spina bifida, a congenital disorder that involves incomplete development of the spine.

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I have been a handicapped gardener for nearly a decade, and assumed that I knew about every catalog and approach devised for adapting a garden. I was wrong. I never considered taping a funnel to the top of a hollowed-out bamboo pole and using it as a seeder. Nor had it ever occurred to me that I could set in transplants at ground level by placing a shaft of PVC tubing over the planting hole, sliding a plant down the tube, and then using my feet or a long-handled tool to settle it into the earth. And I never would have thought to warn disabled friends to remember that certain medications make you more sensitive to the sun, or that wire cylinders are safer than stakes for propping up tall plants if your condition makes you prone to black-outs or if you have difficulty maintaining your balance.

In short, whether you are a novice or experienced, either in gardening or in living with a disability, you'll find this a useful, uplifting book. As my grandmother used to say, "It gives good value for the money."

—Linden Staciokas

Fairbanks, Alaska, newspaper columnist Linden Staciokas is on the Statewide Advisory Board of the Alaska Cooperative Extension Service.

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# Garden of Eatin'

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Let me begin by admitting, flat out, that I am a fruit-growing fanatic. If something doesn't bear edible fruit, I ask myself, what is the point? My obsession is reinforced by the fact that almost any landscape effect can be enhanced with one or another species of fruiting plant. The rewards of the fruit gardener are double: first from the beauty of the plants themselves, and even more from the sheer hedonistic delight of biting into a honey-sweet, tree-ripened fig or tasting fruit either too fragile to ship or never commercially available.

Here in the mild winters and dry summers of USDA Zone 11, my aim is to interpret the concept of a cottage garden using Mediterranean herbs and fruiting subtropicals. But I have seen a variety of other landscape styles followed with fruit-bearing trees, bushes, and vines in both public and private gardens.

A lush rain forest hideaway can be suggested with the bold canopy of edible fig (*Ficus carica*), the huge leaves and dramatic fruit display of banana (*Musa acuminata*), and the emerald foliage of loquat (*Eriobotrya japonica*). The blooms of pineapple guava (*Feijoa sellowiana*) splash bright candy-cane colors among its finely cut, olive green leaves. And in autumn, the baseball-sized orange fruits of Japanese persimmon (*Diospyros kaki*) glow on nearly leafless branches.

Yet despite the combined utility and beauty of a hedge planted in citrus or Natal plum, or the dignity of a walkway shaded by carob (*Ceratonia siliqua*), many gardeners still segregate edible-fruiting trees and bushes from their "serious" landscaping projects.

The drought-tolerant Natal plum (*Carissa macrocarpa*, formerly *C. grandiflora*) dominates many formal hedge plantings, but relatively few people realize that its fruit is edible. Glossy dark green leaves hide the sharp thorns that make this South African native additionally useful as a burglar-proof foundation planting. Its small white flowers develop into oval berries the size of small plums—hence its common name. As they ripen, their thin skin changes from green to bright red, and their dark pink flesh softens and develops a flavor suggestive of cranberry sauce. Because the fruit stays on the branches, Natal plum can be planted near sidewalks. But elevated plantings might be in order to keep its thorns well away from the tender flesh of passersby. A good cultivar for especially ornamental fruit is *C. macrocarpa* 'Fancy'. Like the species, it won't survive tem-



PHOTOGRAPHS BY DAVID CAVAGNARO

*The ripe red fruits of prickly pear, opposite, are nutritious but have to be picked with care. Figs, above, aren't actually fruits but flower clusters that face inward. The plants' dense, lush foliage can give even temperate gardens a tropical look.*



The glossy green leaves of Natal plum, top, conceal thorns that make it a good burglar-proof foundation plant. The jujube's reddish brown fruits, above, provide a colorful fall display and a taste reminiscent of apples.

peratures below 26 degrees Fahrenheit.

Most of the fruiting subtropicals tend to be naturally resistant to pests, diseases, and often drought, when planted in a site harmonious with their requirements. One of the most problem free is the common jujube (*Ziziphus jujuba*), also known as the Chinese jujube or Chinese date. This useful tree grows slowly to about 25 or 30 feet, sprouting its glossy bright green leaves, tiny yellow flowers, and date-sized reddish fruit on interesting gnarled branches. It's suitable for a wide range of climates, since it is hardy to 20 degrees below zero but requires little winter chilling in order to flower.

The jujube fruit is a fleshy, crisp-textured drupe. Its flavor suggests apples and has a distinctive, pleasant aftertaste. Although the tree will eventually let go of its fruits, the jujubes will not stain pavement and can be easily swept away. If you buy a box of "red dates" from an Asian market, you are getting candied jujubes. They are considered a blood purifier in Chinese herbal medicine. Fruit from seed-grown trees can often be sour or insipid, so you should choose cultivars selected for good size and flavor, such as 'Li' and 'Lang'.

The myrtle family (Myrtaceae) provides an excellent selection of low-maintenance edible-fruiting plants that can be used as hedges, clipped into topiary shapes, or trained into small trees. Their finely cut, dark green leaves, sinuous branches, and peeling bark add a touch of delicacy to any landscape. Many species flower in less than full sun. None, however, should be planted over walkways or patios because unpicked fruit can drop and stain pavement.

One of my personal favorites is jaboticaba (*Myrciaria cauliflora*) from southern Brazil. This species is especially noteworthy because of the way its white flowers and grape-sized fruits form directly on the trunk and scaffold branches. The fruit's thin purplish black skin covers a luscious, tangy-sweet white pulp containing two small seeds. The sprightly, piquant flavor of ripe jaboticabas is comparable to the white, fleshy aril of a fresh litchi. The tree's very slow growth can be considered either an advantage or a fault, depending on how you want to use it in your landscape. A 10-year-old specimen in my own yard stands barely five feet tall and only started bearing fruit two years ago. This species should be planted in pots that can be carried to a sheltered location if winter temperatures fall below 25 degrees.

*Eugenia uniflora*, better known as Suri-



JESSIE M. HARRIS (ABOVE LEFT), JOSEPH G. STRAUCH JR. (LEFT), DAVID CAVAGNARO (RIGHT)

nam cherry, is a favorite among local fruit-growing enthusiasts. My own immature specimen grows as a smallish unpruned bush. I have seen other people train Surinam cherry plants into espaliers. The common name comes from the fruit's size and bright red color, similar to a 'Bing' cherry's but with curious lobes, a bit like those of a pumpkin. The flavor isn't at all cherrylike, but serves as a clue that cloves and allspice are also in the myrtle family.

Two other family members, the yellow-fruited lemon guava (*Psidium littorale*) and the red-fruited strawberry guava (*P. littorale* var. *longipes*, formerly *P. cattleianum*), are superficially similar to jaboticaba and the Surinam cherry with soft, juicy, cherry-sized fruits. They also make excellent low-maintenance landscape plants in my mild climate. These two species tend to come true from seed, which is fortunate since usually only seed-produced plants are available from specialty nurseries. Native to Brazil, they will survive into Zone 10.

In my part of California, *P. guajava*, the very frost-tender tropical species of this genus, will also survive, but our summers rarely get hot enough to let the fruits de-



The cut fruits of kiwi, cactus, and persimmon, left, make a colorful fruit-salad tapestry. Other fruiting plants that bring beauty to a landscape include the exotic-flowered Peruvian cereus, below, and the loquat, bottom, a small tree with dramatic dark green leaves.



ALICE L. RAMIREZ

velop an adequate sugar level the way they would in, say, Hawaii. In my opinion at least, that lack of sweetness, combined with a musky undertone, creates an inferior fruit. But with its elongated, deeply veined leaves and white multistamen flowers, *P. guajava* is a pretty tree and probably worth growing for its nostalgia value to someone who misses the plants and fruits of a tropical homeland. 'Red Indian', 'Mexican Cream', and 'Hong Kong Pink' are three of many cultivars available.

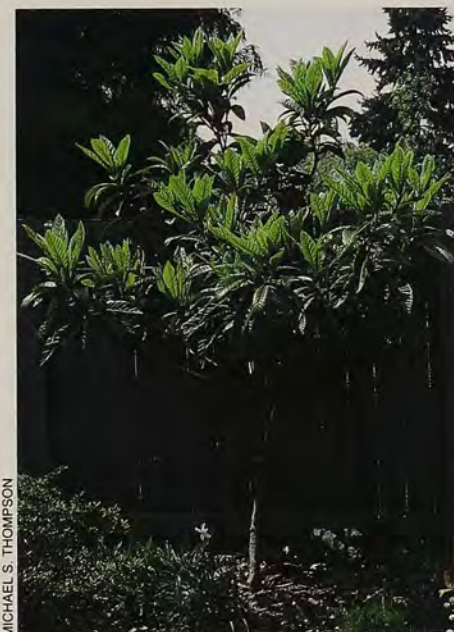
The hardiest of the fruiting Myrtaceae is a "guava" of another genus, pineapple guava (*Feijoa sellowiana*, now being called by some *Acca sellowiana*), which tolerates temperatures down to 15 degrees. Its gaudy blooms, almost two inches across, are dark pink on the topside, pinkish white below. When the petals develop a certain softness, they can be eaten and taste like marshmallows. These surround the flower's most spectacular feature, a prominent central tuft of crayon-red stamens that are clustered together like brush bristles.

Pineapple guava is another myrtle that should be planted away from walkways. Although staining is not a particular problem, the fruit—an oblong berry of varying

size depending upon cultivar—is soft, moist, and always large enough to cause a mess if squashed underfoot. The seedling-grown pineapple guavas found in general interest nurseries can be perfectly acceptable when only the shrub's graceful habit, subtly colored leaves, and attractive flowers are important. To harvest good fruit, however, you should choose high-quality, self-fruitful cultivars such as 'Apollo', 'Edenvale Improved Coolidge', 'Nazemetz', or 'Mammoth'.

Rose apple (*Syzygium jambos*), from Southeast Asia, also goes by the name rose jambos. The fruit of this charmer provides an exception to the typically strong, sweet-tart, and resinous intensity of myrtle family fruits. The tree grows to about 25 feet and bears large white bottlebrush flowers. The rose apples are one to two inches long, bell-shaped, and usually cream-colored heavily tinged with pink. Their taste and smell strongly evoke roses.

When it comes to drought resistance, it's hard to beat cactuses. Their fruits are high in vitamin C and low in fat. Native Americans and Mexicans have made use of the seeds, oil, and pulp of *Opuntia* species to make everything from flour and syrup to



MICHAEL S. THOMPSON

## TEMPERATE ORNAMENTALS

**G**ardeners in temperate climates don't have the same wide selection of fruiting plants for a landscape as those in our subtropics. But Alice Ramirez suggests that they consider jujube and hardy cultivars of fig, or try growing members of the myrtle family in containers. Lee Reich, author of *Uncommon Fruits Worthy of Attention*, recommends the following:

**CORNELIAN CHERRY** (*Cornus mas*): Rounded deciduous tree or shrub to 20 feet. Good as a specimen tree or in small groups. Produces yellow flowers in early spring and tart, drooping red fruits in summer. New larger-fruited cultivars are available. (USDA Zone 5)

**JUNEBERRY/SERVICEBERRY** (*Amelanchier* spp.): Several species and cultivars of these small trees and shrubs have ornamental and fruiting value, used as informal hedges or specimens. Most have white flowers in early spring and edible fruit. Saskatoon (*A. alnifolia*) makes a good hedge if suckers are allowed to develop. (Zone 2-5)

**LINGONBERRY** (*Vaccinium vitis-idaea* var. *minus*): Low-growing, creeping evergreen makes an excellent ground cover. Lustrous dark green leaves are highlighted by pink-to-white flowers and bright red edible berries. Prefers cool, partly shaded site and acid soil. Dwarf variety available. (Zone 2-5)

**MEDLAR** (*Mespilus germanica*): Small tree to 20 feet makes a good specimen. Produces white, wild-roselike flowers in late spring and tan apple-shaped edible fruits in summer. Fall color is a combination of yellow, red, and purple. Various cultivars are available. (Zone 6)

**MOUNTAIN ASH AND HYBRIDS** (*Sorbus* spp.): New cultivars and hybrids, available now from Europe, offer slender, smaller trees with crimson to orange edible fruits. 'Ivan's Belle', a cross between mountain ash and hawthorn, and 'Ivan's Beauty', a mountain ash-chokecherry cross, are trademarked selections available from One Green World, P.O. Box 1080, Molalla, OR 97038.

**NANKING CHERRY** (*Prunus tomentosa*): This rounded deciduous shrub to 10 feet is ideal for a specimen shrub or informal hedge/windbreak. Produces white or pink flowers in early spring and tart red fruits in summer. (Zone 2)

**PAWPAW** (*Asimina triloba*): For a tropical look in temperate regions, this 15- to 25-foot tree makes a nice specimen or screen tree. Exotic purple flowers form before leaves in early spring. Lush, dark green foliage in summer turns yellow in fall. At least two trees are needed to produce fruit. (Zone 4-5)

**QUINCE** (*Cydonia* spp.): Available forms range from a small shrub or ground cover to a 10- to 15-foot tree. Produces white to deep crimson flowers in spring and yellow edible fruits. (Zone 4-6)

**YELLOWHORN** (*Xanthoceras sorbifolium*): Large shrub or small tree to 20 feet produces white spring flowers and pea-sized sweet nuts in two-inch capsules. (Zone 6)

—David J. Ellis, Assistant Editor

a taffylike cake. The fruits of the so-called spineless prickly pear (*Opuntia ficus-indica*) are sometimes commercially available, but I find them inferior to those of the various *Cereus* species. Many gardeners admire the sculptural form and lily-shaped, night-blooming flowers of these plants, but have no idea that they can eat the apple-sized fruits.

In Spanish-speaking countries the edible fruits of all *Cereus* and *Hylocereus* species are called *pitaya* (or various phonetic spellings of same), which translates to "cactus apples" in English. Their electric-pink outer peel seems to glow under bright morning sunlight as if lit from within. If you can bring yourself to remove them and peel off that bright rind, you'll find that the

sherbet-textured, perfume-scented white pulp inside is delicious. The mature habit of both *C. peruvianus* and *C. glaucus*—narrow at the base then branching out as they grow higher—suggests a small tree. *Hylocereus undatus* is a climbing *Cereus* relative that also produces spectacular white, night-blooming flowers and large, good-tasting fruits. It can grow huge in mild-climate coastal areas and is best planted so that it can cling to and expand upon a large tree.

My favorite fruiting landscape plant is Japanese persimmon, often called kaki persimmon (*Diospyros kaki*). According to the writers of *All About Citrus and Subtropical Fruits*, edited by Rick Bond, the Japanese persimmon can be grown in areas

where temperatures plunge to zero degrees. Kaki persimmons come in two varieties, astringent and non-astringent. Both develop peach-sized fruits with vivid red-orange coloring. Astringent persimmons, such as 'Hachiya', remain inedible until soft. Biting into one while still hard would be like chewing on a mouthful of alum. Non-astringent cultivars, such as 'Fuyu', can be eaten crisp like apples. I agree with the many people who consider that astringent cultivars, when properly ripe, taste better.

If other Japanese persimmon trees are growing in the area, their flowers can be cross-pollinated and the subsequent fruits will develop seeds. If not, *D. kaki* will produce parthenocarpic, and therefore seedless, fruits. The tropical *D. digyna*, known to fruit buff as black sapote or chocolate pudding plant, is an attractive tree with emerald green glossy leaves that can be grown in the mildest climates of the United States. Unfortunately, although the fruit of this dioecious persimmon relative does taste somewhat like chocolate, the ripe black sapote has a mouth-feel that many have compared to axle grease.

The fruits of white sapote (*Casimiroa edulis*) taste like a mixture of peach and pear with strawberry undertones but travel so poorly they are almost never commercially available, even here in Southern California where they grow easily. They are about the size of an orange and are yellow-green when ripe. The heavy fruit production that is one of this plant's greatest virtues is also one of its greatest faults. The bounty of *C. edulis* can overwhelm a large family and bumps this otherwise trouble-free tree from the low- to medium-maintenance category. (They will also drop fruit, although if you have enough squirrels this doesn't become a problem.) There's a small grove of these near the University of California at Los Angeles' south entrance, where enough people walking past recognize, appreciate, and gather the fruit for their own use.

Another subtropical fruiting tree that requires a bit more maintenance than most is *Ficus carica*, the edible fig. When it goes into its short semidormancy period, the dramatic large leaves wither, drop, and need to be raked. And both white sapote and fig should be planted well away from structures and walkways, or else have their invasive root systems confined.

Both are drought-tolerant and make wonderful shade trees, although *F. carica* is often pruned low so that the figs—actual-

ly not true fruits but flower clusters facing inward—stay within easy reach. But while the tree requires some extra work, the first taste of a tree-ripened fig, its central cavity filled with its own highly-flavored syrup, is a revelation to those who have known only dry, tasteless supermarket figs.

Fruit lovers looking for a challenge might consider the cherimoya (*Annona cherimola*), one of the many subtropical and tropical relatives of our native pawpaw (*Asimina triloba*). Cherimoya, occurring naturally as an understory plant in mountain valleys of South America, seems to require an arid climate. (Gardeners in humid climates should grow instead the closely related sweetsop—*Annona squamosa*—or Atemoya, a cherimoya-sweetsop hybrid.) Cherimoya also prefers partial shade in hot summer areas. The tree is easy enough to grow for its foliage, a loose-looking canopy of six- to 10-inch-long, dull green leaves. The fruit, however, is devilishly difficult to produce.

Although the small green cherimoya flowers are perfect—with both sexes on one flower—the stigmas are receptive only in the early morning, while the anthers shed pollen only in the late afternoon. Devotees who want to watch the knobby, custard-textured fruits develop on their own trees have to collect the pollen of today's flowers, hold it overnight, then go out at sunrise to brush it carefully onto the stigmas of next morning's flowers.

What can I say about citruses that hasn't already been said? They require more frequent fertilizing and are less drought tolerant than other fruiting subtropicals. They can also suffer infestation from aphids, scale insects, mites, and snails. I deal with the hassles. I savor the sweet perfume of the flowers. I admire the trees' pleasantly rounded habit and lustrous foliage. I love the way those brightly colored fruits hang from their branches like Christmas tree ornaments. I experience an acquisitive glee whenever I come upon a variety or cultivar I haven't seen before. A year ago, I planted the entire length of one fence in assorted dwarf citruses. The individual plants will eventually grow together to create an informal hedge of glossy leaves decorated by spheres and ovals of all sizes, shapes, and shades of yellow, orange, and green.

I rejoice to have been born after the advent of dwarf citrus. My own personal collection includes, so far, a total of 18 cultivars including a 'Chandler' pummelo (*Citrus maxima*). Pummelo is a citrus

species relatively unknown to Americans but highly esteemed in China. Its fruits are two to three times larger than grapefruit and have a sweet, pinkish flesh that is segmented like tangerines.

Loquat (*Eriobotrya japonica*), a rose family species of east Asian origin, grows well in our coastal areas, tolerating temperatures down to 12 degrees for brief periods. It produces a variably sweet, smallish fruit in January, when little else but citrus is available fresh, on a tree with dramatic, deeply veined, dark green leaves. Good cultivars include 'Big Jim', 'Bradenton', and 'Oliver'.

A plant that has never fruited for me since I don't have one of each sex is *Dovyalis caffra*, the kei apple. The fruits are about the size of a plum and reminiscent of an apricot in both color and taste. The plant can be shaped almost like a topiary, and because it produces large, sharp thorns, some local gardeners have experimented with planting it around their mango trees to deter strangers from harvesting fruit that doesn't belong to them.

Even though fruiting plants have come to dominate my largish yard, there are still many varieties I have yet to try. Two interesting temptations are to be found among Sapindaceae. Although litchi (*Litchi chinensis*) dislikes our arid climate and saline water, people I know have had success with longan (*Euphoria longan*), another Chinese delicacy and litchi relative. I'm sure that I will eventually try one myself. Growing fruit seems to have taken over my life. It's an addiction, but a delicious one.

Alice L. Ramirez is a contributing editor to *Fruit Gardener magazine*, a bimonthly publication of *California Rare Fruit Growers*.

## SOURCES AND RESOURCES

California Rare Fruit Growers, The Fullerton Arboretum, California State University-Fullerton, Fullerton, CA 92634. \$16/year membership in U.S.

### Mail-Order Nurseries:

Oregon Exotics Rare Fruit Nursery, 1065 Messinger Road, Grants Pass, OR 97527, (503) 846-7578 (phone and fax). Catalog \$3. Specializes in colder-climate exotics.

Pacific Tree Farms, 4301 Lynwood Drive, Chula Vista, CA 91910, (619) 422-2400. Catalog \$2. Subtropicals; also some true tropicals suitable for greenhouses only.



ANITA SABARESE



JOSEPH G. STRAUCH JR.



ANITA SABARESE

The edible petals of pineapple guava, top, taste like marshmallows. Strawberry guava, center, is in another genus, but both are members of the myrtle family. Carob, bottom, has glossy evergreen leaves and tiny flowers in caterpillarlike racemes that develop directly on the trunk.



*The Caddo maple, a southern ecotype of sugar maple, begins showing its maroon fall color in early November.*

# Maples

## *for the Midlands*

*There are dozens of stunning selections that will stand up to the rigors of our Plains.*

B Y J O H N P A I R

**M**aples are among our most prized landscape trees, admired for many ornamental qualities but especially for their fall colors. They tend to be associated with the continent's more northerly regions—their golden-orange and scarlet hues drawing autumn tourists to New England and their lobed leaf appearing on Canada's flag. Yet among the estimated 140 species—found throughout Europe, North America, Africa, and Asia, with the largest concentration in China—are many that are adapted to the stresses of our country's mid-continent and Southwest regions.

Here in the Plains, European species, which evolved under relatively tranquil conditions, are greeted with hot, dry, windy summers and cold, harsh, desiccating winters. Temperature and moisture availability sometimes fluctuate rapidly. Spring can surprise us with late frosts, then warm windy weather, followed by stressful heat and low humidity.

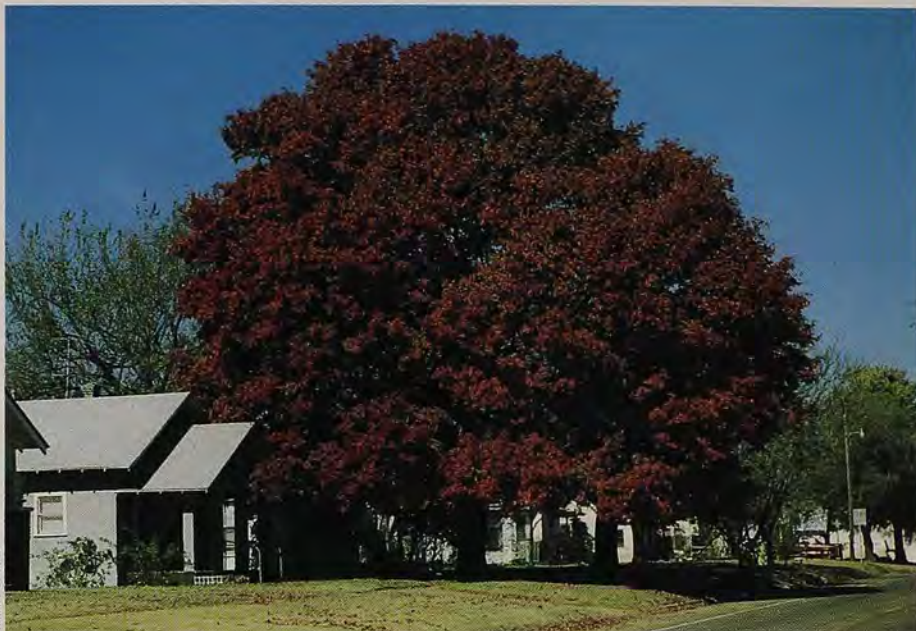
But our autumn weather can provide the sunny days and cool nights—often lasting into November—that are perfect for fall color development. There is no reason our residents have to forgo maples, or gamble on species with delicate constitutions. There are almost as many sizes, shapes, and fall colors as there are species, and choosing the ones that match your personal preferences, landscape needs and limitations, soil type, and climate can be a most rewarding experience. Locating sources of the more obscure maples, on the other hand, can be equally challenging.

Sugar maple, *Acer saccharum*, is undoubtedly among the noblest of the large trees used in Midwestern landscapes. Although it is native primarily to the woodlands of eastern North America, it can be found growing naturally as far west as Iowa, Missouri, eastern Kansas, and in scattered populations in three counties of Oklahoma.

Among the 30-some selections named so far are 'Legacy' and 'Commemoration', introduced by Willet Wandell from Urbana, Illinois, on the western edge of the species' range. Leaves of 'Legacy' are often described as thicker and more tatter-resistant than selections from farther east, such



The Tatarian maple, above, is said to tolerate clay and alkaline soils. The largest known specimen of Caddo maple, above right, is a century-old giant in Hinton, Oklahoma.



as 'Bonfire' and 'Green Mountain'. That description is only half right. By laboratory measurements the leaves of 'Green Mountain' are thicker than those of 'Legacy'. They are also much larger and have a longer petiole, thus exposing them more to wind and other elements. In a recent article in the *International Journal of Plant Sciences*, University of Nebraska researchers Liz Conley and Ellen Pappozzi concluded that the 'Green Mountain' leaves have a spongier mesophyll—the middle layer of cells—which makes them softer and more apt to tear than those of 'Legacy'.

The orange-yellow fall color of the two Wandell cultivars begins in mid-October, with 'Legacy' coloring about a week before 'Commemoration'. 'Legacy' has a dense, more compact crown that lends itself to rather formal landscapes, whereas the more vigorous 'Commemoration' forms an oval shape, maturing at 50 feet with a somewhat spreading crown.

A southern ecotype of *A. saccharum* occurs in isolated areas such as Red Rocks Canyon near Hinton, Oklahoma, 45 miles west of Oklahoma City. Called the Caddo maple after the county in which Hinton is located, it has been the subject of many scientific papers. Taxonomists have debated its relationship to the typical eastern subspecies of sugar maple, *A. saccharum* subsp. *saccharum*, and the western sugar maple or canyon maple, *A. saccharum* subsp. *grandidentatum*, but most classify it closer to the former. It has adapted to the arid Southwest by forming smaller leaves, which in itself may help explain its tolerance to the drought, wind, and heat of the prairie. The largest known specimen is approximately 50 feet tall with an equal spread. A 90-year-old resident, Cecilia

Porter, remembers that it was growing in the front yard of her family home when they moved to Hinton in 1909.

Seedling Caddo maples have proven variable in habit, although they tend to be a bit more columnar than the species, and sometimes initially quite slow growing. (This is thought to be because of a high root-to-shoot ratio, in which a young plant puts more of its energy in establishing roots than in putting out branches). Since they evolved in a southern climate, their spring growth begins early and their leaves tend to stay green late. But when fall coloration begins, around November 1, the leaves can be a beautiful deep maroon (classified as "grayed red" using the Royal Horticultural Society color charts). At the Kansas State University Horticulture Research Center in Wichita, we are currently evaluating selections for early fall color. In more than 10 years of evaluations, the Caddo maple has shown superior resistance to both drought and leaf tatter, indicating that in the future it may be a good choice as an urban street tree.

A close relative, often listed as a subspecies of sugar maple, is the black maple, *A. nigrum*, which has drooping, leathery, clasp-shaped leaves. Its native range extends to western Iowa and northeast Missouri. 'Greencolumn', an upright, moderately columnar selection of the black maple, was discovered growing northwest of Des Moines, Iowa, by Bill Heard of Heard Gardens and was eventually patented by J. Frank Schmidt & Son Company of Boring, Oregon. George Ware, a dendrologist with the Morton Arboretum in Lisle, Illinois, has closely studied black maples and concluded—not surprisingly—that trees from the hotter and drier western edge of their range,



especially Missouri and Iowa, are best adapted for city use in the Midwest.

The black maple's stress tolerance mechanisms include a thick, waxy cuticle; a drooping, cupped leaf shape; and a downy lower surface. These seem to make the tree more tolerant than many sugar maples of street conditions, especially scorching winds and reflected heat from pavement. Its strong central leader produces short, sturdy branches that radiate outward from the main trunk. On a good site, it can attain a height of 65 feet with a spread of 25 feet. The leaves emerge light green, turn darker in summer, and become orange-yellow in fall. It is definitely hardy in USDA Zone 4 and worthy of trial in Zone 3.

No article on maples would be complete without including the red maple, *A. rubrum*, one of the most common native trees of eastern North America. Its natural distribution extends west to Winnipeg in Canada and to the Dakotas and the Great Plains in the United States. But because it performs best in moist soil and can tatter severely in high winds, the species is not an ideal landscape tree for most areas in the Plains states. In addition, the leaves are subject to scorch, and the bark to sunscald.

Nevertheless, landscapers and growers have used red maple extensively, so it was only a matter of time until selections with superior form and color would emerge. One of the most popular is 'Franksred', introduced in 1966 by Schmidt and trademarked Red Sunset. Davis Sydnor, conducting shade tree trials at the Ohio Agricultural Development Research Center in Wooster, gives it high ratings for its strong branch angles, and Wandell, in his *Handbook of Landscape Tree Cultivars*, calls it "the standard for red maple cultivars."

Possibly outdistancing Red Sunset in the marketplace is 'October Glory', introduced in 1961 by Princeton Nurseries in New Jersey and known for its persistent red fall color. Both selections have grown more than a foot a year for us in a decade of trials.

It is common for the red maple to cross naturally with its close relative the silver maple, *A. saccharinum*. Recent selections of these hybrids, given the interspecific name *A. × freemanii*, include 'Autumn Blaze', 'Autumn Fantasy', the trademarked Celebration, and 'Marmo'. The leaves tend to resemble those of the silver maple in having five deeply cut lobes, and some growers believe the hybrids are also more tolerant of stress than the typical red maple. There is a botanical variety, *A.*

*rubrum* var. *drummondii*, native to Arkansas, Missouri, Texas, and Louisiana, that has more leathery leaves with pubescent undersides. While these traits would seem to indicate potential drought tolerance, it is rarely in cultivation.

When choosing non-native trees for a landscape, it is wise to look for species native to an area with a similar climate. There are some parallels between our Plains and arid parts of Asia, especially China. Many Asiatic maples offer considerable heat and drought tolerance and vivid fall colors, and their small to medium stature makes them ideal for the average-sized landscape.

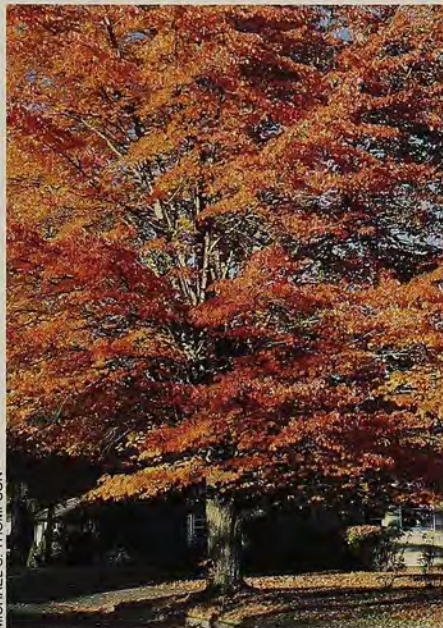
The amur maple, still listed by most references as *A. ginnala*, has recently been reclassified as a subspecies, *A. tataricum* subsp. *ginnala*. While the leaves of Tatarian maple, *A. tataricum*, lack the long middle lobe of the amur maple, and it is reportedly more tolerant of clay and alkaline soils, it is very similar in other respects.

A native of northern China, North Korea, and Japan, the amur maple is small, usually low-branched, and very hardy. It tolerates a wide range of soil conditions, although its leaves may become chlorotic in alkaline soil. It is perhaps most noted for its conspicuous red samaras—seeds with membranous wings—in summer, and its dependable early fall color in spectacular hues of orange and bright red, ranging sometimes to almost pink. It is also one of the few maples with fragrant flowers.

The cultivar 'Flame', introduced by the U.S. Soil Conservation Service, is grown from seed and consequently can be some-

*Red maple, below left, is one of our most common native trees, but to avoid leaves that tatter and scorch, gardeners in the Plains should select one of the many named cultivars.*

*The amur maple from Asia, below, is small, tough, and has fragrant flowers.*



MICHAEL S. THOMPSON



JOSEPH G. STRAUCH JR.



Top: The low-branching hedge maple can be used for that purpose or pruned into a more treelike form. Above: Shantung maple in fall.

what variable in color. Vegetatively propagated clones, which are more predictable in form and fall color, include two selections from Bailey Nurseries of St. Paul, Minnesota. The densely branched 'Bailey Compact' is suitable for large, untrimmed hedges, but buyers should be aware that it gets bigger than the seven to eight feet initially advertised, possibly to 10 feet or even 12. Also recently introduced by Bailey is *A. tataricum* subsp. *ginnala* 'Embers', which has especially pronounced red samaras and fall foliage that is more red than orange.

Trident maple, *A. buergerianum*, is a small, spreading maple native to eastern China and Japan, with fall color that may vary from yellow to dark red and maroon. An added attraction is the somewhat mottled and peeling bark that the tree develops as it ages. It is moderately cold hardy through Zone 5, but should be planted in a site that gives it some shelter from hot winds. The bark is susceptible to sunscald on the south side of the trunk if exposed to bright sun in winter, so should probably be wrapped for its first few years.

The hedge maple, *A. campestre*, grows in an extensive range across Europe and Asia. As its common name implies, it is often used in hedges in Europe because of its small, dense stature with low branching that persists unless it is pruned into a more treelike form. Its fall color is yellow at best, but it partially compensates with very corky twigs that are attractive in winter. It is very tolerant of drought and alkalinity, but will also do well in slightly acid soils. We have grown a budded selection, 'Queen Elizabeth' from Schmidt, here in Zone 6; it is a bit tender north of Zone 5.

A closely related species is the Miyabe maple, *A. miyabei*, a medium-sized tree from Japan. Lanny Rawdon, a former Braniff Airline pilot with a fascination for botanical gardens and now owner of Arborvillage Farm Nursery in Holt, Missouri, calls *A. miyabei* a "tree for the future." Densely conical to open in habit, it has tough, glossy, insect-resistant foliage that changes abruptly in fall from green to vivid yellow.

Although the species has been described as needing moist soil, three seedlings that we grow in an open, windswept site have done well with only occasional watering. Unfortunately, the Miyabe maple is quite difficult to find in the trade, due to its slow growth and difficult propagation. The Morton Arboretum has developed a cultivar, trademarked State Street by Chicagoland Grows, that is hardier and more uniform in growth

habit than the species, but the supply is currently very limited.

A relative newcomer to the Midwest and Southwest is the Shantung maple, *A. truncatum*. It is also called the purpleblow maple, referring to the purple pigment in its foliage when it first leafs out. Native to northern China, Japan, and Korea, it first came to our attention in 1973 as an introduction from the U.S. Department of Agriculture. It is well suited to hot and dry regions of the Southwest, even California and Utah, and has great promise for the Plains and for tough urban sites. Its other attractions include profuse greenish yellow three-inch corymbs—flat-topped inflorescences—appearing in May after the leaves are out. The five- to seven-lobed leaves resemble those of sweet gum (*Liquidambar styraciflua*). Fall color, which occurs in late October or early November, ranges from lemon yellow to deep maroon.

Its seedlings vary considerably, and it hybridizes naturally with the closely related Norway maple, *A. platanoides*. Two such hybrids, selected for their purplish new foliage, are the trademarked Norwegian Sunset and Pacific Sunset. Hybrid selections we have tested don't tolerate the stresses of late summer as well as the Shantung maple species, although the *A. truncatum* influence seems to make their leaves less apt to tatter severely in the Plains than typical Norway maple selections.

Many other maple species and cultivars are worthy of consideration by gardeners, nurserymen, and landscape architects. Those described here were chosen because they can tolerate the extremes of the Heartland. Their toughness and attractive features may make them excellent choices for other parts of the continent as well.

*John Pair is a research horticulturist at the Kansas State University Horticulture Research Center.*

## SOURCES

Arborvillage Farm Nursery, P.O. Box 227, Holt, MO 64048, (816) 264-3911. Catalog \$1.

Owen Farms, Route 3, Box 158-A, Ripley, TN 38063-9420, (901) 635-1588. Catalog \$2.

Sunshine Nursery, Route 1, Box 4030, Clinton, OK 73601, (405) 323-6259. (Not normally mail-order, but has agreed to ship maples to our readers.)

# Lively Clivias

*In the ground or in pots, they'll add zing to a shady corner.*

B Y J O H N E . B R Y A N

Each time I travel down the section of South Africa's eastern coast known as the Garden Route, I hope to spot growing along shady ledges and ravines, or in forests where mists swirl in the early mornings, the magnificent *Clivia miniata*. But because I generally travel in October, although I sometimes glimpse the foliage, I am no doubt just a bit too late to catch these plants in flower.

Yet it is not an uncommon plant and has a wide distribution from Natal south through Transkei to the eastern Cape. It is also reported to grow in Swaziland, but here again I have been unlucky and have not found it in the wild. One will frequently see it in cultivation, however, since in South Africa, as in warmer parts of the United States, it is a popular garden plant.

With each annual trip to South Africa, I wonder if one day I will enter the woods along the escarpment of the Drakensberg Mountains or in the Transvaal's Lowveld and see *Clivia caulescens* in flower. This robust forest perennial is reported to grow three feet tall in the deep rich humus of the forest floor, and even as an epiphyte in the forks of trees where a generous layer of organic material has built up. The possibility of seeing such wonders draws me back each year to this part of the world, which is truly a plantsperson's paradise.

But I am getting ahead of myself.

The genus was named for Lady Charlotte Florentina Clive, the Duchess of Northumberland, who lived in the first half of the 19th century. She was the granddaughter of the colonialist Robert Clive of India (1725-1774), who became Baron

Clive of Plassey. The duchess lived in Syon Park, near Chiswick just across the Thames from Kew Gardens. The property, which still belongs to the Duke of Northumberland, was landscaped by the famous "Capability" Brown around 1770.

It's uncertain who brought the first clivia to Europe, but we do know that it was described in an 1838 issue of *Curtis's Botanical Magazine* by John Lindley, who in 1822 had been appointed assistant secretary of the Royal Horticultural Society's new garden at Chiswick. Only 23 at the time of his appointment, he had already served as library assistant to the famous naturalist Sir Joseph Banks, one of the founding members of what would become the Royal Horticultural Society. Lindley named the new plant *Clivia nobilis*.

Members of the amaryllis family, clivias are evergreens with straplike leaves, some erect and some spreading. Two of the four species have foliage held tightly together at the base to form a short stem, while the others are stemless or nearly so. They qualify as bulbs only in the very broadest sense, on the basis of having lower stems slightly modified for storage.

In its native land it is called *boslelie*, meaning wood lily. At least one species, *C. miniata*, is used to treat snake bites. Its roots are used to reduce fevers and the leaves to hasten the onset of labor. Just how it is administered is unclear, as I have been unable to find any record of the plants being eaten.

*C. miniata* is by far the most well-known and most available commercially. In 1854, specimens were sent to Backhouse's Nursery in York, England, by one Andrew Sted-



ELVIN McDONALD

*Though the species name means vermilion, Clivia miniata is more likely to have orange blooms when grown in the United States. Hybrids like the one pictured above come in a range of colors, such as pink, yellow, green, and apricot.*

## WORTH THEIR WEIGHT IN GOLD?

A yellow-flowered clivia, *Clivia miniata* 'Sir John Thouron', created quite a stir in horticulture circles last spring when White Flower Farm sold a limited number of plants for the extravagant price of \$950 each. Plants were expected to "send up at least one flower stem from which will open a sumptuous cluster of primrose yellow flowers," according to the cultural instructions from White Flower Farm.

The clivias were already several years old and expected to bloom this year. As the cultivar name suggests, the plants were propagated from a clivia brought to this country by Sir John Thouron, whose Pennsylvania estate boasts an extensive collection of rare plants. The origins of the plant remain a mystery.

Several years ago Thouron donated some clivias to Longwood Gardens in Kennett Square, Pennsylvania, where they were divided into 90 plants and grown to bloom size. Half were shipped to White Flower Farm in Litchfield, Connecticut, for sale through their catalog. The nursery has a few 'Sir John Thouron' clivias still available; they will be listed in the Christmas catalog (see "Sources").

Fortunately for gardeners with more humble budgets, there are sources of less expensive yellow clivias—and other colors to please the eye. In fact, California grower Dave Conway says, "Don't get carried away with yellow." According to him, there is a whole range of exciting colors in clivias.

After being mentioned in an article in *Pacific Horticulture* two years ago, Conway was inundated with buyers for his unnamed red clivia, peach-colored 'Tessa', and 'Sara' cultivar with pale salmon flowers that turn pink—all of which are crosses between *C. miniata* hybrids. He now limits the number for sale because these plants can only be propagated by division.

In his search for a green flower, Conway developed a clivia with upright blooms—some orange with green tips and others pure green. His main goal has always been to develop a purple flower. In the meantime, he has 22 different yellow cultivars for sale, blooming seedlings of which can be had for the relatively inexpensive price of \$100 each. When available, he sells divisions of the cultivars as well. Many of his selections are fragrant, some with a strong lily scent.



PHOTOS COURTESY OF ROGER BODDAERT

*Clivia miniata* × 'Yellow California Sunshine', above left, is the result of a 25-year hybridizing effort by Roger Boddaert. *C. × cyrtanthiflora* 'Orange Drops', above right, bears pendulous blooms on stalks up to three feet tall.

Another West Coast nursery, Protea Farms of California, offers *C. × cyrtanthiflora* 'Orange Drops', an indoor plant with reddish orange, green, and yellow pendulous flowers that bloom two to three times a year; *C. miniata* × 'Yellow California Sunshine', which has a very large umbel containing many flowers; and *C. miniata* × 'Yellow Re-Bloomer', which struts its stuff in spring and again in the summer months. Owner Roger Boddaert says he is currently rebuilding his stock in colors such as red, pink, pale apricot, and pastels. The plants mentioned above are in limited supply and range from \$250 to \$350 each.

"We also have a landscape business and use clivias extensively," says Boddaert. "Of course, they make a better interior plant on the East Coast."

Protea Farms of California also sells many other South African plants. For information on contacting either Protea Farms or Conway's Classic Clivias (which has just printed its first mail-order catalog), see "Sources."

—Terri J. Huck  
Assistant Editor

man from Natal, perhaps a gardener with the Dutch East India Company at the Cape, and created quite a furor. When John Lindley saw it, he did not recognize it as a clivia and called it *Vallota miniata*, honoring Pierre Vallot, a French botanical author who died in 1671. In 1864 German botanist Eduard August von Regel set the taxonomic record straight.

The species name means cinnabar red, or vermilion. Such a deep red is often seen in South Africa, where the foliage too, normally a pleasant green, becomes a deeper color, almost purplish green, perhaps due to the higher level of ultraviolet light. Here in the United States, the flowers are more commonly an orange-red or even paler orange. The centers are light yellow to almost white.

Lindley may have been misled by the shape of the flowers, which on other clivias tend to be pendulous tubes, but in *C. miniata* are more bell-shaped and face outward. Each is two to three inches across, so that an umbel of 10 to 20 flowers plus buds can be more than eight inches in diameter.

Although this species has been called stemless, if you examine its base you will find a very short stem. From any one stem—after a few years a grouping of several will be formed—there will be as many as 30 leaves up to three feet long and arranged in vertical rows (distichously).

Strictly speaking this plant should be called *C. miniata* var. *miniata*, as there is a lovely lemon yellow botanical variety, *C. miniata* var. *citrina*. Yellow forms are highly prized—and priced. This spring a selection, 'Sir John Thouron', was offered at more than \$900. (See sidebar.) It is attractive, but so is a healthy bank balance.

In the wild, the flowers of *C. miniata* appear in September and October, which is spring in South Africa, but they will often produce sporadic flowers throughout the year. In my garden in San Francisco they bloom from November to March or April. As if to remind me of their reblooming tendency as I write about them in late July, one plant has produced a flowering head.

The species that flowers longest in the wild, from August through January (late winter into mid-summer), is *C. nobilis*. At home in the coastal forest of the eastern Cape up into the Transkei, it produces two ranks of leaves, each about two feet long and almost three inches wide. It is not unusual to find as many as 40 flowers on one of the strong stems, but as they all arise from the top of the stalk, they are crowded together so the inner ones are denied the



JOHN E. BRYAN (LEFT), ELVIN McDONALD (RIGHT)



SAXON HOLT

chance to open and display themselves well. The tepals are red to reddish orange, fading to green at their tips and with a hint of yellow along their margins. It's fascinating to speculate how long mature specimens of this one would bloom in mild-climate gardens if they were widely available.

The exceptionally dark green foliage of *C. caulescens* makes a great foil for its brilliant dark orange to red pendant flowers. The tips of the tepals are yellow-green. These two-inch-long narrow tubes have a curve to them and a waxy look, so that they resemble miniature bananas. As many as 15 flowers may appear on the strong, slightly flattened stalk. While I have only seen them reaching 18 to 20 inches tall, they are reported to grow to three feet. When the plant matures, it exhibits a more distinctly aerial stem. On its home ground it flowers from October through December. Its long bloom time combined with its unusual flower make it another excellent candidate as a pot plant.

A species I have not seen is *C. gardenii*, a native of the Transvaal and Natal that was introduced in 1862. It is not very tall at only 18 to 24 inches, and rarely produces more than a dozen funnel-shaped flowers per umbel. These are up to three inches long, red tinged with orange or yellow, with a distinct yellow margin at the tips.

Nor have I ever seen the hybrid between *C. miniata* and *C. nobilis* called *C. × cyrtanthiflora*, introduced in 1877. No one seems to know where it came from, but it is not a naturally occurring hybrid and may quite possibly be a selection of *C. nobilis*, itself a variable species. It is described as 18 to 24 inches tall with salmon or orange flowers that have outer segments much wider than the inner segments.

All species need rich soil with a generous amount of well-rotted organic matter. In pots they need good drainage and should

*Clivia nobilis*, above left, blooms for up to six months in its native South Africa. The availability of yellow hybrids, above, has created excitement among gardeners. In mild areas, clivias make a stunning addition to the garden, above right.

be allowed to remain undisturbed for years. I have some *C. miniata* that have been in the same containers for 15 years. Although I feed them regularly with organic fertilizer when they are not in flower, I often wonder just why they are so healthy, since they are so crowded it doesn't seem that there can possibly be any soil left. Yet as long as they thrive, I do not intend to transplant or repot them.

If you want to increase your stock, however, division is the best way to do so. After your plant has finished flowering, simply lift it and pull the clumps apart. Replant them with the base of the leaves just at or slightly above the soil. If you plant too deeply, the base of the leaves will rot. It will take the divisions at least a year to "settle in" and bloom again.

Water clivias throughout the year but fertilize only when they are in growth and stop when the flowers begin to appear. (Several books say feeding is needed when they are in flower. I do not agree with this.)

My potted clivias put on a good display in warm indoor temperatures, blooming for at least a month. They do not object to being taken back outside afterwards, showing no sign of shock despite temperature differences of up to 25 degrees. Indoors or out, their foliage should never be exposed to direct sunlight or it will quickly burn.

In my garden, clivias produce fruit but it seldom ripens. Ripe fruit turns bright red, and once the fleshy pulp is removed the seeds will germinate easily. This is a fortu-

nate trait for plants in the wild, since their fleshy rootstock is food for a number of rodents. Seedling plants will take some four years to reach flowering size.

Much admired in Victorian times, clivias are still valuable today as house plants and for gardens in mild climates. They bring color to shady areas in late fall and winter, and in summer their dark green leaves provide a pleasing contrast to the rather gaudy colors of annuals. It would be wonderful if commercial growers would look into the lesser-known species, so that more of us could enjoy the little "bananas" of *C. caulescens* and the free-flowering of *C. nobilis*. Perhaps the publicity surrounding the yellow form will pay off for all of us in bringing attention to this wonderful genus.

Among John E. Bryan's books is the two-volume *Bulbs*. He was the first American named a Fellow of the Institute of Horticulture in London.

## SOURCES

- Conway's Classic Clivias, 2324 Santa Barbara Street, Santa Barbara, CA 93105, (805) 682-7651. Nominal fee for catalog.
- Logee's Greenhouses, 141 North Street, Danielson, CT 06239, (203) 774-8038. Catalog \$3.
- McClure & Zimmerman, 108 W. Winnebago, P.O. Box 368, Friesland, WI 53935, (414) 326-4220. Catalog free.
- Protea Farms of California, P.O. Box 1806, Fallbrook, CA 92088, (619) 728-4297. Catalog \$2.
- Southern Exposure, 35 Minor Street, Beaumont, TX 77702, (409) 835-0644. Catalog \$5.
- White Flower Farm, P.O. Box 50, Litchfield, CT 06759-0050, (800) 503-9624. Catalog \$5.

# *A Passion for* Pelargoniums

*In West Virginia, Faye Brawner  
is the last hope for an unrivaled collection  
of heirloom geraniums.*

B Y D A V I D J . E L L I S

Modern nurserymen and plant breeders would call them the dinosaurs of the pelargonium world—outdated, finicky plants whose popularity was based on the habits and interests of long-vanished gardeners. To Faye Brawner, who has spent most of her life collecting and maintaining what is arguably the largest collection of antique and heirloom pelargoniums in North America, they are an irreplaceable source of history and germplasm.

It seems a geographical oddity that this collection of a genus mainly indigenous to southern Africa should end up in rural West Virginia. Yet about an hour and a half south of Morgantown, near the town of Buckhannon, more than 5,000 pelargonium species, cultivars, and hybrids crowd a 100-by-30-foot greenhouse on 135 acres that Brawner and her husband, Herman, moved to in 1991.

Over nearly 40 years, Brawner's commitment to preserving the plants has led her to carefully pack up and move the burgeoning collection to 12 different homes from coast to coast as her husband, first in the U.S. Marine Corps and then a forester for Louisiana Pacific, changed assignments.

After so much traveling, the couple finally appear ready to gather moss on their

beautiful ridge-top property. Yet Brawner is unsettled about the future of her collection. Slowed by a series of operations on her knee, she realizes she won't be able to maintain the plants forever. "I'm not a young girl anymore. It's very, very difficult for me to keep it up, but if I don't keep it up, there's nobody that will," she observes phlegmatically. The constraints are not just physical. The collection—which her husband affectionately terms her "expensive back-yard hobby"—costs the couple between \$5,000 and \$10,000 per year to maintain, minimally subsidized by Brawner's mostly word-of-mouth mail-order business, Deerwood Geraniums.

Brawner would like to ensure that her collection finds a more permanent home, preferably where it would be both available for public viewing and serve as an ongoing resource for breeders and growers. "My main fear is that many of these old cultivars will disappear. I keep hoping someone will come along and preserve them, as they have done in England with the National Pelargonium Collection," she says. There are few remaining germplasm sources for some of the old selections she has been harboring, including many cultivars rescued from the collections of other breeders who have died or gone out of business. Noting the resurgence of interest



MICHAEL VASSAR/INTERNATIONAL GERANIUM SOCIETY

in the genetic diversity offered by heirloom vegetables, Brawner believes preserving germplasm from older pelargoniums may be important in future breeding work. "Some of these plants go back to the seventeen- and eighteen-hundreds. That tells you they are pretty sturdy," she says.

Something is in bloom in Brawner's greenhouse nearly all year long. On entering the double-layered poly-greenhouse it is difficult not to be amazed by the multitude of plants that cover every inch of bench space, hang in double rows from the ceiling, and poke up into the aisles from beneath every bench. A sparkling array of white, pink, red, orange, purple, and multicolor blossoms highlight the green, gold, white, and bronze hues of the foliage. Less pronounced, yet tantalizing, is the mingled fragrance of the scented geraniums.

Pelargoniums are known as geraniums by most Americans even though the two are distinct genera within Geraniaceae, the geranium family. As opposed to the tender



DAVID J. ELLIS

pelargoniums, mostly native to South Africa, true geraniums belong to a more cosmopolitan, generally hardier genus more commonly used as outdoor bedding plants. Brawner's specialty is pot-quality or windowsill pelargoniums.

Although the plants don't appear to be in any particular order, Brawner knows exactly where each one is, its history, its star qualities, and its foibles. She has them arranged, as best she can in the tight quarters, by group—the delicate-blossomed angels, the sprawling stellars with their star-shaped leaves and flowers, the wonderfully fragrant scented-leaf geraniums, the familiar ringed-leaf zonals, the tightly clustered blossoms of the rosebud-flowered geraniums, the curiously beautiful species pelargoniums, and the startling variety of gold, silver, and bronze fancy-leaf selections. Although many of the plants are rangy, full-size stock plants, dotted here and there are dwarf specimens and newly potted cuttings.

Despite her knee surgeries, Brawner is still vivacious and active and manages to juggle numerous projects around the greenhouse, yard, and house. She has an easygoing, practical nature, but her passion for her plants and her determination to preserve them bubble to the surface readily. She has strong feelings about current trends in breeding and has been known to fire off letters to nursery owners and editors she feels have misidentified plants or perpetuated nomenclatural errors.

As an example, she cites the use of the term "Lady Washingtons" or "Martha Washingtons" to describe a group of pelargoniums—properly known as regals—derived from the hybrid *Pelargonium* × *domesticum*. "They were never known as that anywhere but in the United States. In this country, one of the first regals that became available on the East Coast in the '30s and '40s was named 'Martha Washington'. It became very popular and because of that the whole group

*Faye Brawner, above, has amassed more than 5,000 pelargonium selections in her West Virginia greenhouse, many of them rare heirloom cultivars. Among the nearly 50 she has introduced is 'Mosaic Silky', above left, which has variegated leaves caused by an otherwise harmless virus.*



became known by that name.”

Scented geraniums are becoming another misnamed group, she says. “Many nurseries have their scented geraniums listed as species, but most of them are of unknown origin or crosses. The feeling among nurseries seems to be that they have to have a botanical name after them, but that is simply incorrect in many cases.”

An early influence on Brawner was her mother, who grew rosebud pelargoniums when Brawner was growing up in Jacksonville, Florida. After completing nursing school at Louisiana State University in Baton Rouge and working for the Red Cross, Brawner met and married her husband, who was in the Marine Corps at the time. In 1958, the couple moved to San Diego. There she joined the Los Angeles chapter of the International Geranium Society and her nascent interest blossomed into a lifelong passion.

“The ’60s and ’70s were the golden age of pelargoniums in the United States—there were branches of the IGS in almost every state,” she says with a touch of regret in her voice. “They had a lot more members back then. Now there are about 1,000 members—mostly from the West Coast but with two or three hundred members from overseas.” On weekends and holidays, she traveled up and down the West Coast meeting breeders and other pelargonium enthusiasts and slowly building her own collection. Caring for plants was a way of relaxing from the high stress of her job as an operating room supervisor. It was during this period that she met two men who were to have a profound influence on her life—Holmes Miller and William E. Schmidt,



PHOTOGRAPHS BY MICHAEL VASSAR

*Pelargoniums offer an array of colors, sizes, shapes, and smells. ‘Scarlet Gem’, top, is a stellar, distinguished by star-shaped leaves and flowers, while citrus-scented ‘Galway Star’, above, features crinkled leaves with a cream or white border.*

consummate pelargonium growers and breeders who lived in Los Altos and San Francisco, respectively.

“I was fascinated when I saw things like ‘Fairyland’—the first miniature tricolor, bred by Miller,” she says. With the encouragement and tutelage of Miller, Schmidt, and others, Brawner started breeding on her own. To date she has introduced close to 50 selections, mostly stellars, dwarf zonals, and angels. It’s painstaking and sometimes frustrating work. “For every successful introduction I’ve probably thrown away about 300,” she says. Many of her selections are propagated and sold by larger nurseries, including Shady Hill Gardens in Batavia, Illinois, and many in England. A lot of her breeding focuses on developing low-growing, compact versions of popular cultivars that tend to get too bushy. “I’m trying to breed dwarf plants so people can really grow them on their windowsills,” she says.

The pelargonium boom in America started going bust in the 1970s, seemingly a victim of changing gardening practices and increased competition among nurseries. Miller died and Schmidt retired and a lot of the nurseries that had specialized in pot-quality geraniums started going out of business. “At the time there were 40 to 50 pelargonium nurseries in California alone, but now they are almost all gone,” she says. “I started noticing a lot of the old cultivars being lost as the interest started shifting from fancy pot culture to bedding types.” According to Brawner, the death knell for pelargonium diversity came in the early 1980s, when several large wholesale nurseries began flooding the market with bedding pelargoniums.

As competition increased among commercial nurseries, the variety of plants they carried decreased. “They started carrying only one or two of the easier ones to grow, like ‘Wilhelm Langguth,’” says Brawner, “and the variety of pot-quality fancy geraniums slowly but surely eroded because the older zonals won’t take the abuse of being planted outside in, say, Kansas.”

That trend has continued into the ’90s. Brawner says that in striving to achieve consistent qualities in pelargoniums, many nurseries are developing F<sub>1</sub> hybrids, created by a cross between two purebred strains. “I think they are ghastly. People are not interested in anything but bright red and salmon-colored ones,” she laments.

Brawner says the last of the big pelargonium retailers, Shady Hill Gardens,



# F A Y E ' S F A V O R I T E S

For pot or windowsill plants, Brawner recommends the following pelargoniums, divided by group, as both wonderful performers and fairly easy to grow:

**ANGELS:** A complex cross between regal geraniums and the lemon-scented *Pelargonium crispum*, angels have showy, but smaller, regal-type flowers (see below), and some retain the lemon scent. "These are ideal as hanging-basket plants, but can also be pruned to stay in a four-inch pot," says Brawner. Most are not very heat tolerant; she recommends 'Sancho Panza', which has velvety purple flowers with pink or white edges, and 'Caravan', which has pale pink flowers with a rosy purple splotch on the upper petals. "In cooler areas, angels will bloom almost constantly," she notes.

**BIRD'S-EGG-FLOWERED:** Derived from zonals (*P. × hortorum*) and wildly popular in Victorian England, these geraniums have small rose or pink dots on the petals. Brawner says 'Mrs. J.J. Knight', with single white to pale pink speckled flowers, "can be kept low and blooms well in low light, so it's good for winter."

**CACTUS-FLOWERED:** Akin to zonals in foliage and habit, these are so-named in old catalogs because the person who bred them thought their flowers, which have long, narrow, twisted petals, resembled those of a cactus dahlia. Brawner recommends 'Attraction', a light salmon, double-flowered cultivar with fine lines running the length of the petals, and 'Star of Persia', which has double flowers that are a blend of crimson and purple.

**DWARFS/MINIATURES:** Bred to stay small, these zonals are ideal for windowsills. Miniatures should get no bigger than five inches tall; dwarfs typically reach six to eight inches tall. "The best new English one is called 'Just William', a delightful plant with red flowers and green and gold leaves," says Brawner. 'Fairyland', a red-flowered tricolor with silver-edged leaves zoned with irregular splashes of rose, is a more difficult, collector's plant. Brawner also recommends 'Fairy Storey', which has a silver tricolor leaf with green center and red zoning.

**FANCY-LEAFS:** These are zonals, often called tricolors or bicolors, bred for the rings of color on their leaves. Semisunny locations and cooler temperatures enhance foliage colors. Brawner recommends 'Mrs. Pollock' (yellow border, red and brown zone, double red flowers), 'Skies of Italy' (sharply lobed, maplelike leaves with yellow edge, irregular red and brown zone, red flowers), and 'Lass O'Gowrie' (pale ivory edge with purple and brown zone, red flowers, heat tolerant), also available with an ivy-shaped leaf. "These get big but can be pinched back."

**FORMOSUMS, OR FINGERED-FLOWERED:** Sometimes mistakenly labeled as stellars, this group has fernlike, deeply lobed leaves and unusual daisylike petals. The first plant, a cultivar called

'Formosum', was found growing at a hotel in Mexico. Brawner recommends one of her own cultivars, 'Deerwood Wildfire', which she describes as a heavy blooming "dense miniature" with single red flowers.

**IVY-LEAFS:** Cultivars of *P. peltatum*, with a trailing habit ideal for hanging baskets, these are named for the resemblance of their leaves to those of true ivy. Brawner likes 'Rio Grande', which has deep burgundy, almost black, double flowers. She also recommends 'Mini Lilac Cascade', 'Mini Red Cascade', and 'Mini Rose Cascade', a series of dwarf ivy-leaves that "bloom prodigiously hung under the eaves of the roof or under the deck, as long as they get a little morning sun or reflected light." Another in the series, 'Mosaic Mini Red Cascade', has variegated leaves caused by an introduced virus.

(Breeders have discovered two apparently harmless viruses that cause variegation on pelargonium petals and leaves. The so-called "petal-stripping virus" causes patterning on otherwise solid petals. The mosaic, or vein-clearing, virus creates a distinctive white or yellow pattern that highlights the veins on pelargonium leaves. Both viruses are transferred by grafting a cutting infected with the virus onto a prospective host.)

**REGALS:** Derived from *P. × domesticum*, regals "like a six-inch pot and most take a fair amount of room," says Brawner. Regals have large, showy flowers with flat or slightly ruffled petals. They

thrive in the cool, maritime climate found in parts of the West Coast or New England, but tend to stop blooming in the summer heat of the East and Midwest. Brawner recommends 'Fringed Aztec', a lower-growing regal with white flowers striped with purple, and 'My Chance', which "has a lovely deep purple, trumpet-shaped flower with a neon red throat." She says breeders are working on more heat-tolerant cultivars.

**ROSEBUD-FLOWERED:** These are distinguished by their double, tightly furled flowers that resemble a half-open rosebud. Brawner recommends 'Garnet Rosebud', a compact plant with deep red double flowers, and 'Appleblossom Rosebud', which has long-lasting, white double flowers edged in red.

**SCENTEDS:** There are hundreds of these cultivars derived from species pelargoniums in a myriad of scents, but most grow too large for windowsill or indoor pot cultivation. Brawner recommends *P. odoratissimum*, an apple-scented species with compact growth ideal for sunny windowsills. "If room is available, *P. tomentosum* is a gem," she adds. "It has large velvety leaves, a strong peppermint scent, and will take shade."

**STELLARS:** Classed among zonals, stellars are remarkable for their star-shaped leaves and finely serrated star-shaped blossoms. Brawner recommends her own introduction, 'Deerwood Pink Aura', a compact miniature with white petals that have a pink halo, and the Australian cultivar 'Bon Bon', a miniature "windowsill stellar" with single red flowers.

—D.E.



Brawner's favorite selections include 'Ivy-Leaf Lass O'Gowrie', left, and 'Garnet Rosebud', right, the first dwarf rosebud, which was developed by the late California breeder Holmes Miller.



PHOTOGRAPHS BY MICHAEL VASSAR

## CARE AND PROPAGATION OF PELARGONIUMS

**SOIL:** Brawner says that as long as the plants are watered properly they will grow in almost any potting medium that drains well. Don't use unsterilized garden soil or compost with the rarer pelargoniums, however, because they are very susceptible to fungal wilts that can lurk there. Repot every two to three years or when the plant shows signs of stress.

**WATER:** According to Brawner, "The single biggest problem people have is that the plants sit in a saucer of water and their roots rot. They prefer fast-draining soils." Avoid overwatering but don't let the plants dry out completely between waterings. Do not mist pelargoniums, as it may cause rot.

**LIGHT:** In winter, plants should be in a window where they receive full sun most of the day. Plants that are outside in summer generally do better with morning sun and midday or afternoon shade.

**TEMPERATURE:** As Brawner points out, one of the joys of pelargoniums is they like the same temperatures as most of us: 70 to 80 degrees during the day and 50 to 60 degrees at night. Ivy leaf and regals prefer slightly reduced highs and lows in winter. As with most house plants, ensure good air circulation.

**FERTILIZER:** Fertilize regularly during the growing season—spring and summer—with a mixture slightly higher in phosphorus, such as a 5-10-5, to encourage blooming. Let plants have a rest period over winter.

**PROPAGATION:** Four- to six-inch stem cuttings are easy to root in a sterile soil mix with added perlite. Strip leaves and stipules—leaflike organs growing from stem nodes—from the lower half of the cutting and plant it so that at least one node is buried. Brawner says no rooting hormone is necessary, but keep cuttings evenly moist. Make sure cuttings get good air circulation. —D.E.

stopped doing mail-order at the end of 1993. Chuck Heidgen, who along with his wife, Mary Ellen, owns Shady Hill Gardens, says the mail-order business simply wasn't profitable enough to continue. He retains a collection of about 700 selections, however, "to compare with some of the newer varieties and to do some breeding work from time to time."

According to Brawner, the only mail-order nurseries that still offer a fairly diverse array of pot-quality or windowsill pelargoniums are hers, Logee's Greenhouses in Danielson, Connecticut, and Davidson-Wilson Greenhouses in Crawfordsville, Indiana. Davidson-Wilson's minimum order requirement of 25 plants deters some buyers.

Brawner says that in England and its former colonies, such as Australia and South Africa, "the market for pelargoniums is still very viable. In England they have two societies with a combined total of several thousand members. They do numerous flower shows and have a great number of commercial and amateur hybridizers. Many nurseries sell only pelargoniums. It seems almost everyone has a little greenhouse tacked on to the back of the house. Even in apartments, people take the time to have tubs of them in kitchen windows or grown under lights. We just don't seem to be that committed to growing these types of plants anymore."



PHOTOGRAPHS BY MICHAEL VASSAR

*Cactus-flowered cultivars such as 'Spitfire', above, have narrow, twisted petals.*

Yet Brawner points out that unlike the more popular tropical house plants, pelargoniums thrive in dry, minimally heated areas of the house. "They resent humid, junglelike air, preferring the same temperatures people like—50-degree nights and 70-degree days—much as they would get in their native Cape habitat or in parts of California like Santa Barbara, where regals can grow outside."

Brawner says Australia "has a pretty fair group of pelargonium growers and breeders that support several societies." It was the late Australian breeder Ted Both who developed what are now known as "stellars"—bushy plants distinguished by finely serrated starlike flowers and vaguely star-shaped, deeply lobed leaves. Australia boasts a handful of native pelargoniums, although some argue that these species may have arrived Down Under on the hooves of cattle shipped from South Africa.

That country's Cape region is native habitat for the vast majority of species, but Brawner says its remaining plants are "in very poor shape" because of farming and overgrazing. "A lot of potential new varieties will never see the light of day. There are no gene banks for pelargoniums, so there are leaf and bloom patterns for which the genes will be lost. The natives used many plants for medicinal purposes and those are also being lost."

The diminishment of the in situ gene pool saddens Brawner, but it is something she can do little about. What concerns her more directly is the steady attrition of heirloom cultivars. For many, she is the only source of germplasm, and her stock plants of rare cultivars are dwindling as she takes cuttings to fill orders. Some of the older cultivars are too slow-growing to provide more than a few cuttings each year. "With 'Fairylend' for instance, I can only get one to two cuttings a year, and you have to be very judicious—if you cut too much you can permanently damage the plant," she says.

Among the rarest specimens in Brawner's collection are her fancy-leaf pelargoniums. Portions of the leaves have zones that are various shades and combinations of white, yellow, red, and brown.

Brawner says fancy-leaf geraniums were popular in Victorian England because their gaudiness appealed to contemporary tastes. "Many hundreds of cultivars were developed—you can see the astounding number there were by looking in old catalogs—but a lot of those plants were lost in England during the First and Second World Wars."



*'Bette Shellard'*, top, is a tricolor fancy-leaf pelargonium. The speckled petals of bird's-egg-flowered pelargoniums such as *'Pink Bird's Egg'*, center, made them popular in Victorian England. *'Fairy Storey'*, bottom, is a miniature silver tricolor that has leaves with a green center, creamy white border, and red zoning.

Collected by California breeder Miller prior to the wars, some of these selections were among the plants willed to Brawner when Miller died in 1970. Since then, Brawner has donated many plants to plug gaps in the English National Pelargonium Collection, based at Fivrex Nursery Ltd. in Pebworth, England. In appreciation and in recognition of her lifelong experience with pelargoniums, Brawner was named to the English collection's board of directors.

To illustrate some of the amazing ways old cultivars have been preserved over the years, she tells the story of a green-and-white-leaved bicolor with red flowers that English missionaries or travelers apparently took with them to China in the 1800s. In the mid-1980s, a Chinese student gave one of the descendants of the plant to renowned maple breeder J.D. Vertrees, who lived in Roseburg, Oregon. Although the exact origin of the plant has never been traced, after some research it was identified as a long-lost heirloom geranium, and Vertrees donated a cutting to the English collection. "One of these colonists must have given a plant to a favorite friend or servant in China, and they preserved it within the family for more than a hundred years. That plant traveled all the way around the world," marvels Brawner.

Many of Brawner's plants have also logged some impressive mileage. Her husband's early career in the military and later his work with Louisiana Pacific as a forester meant that over the course of 37 years the couple moved from Texas to South Carolina to California to North Carolina, back to California, to Texas again, back to California again, to Montana to Washington to two places in Oregon, before finally reaching West Virginia.

In all of those moves, the Brawners had to deal with an ever-growing stockpile of plants. To reduce the load, Faye took only cuttings of most of her selections—except for a few especially rare mother plants—sticking them in two-and-a-half-inch pots. The pots filled plastic trays that went into wooden bulb boxes stacked 10 to 15 high. "We rented a van just for the plants, and we'd stop at every rest area to open the doors and give them air. Boy, the look on people's faces when we started pulling trays of plants out of the van!" laughs Brawner. The rarer or more tender specimens were transported in their station wagon towed behind the rental van, with shade cloth taped to the windows to reduce the heat. Their most recent move, from Oregon to

West Virginia, was made in April, so the Brawners took a southern route to keep the plants from freezing. "It took nine days. At night we'd open the truck at a rest area and air the plants out—they don't like stagnation. Our last night, in Kentucky, there was no rest area, so we hauled them out in the parking lot of a motel and watered them. We didn't lose a one. I've always hauled them, ever since I started collecting them. My mother used to say that plants are better travelers than most people!"

Now, in addition to taking care of her extended family of pelargoniums, and helping Herman maintain landscape plants not yet eaten to the ground by the apparently insatiable West Virginia deer, Brawner writes a regular column for *Geraniums Around the World*, a publication of the International Geranium Society. She also has her hands full working on two books—a co-authored book on scented pelargoniums for Interweave Press due out next year, and a solo effort on the geranium family for Timber Press, scheduled for publication in 1997.

This busy schedule doesn't keep her mind off her main concern—the steady attrition of pelargonium diversity. "One or two people might have 'Fairyland', but the collection as such is in a very sad state in this country. In the past 15 years hundreds of regal collections have been lost in California, where they grow well. You used to be able to get a large variety even in grocery stores, but now you only see a very few of the most successful types."

For now Brawner is willing and able to act as an unofficial caretaker of this slice of botanical history and germplasm. Although she remains optimistic that a place or organization can be found to preserve many of her treasured heirloom pelargoniums, she is all too aware that her collection is in danger of being consigned to the botanical equivalent of the tar pits.

*David J. Ellis is assistant editor of American Horticulturist.*

## SOURCES AND RESOURCES

To receive a Deerwood Geraniums catalog, send \$2 to Faye Brawner, Route 4, Box 525 A, Buckhannon, WV 26201, or call (304) 472-4203. Minimum order is six plants and \$20.

To join the International Geranium Society, send \$12.50 to the IGS, P.O. Box 92734, Pasadena, CA 91109-2734.

# El Jefe de las Plantas

*In southeast Arizona, an unconventional cactus fanatic spreads the low-water gospel.*

B Y M A R G I E M E L D M A N

**A**round the Arizona town of Bisbee, he's known as Cactus Dave or *El Jefe de las Plantas* (the Plant Boss). David Epele, a self-proclaimed "cacto-maniac," has a seven-acre back-yard cactus garden that is home to 750 varieties of high-desert plant life. It's his field of dreams. But it isn't intended to be a private retreat. Far from it.

By design, the garden is a "show-and-tell" laboratory where plants are introduced and studied to see which are suitable for landscaping the high desert—according to Epele, above 3,800 feet. "If the plants can't make it," he says, "they're dead."

The results are disseminated via Arizona Cactus and Succulent Research, Inc., a non-profit scientific and educational membership organization that Epele founded in 1985. Its 260 members, in 35 states and five foreign countries, share Epele's concern about water conservation and support his efforts to heighten appreciation of desert plants. They send him seeds and cuttings of plants to test. In return, they receive monthly newsletters ("Warning! Newsletters contain humor!"). Mixed among the desert lore, tall tales, and colorful characters, *Arizona Cactus News* also contains useful information on desert plants ("written in plain English, not Botanese"). Often it includes recipes for making tumbleweed salad or cactus juice (if you want the best, use pods of *Opuntia lindheimeri* var. *linguiformis*, known as the cow-tongue prickly pear).

That's the "tell" part. The "show" is for his visitors—he and two assistants guided some 3,000 groups last year—and the tours are free. (Why free? "Because something in the West ought to be free," he says.) Epele describes his garden, Arizona Cactus, as "the only botanical garden serving southeastern Arizona, southwestern New Mexico, and the Mexican border states of Chihuahua and Sonora."

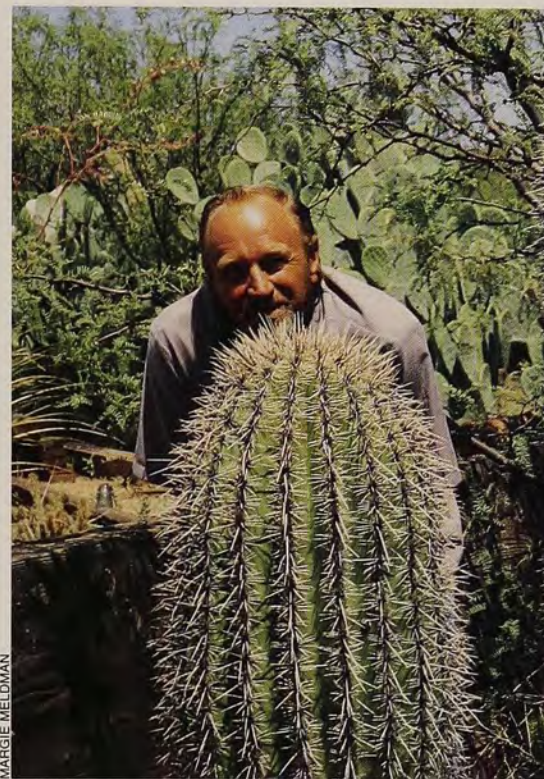
About 30 tour groups each year are from local schools. This is his children's crusade. Teach the children, he reasons, and hope they'll spread the word. He's said that his favorite students are "Elderhostelers and third-graders, because both really want to learn." Young visitors become members of Spike's Cactus Club, named in honor of the "Peanuts" cartoon character—Snoopy's brother—who lives in the desert and talks to saguaros.

Today the guests of honor are Maria Sexton's fifth-grade class from Bisbee's Lowell Middle School. Like all children on field trips, they're happy to be free from their normal routine, out in the fresh air and sunshine. For the next hour, Epele's back yard will be their classroom.

First stop on the cactus tour: an impressive prickly pear with a five-foot spread. *El Jefe* calls *Opuntia* "the most important plant in the desert." The first question anyone should ask when they venture into the desert, he explains, is "Where's the water?" Prickly pears



DAVID CAVAGNARO



MARGIE MELDMAN

*Left: The slow-growing Agave victoriae-reginae reminds David Epple of an artichoke. Above: Epple peeks over a saguaro cactus. Saguaros can't be grown in the high desert without winter protection. Epple covers his with 10-mil black plastic from mid-October to mid-March.*



**Top:** Old-man cactus, *Cephalocereus senilis* from Mexico, can reach 50 feet and has yellow-white, night-blooming flowers. **Above:** Epele greets fifth-graders arriving at Arizona Cactus. **Top right:** *Agave ferox* makes an eye-catching specimen.

can store water for up to two years.

With a knife, *El Jefe* cuts a prickly pear pad. To accompany the bologna-on-Wonder Bread and peanut-butter sandwiches stowed in their backpacks, the newest members of Spike's Cactus Club are about to eat—and drink—some cactus.

Sit down, kids. Let's do lunch.

After scraping off the spines and slicing the pads, Epele distributes the bite-sized pieces. "In Mexico, this is known as *nopalito*. It's used in salads and as a vegetable." Several of his luncheon guests make faces. The words "salad" and "vegetable" are not well-received.

"You'll see," he assures them. "It tastes like fresh baby peas right from the garden." Dubious looks. Furtive nibbles. Finally, reluctantly, most agree: "Not bad."

But Epele is not through. He's harvested prickly pear seed pods—known as *tunas*—and brewed a jug of neon-pink cactus juice for them to sample from tiny paper cups. "Tastes like Kool-Aid," declares the first in line. Sighs of relief greet this pronouncement. The cactus juice is a hit.

Epele knows that childhood experiences can shape lives, because he was the age of these children when his career in ethnobotany—the word hadn't been invented yet—began. During lunch, he tells the story.

He grew up in Gallup, New Mexico, and

his classmates, members of the Navajo, Acoma, and Zuni tribes, taught him "a different way of looking at nature." They knew interesting ways to use the desert plants: which ones you could eat, which were poisonous, which were used for medicine, and which for weaving cloth.

When he was nine, the nuns who ran his school were visited by an old friend, Edward F. Castetter, then head of the Department of Biology at the University of New Mexico in Albuquerque. Castetter was in the Gallup area to study native uses of plants and thought it might be a valuable experience for one or more of the students to accompany him. "He thought it would give us an opportunity to learn, to become more curious," Epele reflects today.

Castetter researched Native American desert lore by showing plant specimens to tribal elders. For the next six years Epele accompanied Castetter on field trips, preparing plant specimens and taking notes that the botanist later transferred to his field journals. "I knew nothing about plants," Epele says, "but I had been bored in school most of the time, although I didn't realize it then." Scribbling madly, he filled dozens of Big Chief nickel-tablets.

When Epele was 15 years old his father, a railroad conductor, was transferred to Belen, New Mexico. One day when David



was out “doing something I wasn’t supposed to do”—hitchhiking—he was offered a ride by a man named Denis Cowper. Cowper was a cactus expert who knew Castetter’s reputation, and he became Epele’s next mentor. The two spent years traveling throughout the Southwest and Mexico, collecting, mapping, and publishing the distribution of desert plants: cactuses, agaves, yuccas, ocotillos, bear-grass, and sotol.

It was on one of these trips that Epele first came to Bisbee. “Books said that the Chihuahuan desert ended at the Mexico border, but the plants didn’t know it, and we were finding fingers of the Chihuahuan into Arizona.” Bisbee’s elevation gives it considerably cooler summers than much of the desert. It is also wetter, with 16 to 17 inches of rain annually, and warmer in winter. Epele made note of the place, and 17 years ago moved here to begin building a botanical garden.

After lunch, the tour moves on to a giant yucca, where *El Jefe* explains the difference between cactuses—which have spines—and succulents, like yuccas, agaves, and ocotillos—which have leaves. Yuccas are important desert plants because their fibers are used for weaving, he notes. “And look at this soap-tree yucca. It grows throughout the Chihuahua desert. If you cut out a

small section of its root and mix it with water, you can make a shampoo that will get your hair squeaky clean.”

There’s much confusion among adult gardeners about the word “native,” since current conventional wisdom holds that endemic plants adapt better to difficult local conditions, especially drought. Epele points out to the children that most of the plants seen in his garden aren’t native to southeast Arizona. For instance, *Opuntia ficus-indica*, the spineless cactus, arrived from Cuba and the Dominican Republic with early Spanish priests and soldiers who had discovered its medicinal value. The Spaniards took the plants with them as they traveled throughout the Southwest. “That’s why they’re so widespread,” he tells the children.

Other plants are brand-new arrivals being tested by Arizona Cactus. Epele points out some of them. “These came from Texas. These from Louisiana. I’ve fooled them into thinking that they’re still at home. And guess what? I never water them.”

The youngsters are incredulous. “How do they live?”

“By adapting. Because of their ability to store water, these plants learn to survive on the available rainfall. People who live in Arizona should understand this. So many folks move here from other states and waste water trying to grow gardens like they had back in Kentucky or Ohio. Lilacs are beautiful plants but they don’t belong in the desert. Agaves do. Look at the wonderful gardens you can have using landscape plants like these. See how big these plants can grow without any extra water!”

Trying to broaden landscape horizons for Southwestern gardeners, Epele has experimented with plants from Argentina, Chile, and Peru. He’s partial to plants that make a bold statement, and some of his favorites include *Agave ferox* from Mexico, which can shoot an inflorescence up to 30 feet; *Yucca torreyi*, with four-and-a-half-foot leaves and a large fruit that looks like a plantain; and *Y. faxoniana*, the palm yucca, which at Arizona Cactus has grown to 20 feet—a bold, vertical plant that might take the place of a thirsty tree.

A crested or monstrose form of fishhook cactus (*Ferocactus wislizenii*) is one of the few plants that he has dug from the wild. “We have federal and state licenses to collect plants, but we don’t believe in using the desert as a plant shop.” A New Mexico ranchsite is home to many of these barrel cactuses, which weigh in at more than 100

Each member of the tour group, like all visitors, gets a baby Arizona rainbow cactus to take home.



MARGIE WELDMAN



PHOTOGRAPHS BY MARGIE MELDMAN

**Top:** A multi-headed barrel cactus in bloom. **Above:** It's easy to see how the cow-tongue prickly pear got its name. **Aficionados of cactus juice** say its pods make the best.

pounds, and the landowner said he'd be proud to have one of his plants displayed in the Bisbee garden. "Digging the plant up took over an hour," recalls Epele. "Then I wrapped the plant in a blanket, tied the corners of the blanket around a discarded fence post, and carried the cactus over a mile to my truck." Today the cactus, which he estimates at more than 130 pounds, flowers and produces seed, a rarity for one of these forms. "Now if we can just grow some baby barrels from seeds..." he muses.

The garden boasts an *Opuntia* that also marches to the beat of a different drummer, *El Jefe* tells the children. "Perhaps it worked a little too hard trying to survive. It's a genetic mess, a mutant or crested form of cholla. So I call him my Teenage Mutant Ninja Cholla." The kids love it.

"And here's an Arizona rainbow cactus, named for its colored rings. Just like trees have rings. You can count the rings to tell how old this plant is, and best of all, the distance between the rings tells you how much water it's received in past years."

Outside the garden walls, the desert wind stirs up a dust devil. The mini-tornado blows some tumbleweeds into view. *Salsola kali* var. *tenuifolia*, or Russian thistle, is called white man's plant by the Hopis. Its seeds first entered the country around 1873, mixed with Russian flaxseed being transported west by rail. The seed spilled out along railroad tracks, and the thistle was later deliberately planted as a soil stabilizer and forage crop.

In a weekly column, "On the Desert," printed in some 30 Western newspapers, Epele reported seeing two rear-end collisions—both resulting in serious injuries—that occurred when motorists afraid of colliding with a four-foot-tall tumbleweed slammed on their brakes in the middle of a highway. "That big weed won't hurt your little old car!" he wrote. The tumbleweed is also a primary source of hayfever, he says, "right up there with ragweed and Bermuda grass."

The self-syndicated column, plus lecturing, Elderhostel classes, and two paperback books sold through Arizona Cactus's publishing arm, Tortilla Press, allow Epele to pay the bills and keep giving free tours. Epele's folksy column talks about aspects of desert life and lore ranging from Native American wisdom to scorpions to Smokey Bear to plants like ocotillo (*Fouquieria splendens*), which he describes as looking like a bunch of 20-foot fishing rods sticking out of the ground.

*El Jefe* shows today's tour group how members of the Seri tribe constructed tepees of ocotillo branches to keep a clay pot of water cool in the hot desert sun.

He also shares a tip that gets the adult chaperones' attention. "If you accidentally get cactus spines hooked in your skin," Epele advises, "take some Elmer's glue. Spread it over the spines. Let it dry till it's a hard crust and then peel it off. The cactus spines will come off, too."

Finally, *El Jefe* leads the class into his "Torture Room," the humid greenhouse. It's the only place where Epele waters because the seedlings here are too young to survive without irrigation. He announces that everyone can have a baby Arizona rainbow cactus to take home. "Why are you giving us these plants?" the children ask. "Why don't you sell them to people?"

"Because the plants aren't mine," replies *El Jefe*. "I'm just their caretaker. I'm an interested observer." He separates the three-inch seedlings from the flat and shows how to plant them properly by spreading their roots. "Lots of people come here and ask to buy these plants. Instead, after teaching them how to care for the plants, we give away rooted cuttings like these, taken from other plants in the garden. In some cases, we ask our adopting parents to help us with our research by letting us know how well the plant does where they live."

As the children reboard their bus, Epele urges them to return and bring their parents. "They can have free plants, too. Plants that never have to be watered."

Back in the classroom, the children make drawings and write essays about their field trip to Arizona Cactus. In their reports some complain about having to eat cactus or about sweltering in the greenhouse "Torture Room." But *El Jefe's* message clearly got through. Nearly every Lowell School fifth-grader drew pictures of desert plants captioned: "These don't need watering!"

*Margie Meldman is a free-lance writer who lives in Phoenix, Arizona.*

## RESOURCES

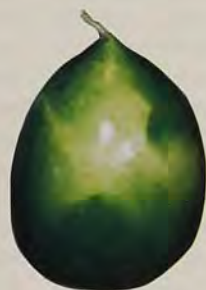
Arizona Cactus is open sunrise to sunset seven days a week. Individual memberships to Arizona Cactus and Succulent Research, Inc., begin at \$15. For more information, write Arizona Cactus and Succulent Research, Inc., 8 South Cactus Lane, Bisbee, AZ 85603, or call (520) 432-7001.



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B Y A R T O D E

“It was a dark and stormy night.” It’s a clichéd beginning for a mystery, but this was a mystery of sorts, and I did set out to solve it on a dark and stormy night last April—determinedly driving east on a treacherous, sleet-obscured I-80 towards Kent, Ohio, to interview Hal Hall, the president of the American Gourd Society.

I had never heard of the American Gourd Society until I was asked to write an article about it, and even gourds themselves were a bit of a mystery. Of course I knew birdhouses were made of them. In fact I inherited a set of gourd purple martin houses that hung empty in our back yard for years, finally deteriorating to a half dozen ragged gourd necks blowing disconsolately in the wind. And it’s true that gourds are pretty in fall decorations, and that their ephemeral blooms are mildly attractive. Nevertheless, they hardly excited my gardener’s imagination.

In short, gourds seemed to be merely warty, inedible, and spineless things that crawled along the ground to no apparent purpose except their own perpetuation. I was completely clueless as to why 5,000 people would join a society devoted to growing them.

Now it’s no secret that the preeminent Cornell University horticulturist Liberty Hyde Bailey was fond of these plants, having penned a whole book on the topic in 1937. Wrote Bailey: “...the gourds hang on the trellises, and although blossoms are mostly gone and leaves have passed their prime, the bright green-and-yellow-striped fruits in comely attractive form ask for attention. Once the gourds were common objects in homes, then other blooms and fruits displaced them... they are so shapely and so colorful, so strange in their markings, so endlessly unlike each

*Top: Gourd flamingo by Anneli Parvo, Peel, Arizona. Left: Brenda Traffis, of Concord, Ohio, took first place in women’s hats at the 1994 Ohio Gourd Show.*





ART ODE (BELOW AND RIGHT)



COURTESY OF AMERICAN GOURD SOCIETY



**Top:** Hall Hal, gourd society president, with a few of his creations. **Above:** Green gourds drying on the Hall patio. **Top right:** In Terrell, North Carolina, luffas grown by society member Terry Holdsclaw dry in the sun.

other, so durable in winter months, so apparently unrelated to the vines that bear them, and yet so simple to grow, that they hold the interest tenaciously.”

But that’s a horticultural scientist’s view. The American Gourd Society is made up of otherwise seemingly normal people who are absolutely gonzo about gourds. Here is a group of aficionados who in a gently humorous way have created their own subculture, complete with their own “gourdisms.” A person interested in gourds is a “gourdie.” You can be a “gourd Samaritan,” or perhaps “chairman of the gourd.” You can “let the gourd times roll,” along with the other “gourd-heads” at the party. You can enter the “Gourden of Eden,” or be someone’s “fairy gourdmother.” You can of course be “out-of-your-gourd,” and if you are a real tough guy you might be pronounced the “gourdfather.”

I obtained these witticisms from back issues of the society’s newsletter, *The Gourd*, and found myself enchanted by its good humor and sincerity (qualities much lacking in today’s world, I am afraid).

Gourdies being irrepressible in their admiration for gourds, *The Gourd* in its summer 1993 issue was quick to seize upon an anthropologist’s theory that beer was inadvertently first brewed when some Amazonian farmer left wet grain stored in a gourd, thus stumbling upon not only the mainstay of much of civilization, but its bottling process as well.

This Gourdian interpretation, if not revision, of history was expanded not long ago when the society’s seed exchange received a request from a Brooklyn lady, an exotic dancer it seems, who sought gourds of a particular size and shape, thus giving

rise to the theory that the biblical “Dance of the Seven Veils” was actually performed with ... what else ... gourds! Another AGS member is a belly dancer (good photo!) who dances with one of her gourd creations on her head, all the while throwing candy from this precariously balanced headgear-cum-container.

Not wanting to run off to interview the president of anything without some serious research, I laid *The Gourd* aside with some reluctance and hauled out Bailey’s *Standard Cyclopedia of Horticulture* and his *Garden of Gourds*, along with a few less entertaining tomes.

Gourds belong to the cucumber family, Cucurbitaceae, which also includes squash, melons, cucumbers, and pumpkins. By most recent count, the family has 118 genera and 825 species, native mostly to tropical regions of both the Old and New Worlds. Gourds may well be the first plants cultivated by humans, and there is evidence that they gave rise to the rest of our cultivated cucurbits.

Bailey divided the ornamental gourds into two categories: the yellow-flowered gourds, *Cucurbita pepo*, and the white-flowered gourds, *Lagenaria siceraria*.

Both genera are extremely variable, with the first also encompassing pumpkins and squash, from acorn and crookneck through pattypan and zucchini. The hard-shelled ornamental gourds have their own variety, *C. pepo* var. *ovifera*, from a name originally given to the species by Linnaeus in the 18th century. Even then it was a cultivated plant, and its origins are another piece of the gourd mystery. There is a species, *C. texana*, growing wild in the American Southwest, that some theorists hold may resemble *C. pepo*’s ancestor.

Others argue that it's just an escape from the gourds humans have tinkered with for centuries. Linnaeus thought his gourd looked like an egg, but the common shapes include spoon, bell, ladle, star, and finger. The last is sometimes called the crown-of-thorns gourd because it has five pairs of prongs around its top. These gourds can be white, cream-colored, orange, green-and-white-striped, or banded. And as I already knew, they can be warty.

Adding to the confusion if not to the mystery, some other *Cucurbita* species also yield hard-shelled, durable gourds: *C. okeechobeensis* (native to Florida), *C. foetidissima* (the foul-smelling calabazilla or Missouri gourd, native from that state and Nebraska south to Mexico and west to California), and *C. maxima* 'Turbaniformis' (a purely decorative form of the edible turban gourd, probably native to the Americas).

A few species of minor interest are found in the *Cucumis* genus, including the teasel gourd, *C. dipsaceus*, from Arabia and the African horned cucumber, *C. metuliferus*. The name "hedgohog gourd" has been applied to both. There are also two species of *Trichosanthes*, the long skinny snake gourds, and three *Luffa* species, grown for their spongelike qualities and usefulness in home and industry.

Generally considered to be *the* gourd of gourds is Bailey's white-flowered gourd, *Lagenaria siceraria*, the bottle gourd or calabash. (Also called the calabash is the gourd tree of Central and South America, *Crescentia cujete*.) Remember Jimmy Durante singing "Inka-dinka-do" and signing off plaintively, "Good-night, Mrs. Calabash, wherever you are"? The identity of Mrs. Calabash was always pretty mysterious. Even Sherlock Holmes smoked a calabash pipe. There's *real* mystery for you!

*Lagenaria siceraria* can range from a ball smaller than an orange to a bean pod shape up to nine feet long. There are dumbbell, dipper, powder horn, and kettle shapes, just to name a few.

The gourd is considered an oddity by most of us today, but it is arguably one of the most important plants in the development of civilization. Since the beginning of history, dried and hollowed-out gourds have been used as pitchers, bottles, spoons, ladles, dishes, dippers, pipes, lamps, boxes, and containers of every kind. They have been used as ceremonial masks, rafts, fishing net floats, sponges, jewelry, and decorative objects.

Imagine a time before metalworking, before pottery, before glassblowing—before Tupperware! How would one store grain and dried fruits, carry water, store fats and oils, and yes, bottle beer? And yet here was this most obvious of natural containers, growing not only in the deserts (according to my King James, God caused a gourd vine to grow in the desert to shade Jonah from its merciless sun; some authorities say this was a gourd tree, but others claim it was the castor bean), but in the savannas, and wonder of wonders, like a gift from Heaven, around the campfires and midden heaps of nomadic tribes and villagers alike. And oh! what a wondrous sound emerged from one of these strange objects when a string was placed upon it and plucked or strummed with an arrow! And what a wonderful drum a large calabash would make! It was no wonder such gloriously useful objects came to be decorated and revered.

The uses of these lowly plants did not end in recent history. Gourds still have a role to play in developing countries, and many Americans of rural heritage can remember the gourd dipper that hung on the well with the oak water-bucket, or the calabash used for storage in the toolhouse or barn. Some members of the American Gourd Society remember the occasional use of gourds to make zithers, which along with fiddles and banjos provided all the music necessary for a happy human heart, or for soothing one aggrieved.

African American members of the American Gourd Society can celebrate their own

*Bottom: Pots by Robert Rivera of Placitas, New Mexico, one of the best known gourd artists. Below: An ambitious purple martin housing project by Ken Fecker of Waldo, Ohio.*



PHOTOS COURTESY OF AMERICAN GOURD SOCIETY

## GROWING AND USING GOURDS

musical traditions with gourd banjos. No less a personage than Thomas Jefferson described an instrument, the *banjar*, brought to the United States from Africa, as “the original of the guitar.” A uniquely African percussion instrument, known since the days of slavery, is the chequeree (or shakeree), made by tying a netting of beads around a gourd. The beads create a castanet sound, while the gourd itself produces its own bass rhythm when struck with the hand. Another instrument of African origin is the hoshu, a shot-filled gourd that produces a steady rhythmic pulse when shaken.

Native American history is full of gourds as utilitarian objects and also as rattles and drums. The ovoid Indian rattle gourd is familiar to most of us in the form of modern-day Mexican maracas.

Gourd drums are important to the ancient Hawaiian hula dance tradition, with the single gourd drum, the *ipu*, and the double gourd drum, the *ipu heke*, providing a rhythmic background for the chants and dances. A gourd rattle, the *uli uli*, is also used in the hula.

It would be unlike the gourdie to be aware of these gourd traditions and fail to promote them. There are indeed gourd instrumental groups who heighten the entertainment level at gourd society events. Perhaps the most famous is Minnie Black's Gourd Band, which often plays at annual meetings. Black, an octogenarian who plays the gourd fiddle and sings, also runs the respected Gourdcraft Museum in East Bernstadt, Kentucky. Her band consists of a dozen or more men and women playing all sorts of percussion, wind, and string gourd instruments. The Garlands, a father-and-son ensemble from Elizabethton, Tennessee, also use gourd instruments in their renditions of traditional folk music. A more scholarly group is Professor Larry Sherman's Oxford Gourd Ensemble, which was conceived as an integration of conceptual art and performance art.

With all of this absorbed, I felt myself dangerously on the verge of becoming a gourdie myself, and by the time I arrived at Hal Hall's suburban home in Kent, Ohio, the weather had changed from miserable to wonderful. Yet even such a marvelous array of historical uses for gourds wouldn't seem to tell the story of everyone in this devoted group. To paraphrase Sherlock Holmes, the game was still afoot.

As I drove up to the Hall house, I could see that it was the home of a serious gar-

If your soil is reasonably good and loose, says American Gourd Society President Hal Hall, gourds require only minimal maintenance. In fact, they resent being overwatered or overfertilized. The main thing to remember is that the hard-shelled varieties are warm-season plants. They shouldn't be planted until the soil warms up in the spring or they might rot. Gardeners in the far northern United States and Canada may have too short a season to grow some varieties.

Gourds can be started indoors or planted like cucumbers, in hills five to eight feet apart, then thinned to two or three per hill after their true leaves form. Elaborate trellises aren't necessary; Liberty Hyde Bailey recommended a head-high woven wire fence.

Delphia Dunmire, a gourd seed grower, explained in the fall 1994 issue of *The Gourd* that the fruits grow on lateral, or side, vines and recommended cutting the tip off the main vine once it is 10 feet long.

The primary pest of gourds is the cucumber beetle, which can destroy seedlings or infect vines with a virus, but you can protect your plants by covering them with a layer of cheesecloth.

Freshly harvested gourds are 90 percent water and will quickly lose their bright colors. They can be allowed to dry by leaving them on the vine in fall (although their seeds will not germinate after a freeze) or they can be brought inside and stored in a dry place until they feel lightweight and you can hear their seeds when you shake them. Soaking them in warm water and scrubbing them with steel wool will remove the skin and any mold that has accumulated, although some crafters like the design created by the mold and apply wax or shellac right over it. You'll want to let the gourd dry completely and sand it lightly before trying your first gourd project.

—Kathleen Fisher, Editor



William Lanning of Findlay, Ohio, displays a long-handled dipper gourd.

dener, at least in regard to gourds. Trellises for gourd vines abounded, and some of last year's crop still remained in the field—strangely shaped things that resembled everything from basketballs to baby alligators. A number of gourds of various kinds were spread out on the ground to dry.

Hal Hall himself is a tall, distinguished-looking retired school administrator. It was hard to imagine him wearing a gourd hat or playing a gourd kazoo, attired as he was in a professional uniform of turtleneck sweater, wool blazer, corduroys, and loafers, and smoking a calabash pipe, no less! Here was an obviously serious fellow, and serious about this business of gourds.

I thought I would get right to the point by asking him why he was so captivated by gourds. “Well,” he replied thoughtfully, “as you know, gourds have been used since time immemorial by ancient cultures worldwide for storage vessels, spoons, ladles, and even highly decorative objects. They have been found in the tombs of the Egyptian pharaohs, and in Incan and Mayan temples. They were mentioned often in Christopher Columbus' first accounts of encounters with Native Americans.”

There was the history angle. But I continued to prod, like Joe Friday. Just what was his *personal* interest in gourds?

“Actually,” he confessed, “although I enjoy growing gourds, my primary inter-

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est is in their crafting. That means either using gourds as decorative objects in their natural state, or as I do, using dried gourds in craft projects, such as baskets, effigies of natural objects such as birds, animals, and plants, and so forth. You can make many things of gourds, such as clocks, beautiful boxes, dolls, puppets, musical instruments. They also make wonderful three-dimensional natural ‘canvases’ for paintings, or objects upon which to carve or burn pictorial representations or abstract designs. A painting is two dimensional and has to hang on a wall. An artistic presentation on a gourd can sit on a shelf, on an end table, on the floor, on the fireplace mantel, wherever.”

I had been distracted, I realized, by thinking of gourds as garden plants or utilitarian objects, and completely missed the dimension of artistic expression!

Hall showed me his own creations, a phantasmagorical collection of finely crafted objects. There were basement tables covered with highly polished and decorated gourd bowls, intricately carved and painted, many with Southwest Native American themes. There were ladles and spoons, boxes, clocks, a gourd pig, a gourd swan, a gourd snake, and a lot of gourd birdhouses, from the simplest of natural abodes to avian chalets. Blue ribbons aplenty attested to the work’s high quality. In the den were more of the same.

With so much talent, I wondered aloud, scratching my head like Columbo, why did he choose gourds as his medium?

“I used to be a wood carver,” he replied. “I carved to calm my nerves after a hectic day at work. I need to express myself artistically. Then I became allergic to sawdust. When I first saw crafted gourds at the Mount Gilead County Fair some years ago, I got hooked.”

Hall told me about other gourd artists, from obscure crafts people selling their wares in the hills of Kentucky or West Virginia, to highly visible artists such as New Mexico’s Robert Rivera, whose exquisite creations could be mistaken for pottery. Many of them grow their own gourds, while others obtain the raw canvas from fellow gourdiés.

Other countries have equally active gourd traditions and artistic communities, particularly China, Japan, and Australia. Many South American and African countries also have active gourd growers and crafters. Since there is no worldwide gourd society, the American Gourd Society, which

has a number of state chapters, fills the international role as well. The huge annual Ohio Gourd Show usually attracts visitors from a number of foreign countries, and *The Gourd* has a regular column, “Letters From Overseas.”

One recent letter from Marek Wosinski, a Polish social psychologist who attended an annual meeting, said many things regarding friendliness, hospitality, and the genuineness of the American spirit as glimpsed through that encounter. “My strong impression was that many social borders are abandoned, a lot of stable contacts are established, and the society becomes a real common referent group to all members, coming from so many places, professions, and social groups.” Translation (mine): Golly, these folks have fun!

After all, what other plant-oriented meeting could you possibly attend that would have a full-fledged parade down Main Street, with a marching gourd band, a beauty queen on a float, and at least the *possibility* of exotic dancers inside the tent—all of them, of course, wearing gourd hats.

But seeming to bring all the pieces of this puzzle together, and in some ways coming full circle to the observations by Liberty Hyde Bailey almost 60 years ago, was society member Chuck De Courley of Columbia, Missouri, who recently wrote in *The Gourd*:

“My gourd... is different. It’s the wrong shape for a basket, a dipper, a birdhouse, a pipe, or a sponge. That’s what I like about it. More than anything else it’s a thing of mystery and wonder. I’ve decided it is absolutely useless, and in a utilitarian society, that makes it unique.”

Silence the bell, close the book, and blow out the candle. The mystery of the gourd is solved.

*Art Ode is assistant director of Five Rivers MetroParks, Dayton, Ohio, and a freelance writer and consultant.*

## RESOURCES

Anyone can join the American Gourd Society, or can join through one of the state chapters. Basic membership is \$10 a year. Write to the American Gourd Society, P.O. Box 274, Mount Gilead, OH 43338. If you hurry, you can still make it to the World’s Largest Gourd Show at the fairgrounds in Mount Gilead on October 7 and 8.



*Top: Snow in Dearborn, Michigan, provided the backdrop for this gourd penguin tableau by Bill Marinós. Mount Gilead, Ohio, is the site of “the World’s Largest Gourd Show.” Above: The leader of Minnie Black’s Gourd Band, center, with father-and-son folk musicians T.N. and James Garland.*

PHOTOS COURTESY OF AMERICAN GOURD SOCIETY

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# PRONUNCIATIONS

*Acca sellowiana* AH-kuh sel-o-wee-AN-uh  
*Acer buergerianum* AY-sur bur-jeh-ree-AN-um  
*A. campestre* A. kam-PES-tree  
*A. × freemanii* A. × free-MAN-ee-eye  
*A. ginnala* A. jih-NAY-luh  
*A. miyabei* A. mih-YAH-bee-eye  
*A. nigrum* A. NY-grum  
*A. platanoides* A. plat-uh-NOY-deez  
*A. rubrum* var. *drummondii* A. ROO-brum  
 var. drum-MON-dee-eye  
*A. saccharinum* A. sak-uh-RYE-num  
*A. saccharum* subsp. *grandidentatum* A. sak-AH-rum subsp. gran-dih-den-TAY-tum  
*A. saccharum* subsp. *saccharum* A. sak-AH-rum subsp. sak-AH-rum  
*A. tataricum* subsp. *ginnala* A. tuh-TAR-ih-kum subsp. jih-NAY-luh  
*A. truncatum* A. trun-KAY-tum  
*Agave ferox* uh-GAH-vee FEH-roks  
*A. victoriae-reginae* A. vik-TOH-ree-ay-reh-GEE-nay  
*Amelanchier alnifolia* am-eh-LANG-kyer al-nih-FO-lee-uh  
*A. arborea* A. ar-BOR-ee-uh  
*Annona cherimola* uh-NO-nuh chair-ee-MO-luh  
*A. squamosa* A. skwah-MO-suh  
*Asimina triloba* uh-SIH-mih-nuh try-LO-buh  
*Asparagus densiflorus* as-PAIR-uh-gus den-sih-FLOR-us  
*Aspidistra elatior* as-pih-DIS-truh ee-LAY-tee-or  
*Bromus* BRO-mus  
*Buxus sempervirens* BUCKS-us sem-per-VY-renz  
*Carex* KAIR-eks  
*Carissa grandiflora* kuh-RIS-suh gran-dih-FLOR-uh  
*C. macrocarpa* C. mak-roh-KAR-puh  
*Casimiroa edulis* kas-ih-mih-ROW-uh eh-DEW-lis  
*Cephalocereus senilis* sef-uh-lo-SEER-ee-us seh-NIH-liss  
*Ceratonia siliqua* seh-ruh-TOH-nee-uh SIH-lih-kwa  
*Cereus glaucus* SEER-ee-us GLAW-kus  
*C. peruvianus* C. peh-roo-vee-AN-us  
 × *Citrofortunella microcarpa* × sih-troh-for-tew-NEL-uh my-kro-KAR-puh  
*Citrus maxima* SIH-truss MAKS-ih-muh  
*Clematis paniculata* KLEM-uh-tiss pan-ik-yew-LAY-tuh  
*Clivia caulescens* CLY-vee-uh KAW-les-senz

× *Cyrtanthiflora* C. × sur-tan-thi-FLOR-uh  
*C. gardenii* C. gar-DEE-nee-eye  
*C. miniata* var. *citrina* C. min-ee-AY-tuh var. sih-TRY-nuh  
*C. miniata* var. *miniata* C. min-ee-AY-tuh var. min-ee-AY-tuh  
*C. nobilis* C. NO-bil-is  
*Cornus mas* KOR-nus MAHS  
*Crescentia cujete* kre-SEN-tee-uh KOO-jeh-tee  
*Cucumis dipsaceus* KEW-kew-mis dip-SAS-see-us  
*C. metuliferus* C. meh-tuh-LIF-ur-iss  
*Cucurbita foetidissima* kew-KER-bih-tuh fee-tid-IH-sih-muh  
*C. maxima* C. MAKS-ih-muh  
*C. okeechobeensis* C. o-kee-cho-be-EN-sis  
*C. pepo* C. PEH-po  
*C. pepo* var. *ovifera* C. PEH-po var. o-VIF-ur-uh  
*C. texana* C. tek-SAN-uh  
*Cydonia* sigh-DOH-nee-uh  
*Diospyros digyna* dy-OS-pih-rus dih-JIH-nuh  
*D. kaki* D. KAH-kee  
*Dovyalis caffra* doe-vee-AH-lis KAF-fruh  
*Eriobotrya japonica* air-ee-o-BOT-ree-uh jah-PON-ih-kuh  
*Eugenia uniflora* yew-JEEN-yuh yew-nih-FLOR-uh  
*Euphoria longan* yew-FOR-ee-uh LON-gan  
*Feijoa sellowiana* fay-YO-uh sel-low-we-AN-uh  
*Ferocactus wislizenii* feh-ro-KAK-tus wiz-lih-ZEN-ee-eye  
*Ficus carica* FIE-kus KAH-ree-kuh  
*Fouquieria splendens* foo-kee-AIR-ee-uh SPLEN-denz  
*Gardenia jasminoides* gar-DEEN-yuh jaz-mih-NOY-deez  
*Hylocereus undatus* high-lo-SEER-ee-us oon-DAY-tus  
*Juniperus chinensis* joo-NIP-er-iss chy-NEN-sis  
*Justicia brandegeana* jus-TISH-yuh bran-dih-gee-AH-nuh  
*Lagenaria siceraria* laj-eh-NAIR-ee-uh sih-suh-RAIR-ee-uh  
*Lantana camara* lan-TAN-uh KAH-mah-ruh  
*Litchi chinensis* LEE-chee chy-NEN-sis  
*Liquidambar styraciflua* lik-wid-AM-ber sty-rass-ih-FLEW-uh  
*Lonicera japonica* lah-NISS-er-uh juh-PON-ih-kuh

*Luffa* LOOF-uh  
*Mespilus germanica* MES-pih-lus jur-MAN-ih-kuh  
*Musa acuminata* MEW-suh ak-yew-min-AY-tuh  
*Myrciaria cauliflora* mir-see-AIR-ee-uh kaw-lih-FLOR-uh  
*Opuntia ficus-indica* o-PUN-shuh FIE-kus-IN-dih-kuh  
*O. lindheimeri* var. *linguiformis* O. lind-HY-mur-eye var. ling-wih-FOR-miss  
*Pelargonium crispum* peh-lar-GO-nee-um KRIS-pum  
*P. × domesticum* P. × doh-MES-tih-kum  
*P. × hortorum* P. × hor-TOR-um  
*P. odoratissimum* P. o-dor-uh-TIS-sih-mum  
*P. peltatum* P. pel-TAY-tum  
*P. tomentosum* P. toh-men-TOH-sum  
*Perouskia atriplicifolia* peh-ROF-skee-uh at-rih-plih-sih-FO-lee-uh  
*Photinia × fraseri* fo-TIN-ee-uh × FRAYZ-yer-eye  
*Poa* PO-uh  
*Populus grandidentata* POP-yew-lus gran-dih-den-TAY-tuh  
*P. tremuloides* P. trem-yew-LOY-deez  
*Prunus tomentosa* PREW-nus toh-men-TOH-suh  
*Psidium cattleianum* SIH-dee-um kat-lee-ee-AN-um  
*P. guajava* P. GWAH-jah-vuh  
*P. littorale* var. *longipes* P. lit-toh-RAH-lee var. LON-gee-pee  
*Rhoeo spathacea* RHEE-o spath-uh-SEE-uh  
*Salsola kali* var. *tenuifolia* SAL-so-luh KAY-lie var. ten-yew-ih-FO-lee-uh  
*Salvia* SAL-vee-uh  
*Sorbus* SOR-bus  
*Symphoricarpos* sym-fo-rih-KAR-poz  
*Syzygium jambos* sih-ZEE-gee-um JAM-boes  
*Tradescantia spathacea* trad-es-KAN-tee-uh spath-uh-SEE-uh  
*Trichosanthes* try-ko-SAN-theez  
*Vallota miniata* val-LO-tuh min-ee-AY-tuh  
*Vaccinium vitis-idaea* var. *minus* vac-SIN-ee-um VY-tis-eye-DEE-uh var. MY-nus  
*Xanthoceras sorbifolium* zan-THO-sair-us sor-bih-FO-lee-um  
*Yucca faxoniana* YUK-uh fak-son-ee-AN-uh  
*Y. torreyi* Y. tor-REE-eye  
*Ziziphus jujuba* ZIZ-ih-phus JEW-jew-buh





# STUDY TOURS

## TRAVEL/STUDY TRIPS FOR THE AHS GARDENER

### FEBRUARY 27-MARCH 10, 1996 GARDENS OF FRENCH POLYNESIA

This Travel Study Program will feature an extended stay on the island of Tahiti, followed by a seven-day voyage on the elegant sailing ship *Wind Song* to other islands of French Polynesia. Ports of call will include Hauhine, Raïatéa, Bora Bora, and Mooréa. Each day will bring different gardens in different settings, from the estate gardens of Mr. and Mrs. Roger Gowen on Tahiti to the hillside gardens of Mme. Luci and Mme. Fabienne on the island of Raïatéa. The *Wind Song* has expansive teak decks for sunning and for alfresco dining, as well as 74 cabins with every conceivable comfort. Leading this program for AHS will be President H. Marc Cathey and his wife, Mary. Michel Guerin, a member of the French Delegation of the Environment to French Polynesia, will be joining the Catheys. Guerin is an expert in tropical horticulture, with a degree from the École Nationale d'Horticulture de Versailles.

### ALSO PLANNED FOR 1996: MAY 7-21, 1996

### GARDENS OF GREECE AND TURKEY

A seven-day voyage on board the *Windstar* from Athens to Istanbul. Optional

post-trip extension to London for the Chelsea Flower Show (May 21-25).

**JUNE 2-11, 1996 • GARDENS OF BELGIUM**

**JULY 17-21, 1996 • GARDENS OF NANTUCKET**

**AUGUST 12-24, 1996 • GARDENS OF SCOTLAND  
AND THE HEBRIDES**

**SEPTEMBER 12-21, 1996 • GARDENS OF PROVENCE**

**OCTOBER 14-25, 1996 • GARDENS OF TUSCANY**

Leonard Haertler Travel Company, 7922 Bonhomme Avenue, St. Louis, MO 63105  
(800) 942-6666, (314) 721-6200 (in Missouri)

*On our first trip in 1996, participants will sail from Tahiti on the Wind Song to explore gardens in French Polynesia.*